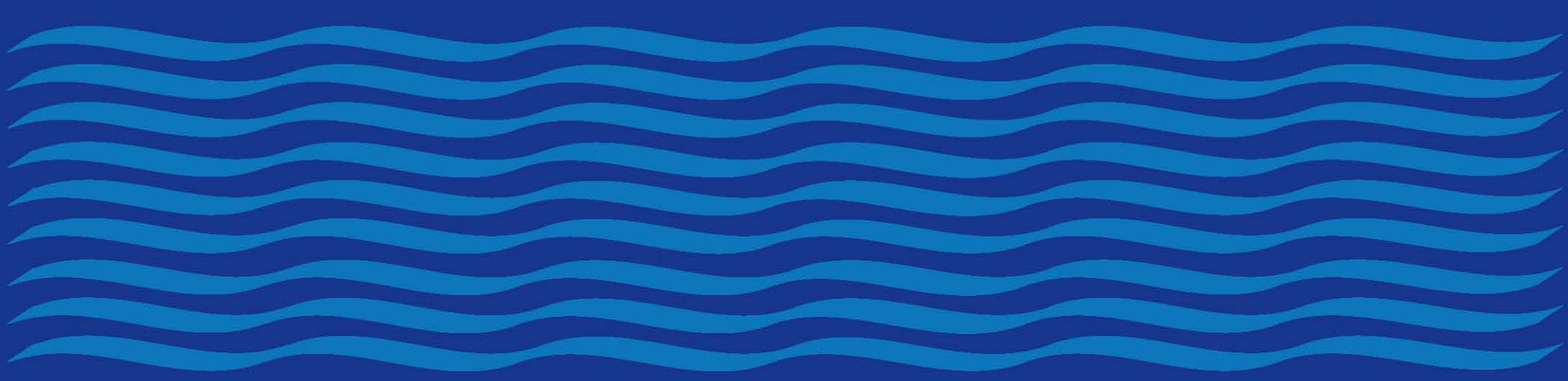
BROOKHAVEN NATIONAL LABORATORY

2021

Site Environmental Report

GROUNDWATER STATUS REPORT



VOLUME II

2021
SITE ENVIRONMENTAL REPORT
VOLUME II
GROUNDWATER STATUS REPORT

June 13, 2022

Environmental Protection Division
Groundwater Protection Group

Brookhaven National Laboratory
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Upton, NY 11973

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Acronyms and Abbreviations

These acronyms and abbreviations reflect the typical manner in which terms are used in Volume II of this document, and may not apply to all situations.

AGS	Alternating Gradient Synchrotron
AOC	Area of Concern
AS/SVE	Air Sparge/Soil Vapor Extraction
AWQS	NYS Ambient Water Quality Standards
BGD	Below Ground Ducts
BGRR	Brookhaven Graphite Research Reactor
BLIP	Brookhaven Linac Isotope Producer
bls	below land surface
BMRR	Brookhaven Medical Research Reactor
BNL	Brookhaven National Laboratory
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
cfm	cubic feet per minute
CFR	Code of Federal Regulations
Ci	curies
COC	Chain of Custody
Co-60	cobalt-60
CRDL	Contract Required Detection Limit
CSF	Central Steam Facility
DCA	1,1-dichloroethane
DCE	1,1-dichloroethylene
DCG	Derived Concentration Guide
DAR	Division of Air Resources
DOE	United States Department of Energy
DQO	Data Quality Objective
DTW	Depth to Water
DWS	Drinking Water Standards
EDB	ethylene dibromide
EDD	Electronic Data Deliverable
EIMS	Environmental Information Management System
EM	Environmental Management
EMS	Environmental Management System
EPA	United States Environmental Protection Agency
EPD	Environmental Protection Division
ER	Emissions Rate
ERP	Emissions Rate Potential
ES	Environmental Surveillance
ESD	Explanation of Significant Differences
EW	extraction well
FFA	Federal Facilities Agreement
Freon-11	Trichlorofluoromethane
Freon-12	Dichlorodifluoromethane
ft	feet
ft msl	feet relative to mean sea level
GAC	granular activated carbon
gal/hr	gallons per hour
gpm	gallons per minute
HFBR	High Flux Beam Reactor
HWMF	Hazardous Waste Management Facility
IAG	Inter Agency Agreement
ID	identification
IPE	Industrial Park East
lb/gal	pounds per gallon
lb/hr	pounds per hour
lbs	pounds
LIE	Long Island Expressway
Linac	Linear Accelerator
LIPA	Long Island Power Authority
LISF	Long Island Solar Farm
mCi	milliCuries
MCL	Maximum Contaminant Level
MDA	Minimum Detectable Activity
MDL	Minimum Detection Limit
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MGD	millions of gallons per day
MPF	Major Petroleum Facility
mrem/yr	millirems per year
MS/MSD	Matrix Spike/Matrix Spike Duplicate
msl	mean sea level
MTBE	methyl tertiary-butyl ether
MW	monitoring well
Na-22	Sodium-22
NPL	National Priorities List
NSE	North Street East
NSLS-II	National Synchrotron Light Source II
NSRL	NASA Space Radiation Laboratory
NYCRR	New York Code of Rules and Regulations
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health

O&M	Operation and Maintenance
OU	Operable Unit
PCBs	polychlorinated biphenyls
PCE	tetrachloroethylene
pCi/L	picoCuries per liter
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonate
PFS	Pile Fan sump
PLC	programmable logic controller
QA/QC	Quality Assurance and Quality Control
RA V	Removal Action V
RCRA	Resource Conservation and Recovery Act
RHIC	Relativistic Heavy Ion Collider
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPD	Relative Percent Difference
RTW	Recirculating Treatment Well
RW	remediation well
SBMS	Standards Based Management System
SCDHS	Suffolk County Department of Health Services
SCWA	Suffolk County Water Authority
SDG	Sample Delivery Group
SDWA	Safe Drinking Water Act
SOP	Standard Operating Procedure
SPCC	Spill Prevention Control and Countermeasures
SPDES	State Pollutant Discharge Elimination System
Sr-90	strontium-90
STP	Sewage Treatment Plant
SU	standard unit
SVOC	semivolatile organic compound
TCA	1,1,1-trichloroethane
TCE	trichloroethylene
TTA	tolyltriazole
TVOC	total volatile organic compound
TW	temporary well
USGS	United States Geological Survey
UST	underground storage tank
UVB	Unterdruck-Verdampfer-Brunnen Technology (vacuum vaporizing well)
VOC	volatile organic compound
VP	vertical profile
µg/L	micrograms per liter
WCF	Waste Concentration Facility
WLA	Waste Loading Area
WMF	Waste Management Facility
WSB	Western South Boundary

2021 BROOKHAVEN NATIONAL LABORATORY

GROUNDWATER STATUS REPORT

Executive Summary

The *2021 BNL Groundwater Status Report* is a comprehensive summary of data collected during the 2021 calendar year supplemented with relevant investigation data collected during the first quarter 2022, an evaluation of Groundwater Protection Program performance, and recommendations for program changes. This is the twenty-sixth annual groundwater status report issued by BNL. This document examines the performance of the program on a project-by-project basis.

GROUNDWATER RESTORATION (COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT - CERCLA)

Table E-1 summarizes the status and progress of groundwater cleanup at BNL under the provisions of CERCLA. As of December 2021, seven volatile organic compound (VOC) groundwater remediation systems were in operation, along with one strontium-90 (Sr-90) treatment system. In 2021, 58 pounds of VOCs were removed from the Upper Glacial and Magothy aquifers by the treatment systems. To date, 7,758 pounds of VOCs have been removed from the aquifers. The BGRR Sr-90 treatment system removed 0.3 milliCuries (mCi) of Sr-90 from the Upper Glacial aquifer in 2021. A total of 34 mCi for both the BGRR and Chemical Holes Sr-90 systems were removed since operations began. Approximately 1 billion gallons of groundwater were treated in 2021.

There were 491 monitoring wells and 70 temporary wells sampled as part of the CERCLA Groundwater Monitoring Program, comprising a total of 1,805 groundwater samples that were evaluated for this report. Groundwater remediation activities will continue until the cleanup objectives for the plumes are met. The specific goals are as follows:

- Achieve maximum contaminant levels (MCLs) for VOCs in the Upper Glacial aquifer by 2030
- Achieve MCLs for VOCs in the Magothy aquifer by 2065
- Achieve the MCL of 8 pico Curies per liter (pCi/L) for Sr-90 at the BGRR in the Upper Glacial aquifer by 2070
- Achieve the MCL of 8 pCi/L for Sr-90 at the Chemical/Animal Holes in the Upper Glacial aquifer by 2040

The cleanup objectives will be met by a combination of active treatment and monitored natural attenuation. The comprehensive groundwater monitoring program measures remediation progress.

Table E-1.
BNL Groundwater Remediation System Treatment Summary for 1997 – 2021 (Shading indicates closed systems)

	1997 – 2020		2021	
VOCs Remediation (start date)	Water Treated (gallons)	VOCs Removed (pounds)(c)	Water Treated (gallons)	VOCs Removed (pounds)(c)
OU I South Boundary (Dec. 1996) (a)	4,177,473,000	369	(Closed)	0
OU III Carbon Tetrachloride (Oct. 1999) (e)	153,538,000	349	Decommissioned	0
OU III Building 96 (Feb. 2001)	558,697,000	145	30,000,000	1
OU III Building 452 Freon-11 (March 2012) (a)	124,997,000	106	(Closed)	0
OU III Middle Road (Oct. 2001)	3,766,547,000	1,310	165,000,000	22
OU III South Boundary (June 1997)	5,284,151,000	3,061	92,000,000	9
OU III W. South Boundary (Sept. 2002)	2,078,555,000	165	210,000,000	16
OU III Industrial Park (Sept. 1999)	2,577,662,000	1,077	(Standby) 0	0
OU III Industrial Park East (May 2004) (f)	357,192,000	38	Decommissioned	0
OU III North Street (June 2004)	1,680,942,000	342	(Closed)	0
OU III North Street East (June 2004) (g)	1,044,798,000	45	107,000,000	2
OU III LIPA/Airport (June 2004)	3,741,145,000	487	236,000,000	8
OU III HFBR Tritium Plume (May 1997) (a)	721,795,000	180	(Closed)	0
OU IV AS/SVE (Nov. 1997)	NA (b)	35	Decommissioned	0
OU VI EDB (August 2004)	2,498,057,000	(d)	159,000,000	(d)
Totals	28,765,549,000	7,700	999,000,000	58

	2003 – 2020		2021	
Sr-90 Remediation (start date)	Water Treated (gallons)	Sr-90 Removed (mCi)	Water Treated (gallons)	Sr-90 Removed (mCi)
OU III Chemical Holes (Feb 2003)	65,663,000	4.94	(Shutdown) 0	0
OU III BGRR (June 2005)	194,603,000	29.1	14,000,000	0.3
Totals	260,266,000	34.04	14,000,000	0.3

Notes:
(a) System was approved for closure in 2019.
(b) Air Sparging/Soil Vapor Extraction (AS/SVE) system performance measured by pounds of volatile organic compounds (VOCs) removed. System was decommissioned in 2003.
(c) Values rounded to the nearest whole number.
(d) Ethylene dibromide (EDB) has been detected in the system influent since 2009 at levels slightly above the standard. Therefore, no removal of VOCs is reported.
(e) System was decommissioned in 2010.
(f) System was decommissioned in 2014.
(g) The North Street East System was restarted in July 2020 for treatment of the EDB plume. Pounds removed in 2020 includes EDB and VOCs.
NA – Not applicable

The locations and extent of the primary VOC and radionuclide plumes at BNL, as of the fourth quarter of 2021, are summarized on **Figures E-1** and **E-2**, respectively.

Additional information on the groundwater remediation program is summarized in **Table E-2**.

INSTITUTIONAL CONTROLS

Institutional controls are in place at BNL to ensure the effectiveness of all groundwater remedies. During 2021, the institutional controls continued to be effective in protecting human health and the environment. In accordance with the recently updated *BNL Land Use Controls Management Plan, Rev 5* (BNL 2022a) institutional controls continued to be implemented for the groundwater remediation program including:

- Groundwater monitoring, including BNL potable supply systems.
- Suffolk County Department of Health Services (SCDHS) performs outpost groundwater monitoring near Suffolk County Water Authority (SCWA) water supply well fields that are closest to the BNL plumes;
- Implementing controls on the installation of new supply wells and recharge basins on BNL property;
- Continuing to offer private well testing (via SCDHS) for those homes in the previously defined hook-up area with private wells used for drinking water on properties that previously declined DOE's offer of public water hookups; and
- Maintaining property access agreements for treatment systems off the BNL property. An access agreement is currently being negotiated with the new property owner for access to Industrial Park Treatment System infrastructure including monitoring wells.

GROUNDWATER STATUS REPORT RECOMMENDATIONS AND HIGHLIGHTS

The data summarized in this report are the basis for optimizing operational and monitoring elements of the cleanup program. A summary of the highlights and significant changes follows (specific details of which are provided in **Section 5**).

- **OU I South Boundary Treatment System/Former Hazardous Waste Management Facility Sr-90 Plume** –
  - The leading edge of the higher concentration Sr-90 plume is south of the former Hazardous Waste Management Facility (HWMF) source area and continues to slowly migrate to the south. Ten temporary wells were installed to supplement monitoring of the high concentration segments of the plume downgradient of the source area.
- **OU III Building 96 Treatment System –**
  - Extraction well RTW-1 TVOC concentrations have remained below the 50 µg/L system capture goal since 2015 and VOCs have been below MCLs since mid-2020. Consequently, RTW-1 was placed in a pulsed pumping mode in May 2022 and will be operated every other month.
  - As per a recommendation in the 2021 CERCLA Five-Year Review Report (BNL 2021d), continue to closely monitor TVOC concentrations in the plume source area and evaluate/implement a liquid carbon with zero-valent iron in-situ treatment for the immediate source area.
- **OU III Middle Road Treatment System –**
  - Based on the VOC results of three temporary vertical profile wells installed in 2021 as recommended in the *2020 Groundwater Status Report* (BNL 2021e), and the permanent monitoring wells, VOC concentrations are not declining at a rate that will meet the ROD cleanup goal of MCLs by 2030. Perform groundwater modeling

simulations to evaluate the best locations, extraction rates, and number of extraction wells to design a system modification.

- **OU III South Boundary Treatment System –**
  - Based on the VOC results of two temporary vertical profile wells installed in 2021 as recommended in the *2020 Groundwater Status Report* (BNL 2021e), and the permanent monitoring wells, VOC concentrations are not declining at a rate that will meet the ROD cleanup goal of MCLs by 2030. Perform groundwater modeling simulations to evaluate the best location, extraction rates, and number of extraction wells to design a system modification.
- **OU III Western South Boundary Treatment System –**
  - A significant reduction in deeper VOC contamination has been observed following the installation and operation of four new extraction wells in 2019.
- **OU III North Street East Treatment System –**
  - Continue operation of the two extraction wells to remediate the ethylene dibromide (EDB) plume. The system modification has been effective in reducing EDB concentrations.
- **LIPA/Airport Treatment System –**
  - Based upon the low VOC concentrations for the past several years in the monitoring and extraction wells for the LIPA System, submit a petition for closure of the system to the regulators in 2022.
- **BGRR/WCF Sr-90 Treatment System –**
  - As recommended in the *2020 Groundwater Status Report* (BNL 2021e), since Sr-90 remained below DWS in extraction well SR-3 and monitoring well 075-701 for six consecutive months in 2021, SR-3 was placed in standby mode in May 2022.
  - Extraction well SR-8 was placed in standby mode in May 2022 since Sr-90 concentrations in this well have remained below the DWS since 2019.
  - Extraction well SR-9 was placed in pulsed pumping mode in May 2022 (one month on and one month off) based on Sr-90 concentrations remaining below DWS since June 2020.
  - Installed 15 temporary wells to characterize the downgradient portion of the WCF plume. This characterization work has not been completed to date.
  - To help evaluate the presence of Sr-90 in the vicinity of the newly constructed Former Firehouse PFAS extraction well FF-RW-A and associated monitoring wells, perform the following:
    - Obtain samples from new PFAS extraction well FF-RW-A, existing monitoring wells 075-415, 075-417, 075-419, 085-171, 085-285, 085-286, 085-287, 085-01, 085-290, and new Former Firehouse TCRA monitoring wells FFH-MW-01, FFH-MW-02, FFH-MW-03 for Sr-90 analysis.
- **Chemical/Animal Holes Sr-90 Treatment System –**
  - The extraction wells continue to be maintained in standby. No significant rebound of Sr-90 concentrations in groundwater have been observed since system shutdown in July 2018. If Sr-90 concentrations in the monitoring and extraction wells do not show

any significant rebound, then a Petition for Closure of the treatment system may be prepared.

- **Operable Unit VI EDB Treatment System –**
  - Based on the data collected from six deeper vertical profile wells installed in 2021, the new monitoring wells also installed in 2021, and the capture and cleanup timeframe assessment, the following is recommended:
    - Update the Regional Groundwater Flow Model to reflect the current hydrogeologic conditions, then evaluate extraction/recharge scenarios to modify the current treatment system so that capture and cleanup timeframe objectives of meeting DWS by 2030 are achieved.
    - Following the modeling, prepare a system design modification for submittal to the regulators.
- **g-2 Tritium Source Area –**
  - During 2022, tritium concentrations in g-2 source area monitoring wells continued to be periodically above the 20,000 pCi/L DWS, with a maximum concentration of 23,200 pCi/L.
- **BLIP Facility –**
  - Tritium concentrations in BLIP source area monitoring wells have been less than the 20,000 pCi/L DWS since 2006. During 2021, the maximum tritium concentration was 1,610 pCi/L.
- **Operable Unit X PFOS, PFOA, and 1,4-Dioxane –**
  - During 2021, groundwater samples were collected for PFAS analyses from nine permanent wells and 41 temporary wells. The results for these samples are summarized in **Section 3.5.1**.
  - Temporary wells were used to characterize a PFAS plume that originates from a former firefighter training area west of Building 170. The maximum PFOS and PFOA concentrations detected at the source area were 8,470 ng/L and 66 ng/L, respectively. The MCL for PFOS and PFOA is 10 ng/L.
  - Temporary and permanent wells were used to characterize PFAS in the southwest portion of the BNL site that is within the source water contributing area for the SCWA's William Floyd Well Field. Several of the wells were also tested for 1,4-dioxane. Low levels of PFOS and PFOA were detected in several of the wells, with maximum concentrations of 13 ng/L and 9.8 ng/L, respectively. An estimated level of 1,4-dioxane was detected in one of the permanent wells, at 0.1 µg/L. The MCL for 1,4-dioxane is 1.0 µg/L.

FACILITY MONITORING

BNL's Facility Monitoring Program includes groundwater monitoring at eight active research facilities (e.g., accelerator facilities) and support facilities (e.g., fuel storage and waste management facilities). Monitoring conducted at the BLIP is used to verify the effectiveness of required CERCLA corrective actions. During 2021, groundwater samples were collected from 89 wells during 117 individual sampling events.

Highlights of the Facility Monitoring Program are as follows:

- Monitoring conducted during 2021 at BNL's major accelerator facilities (e.g., AGS, Relativistic Heavy Ion Collider, National Synchrotron Light Source-II, and BLIP) has not identified any new impacts to groundwater quality.
- Monitoring conducted at the Waste Management Facility, Major Petroleum Facility and Motor Pool) has not identified any new impacts to groundwater quality. However, monitoring conducted at the Sewage Treatment Plant and downgradient of recharge Basin HN during 2020 and 2021 has shown that groundwater quality has been impacted by tolyltriazole, a corrosion inhibiting chemical that is used in several of the Laboratory's cooling water systems.

Table E-2.
Groundwater Remediation Progress (Shading indicates closed systems)

Project	Target	Mode	Treatment Type	Expected System Shutdown	Highlights
OU I					
OU I South Boundary (RA V)	VOCs	Closed	Pump and Treat (P&T) with Air Stripping (AS)	2013 (Actual)	No rebound in VOC concentrations has been observed. Petition for Closure approved in Sept. 2019.
Current Landfill	VOCs tritium	Long Term Monitoring & Maintenance	Landfill capping	NA	Periodic VOC increases in monitoring well 088-109 adjacent to the landfill.
Former Landfill	VOCs Sr-90 tritium	Long Term Monitoring & Maintenance	Landfill capping	NA	No longer a continuing source of contaminants to groundwater.
Former HWMF	Sr-90	Long Term Monitoring & Maintenance	Monitoring	NA	Temporary wells installed annually to track migration of Sr-90 plume from source area. Maximum Sr-90 detected in 2022 of 95 pCi/L in a temporary well.
OU III					
Chemical/Animal Holes	Sr-90	Standby	P&T with ion exchange (IE)	2018 (Actual)	Petition for Shutdown approved and system shut down in July 2018. Continue to monitor periodic increases in Sr-90 groundwater concentrations in former source area.
Carbon Tetrachloride former source area	VOCs (carbon tetra-chloride)	Decommis-sioned	P&T with carbon	2009 (Actual)	Treatment system was decommissioned in 2010.
Building 96	VOCs	Operational (RTW-2, RTW-3 and RTW-4 in standby)	Recirculation wells with AS for 3 of 4 wells. RTW-1 is P&T with AS.	2023	Evaluate in-situ treatment of source area using liquid carbon with zero valent iron. Due to reduced VOCs, RTW-1 was placed in pulsed pumping mode in May 2022.
Building 452	VOCs (Freon-11)	Closed	P&T with AS	2017 (Actual)	Petition for Closure approved in August 2019.
South Boundary	VOCs	Operational (EW-3, EW-4, EW-5, EW-6, EW-7, EW-8 and EW-12 on standby)	P&T with AS	Under Evaluation	Extraction well EW-17 is capturing deep VOCs at site boundary. EW-4 placed in standby October 2021. Plume migration towards EW-17 slower than anticipated which will impact system shutdown timeframe and require a system modification as recommended in 2021 CERCLA 5-Year Review.
Middle Road	VOCs	Operational (RW-1, RW-4, RW-5, and RW-6 on standby)	P&T with AS	Under Evaluation	Monitoring persistent elevated deep VOCs south of Princeton Avenue. Plume migration towards extraction wells slower than anticipated which will impact system shutdown timeframe and require a system modification as recommended in 2021 CERCLA 5-Year Review.

continued

Project	Target	Mode	Treatment Type	Expected System Shutdown	Highlights
OU III (cont.)					
Western South Boundary	VOCs	Operational (WSB-2 on standby)	P&T with AS	2026	Four new extraction wells became operational in 2019 to address deeper VOCs to the west and have been effectively remediating the plume.
Industrial Park	VOCs	Standby	In-well stripping and P&T with carbon	2021	All extraction wells have been in standby since July 2019 due to VOCs below capture goals. Negotiating access agreement with new owner of property containing system infrastructure.
Industrial Park East	VOCs	Decommissi-oned	P&T with carbon	2009 (Actual)	Treatment system was decommissioned in 2014.
North Street	VOCs	Closed	P&T with carbon	2013 (Actual)	A Petition for Closure was approved March 2020.
North Street East	VOCs EDB	Closed (VOCs) Operational (EDB)	P&T with carbon	2014 (Actual for VOCs) 2024 (EDB)	Original VOC system closed in 2020. Two new extraction wells became operational in July 2020 and are effectively remediating EDB.
Long Island Power Authority (LIPA) / Airport	VOCs	Operational (LIPA wells on standby/ Airport wells RTW-2A, RTW-3A and RTW-5A on standby)	P&T and recirculation wells with carbon	2017 LIPA (Actual) 2025 Airport	LIPA extraction wells in standby mode. Submit a petition for closure in 2022 based on low VOC concentrations over past several years. Persistently elevated VOCs in upgradient monitoring wells along Crestwood Drive may impact Airport system shutdown.
HFBR Tritium	Tritium	Closed	Pump and recharge	2012 (Actual)	A Petition for Closure was approved in March 2019. Ten wells continue to monitor the former source area.
BGRR/Waste Concentration Facility (WCF)	Sr-90	Operational (Standby: SR-4, SR-5, SR-6, SR-7. Pulsed SR-8)	P&T with IE	2026	BGRR source area Sr-90 concentrations remained low in 2021 and SR-3 and SR-8 were placed in standby mode in May 2022. Defined leading edge of WCF plume south of Temple Place with temporary wells in Spring 2022.
OU IV					
OU IV AS/SVE system	VOCs	Decommissioned	Air sparging/ soil vapor extraction	2003 (Actual)	System decommissioned in 2003.
Building 650 Sump Outfall	Sr-90	Long Term Monitoring	Monitored Natural Attenuation (MNA)	NA	Sr-90 plume continues to slowly attenuate.
OU V					
STP	VOCs, tritium	Completed	MNA	NA	Monitoring completed in 2014.

continued

Project	Target	Mode	Treatment Type	Expected System Shutdown	Highlights
OU VI					
Ethylene Dibromide (EDB)	EDB	Operational	P&T with carbon	Under Evaluation	2021 CERCLA 5-Year Review recommendation for system modification to establish capture of deeper EDB at leading edge of the plume and reduce cleanup timeframe.
g-2 and BLIP					
g-2 Tritium Plume	Tritium	Long Term Monitoring & Maintenance	MNA	NA	Tritium concentrations in source area were slightly above the DWS.
BLIP Tritium Plume	Tritium	Long Term Monitoring & Maintenance	MNA	NA	Tritium concentrations continue to be less than DWS.
OU X					
Former Firehouse	PFOS and PFOA	Under Construction	P&T with carbon	TBD	Consists of three extraction wells. System start-up testing anticipated for summer 2022.
Current Firehouse	PFOS and PFOA	Under Construction	P&T with carbon	TBD	Consists of nine extraction wells. System start-up testing anticipated for late 2022.

1.0 INTRODUCTION AND OBJECTIVES

The mission of Brookhaven National Laboratory's (BNL) Groundwater Protection Program is to protect and restore the aquifer system at BNL. The program is built on four key elements:

- Pollution prevention: Preventing the potential pollution of groundwater at the source
- Restoration: Restoring groundwater that has been affected at the BNL site
- Monitoring: Monitoring the effectiveness of pollution-prevention efforts, as well as progress in restoring the quality of affected groundwater
- Communication: Communicating the findings and results of the program to regulators and stakeholders

The *BNL 2021 Groundwater Status Report* is a comprehensive summary of groundwater data collected in calendar year 2021 that provides an interpretation of information on the performance of the Groundwater Protection Program. This is the 26th annual groundwater status report issued by BNL. This document examines performance of the program on a project-by-project basis.

How to Use This Document. This document is a detailed technical report that includes analytical laboratory data, as well as data interpretations conducted by BNL's Groundwater Protection Group. This document can also be obtained through BNL's website. Data are presented in four key subject areas:

- Improvements to the understanding of the hydrogeologic environment and surrounding areas
- Progress in cleaning contaminated groundwater
- Identification of any new impacts to groundwater quality due to BNL's active operations
- Proposed changes to the groundwater protection program

This document satisfies BNL's requirement to report groundwater data under the Interagency Agreement, DOE's reporting requirements and partially fulfills the commitment of the Groundwater Protection Program to communicate the program's findings and progress to regulators and stakeholders.

Section 1 discusses the regulatory requirements of the data collection work in 2021, the site's groundwater classification, and the objectives of groundwater monitoring. **Section 2** discusses the hydrogeologic environment at BNL and its surrounding area. It also summarizes the dynamics of the groundwater flow system in 2021. In **Section 3**, the groundwater cleanup data and progress towards achieving the site's cleanup goals are described. **Section 4** outlines the groundwater surveillance data used to verify that operational and engineered controls are preventing further contamination from BNL's active experimental and support facilities. **Section 5** is a summary of the proposed recommendations to the Groundwater Protection Program identified in **Sections 3 and 4**.

Appendices A and **B** include hydrogeologic data that support the discussions in **Section 2**. **Appendix C** contains the analytical results for each sample obtained under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) program. **Appendix D** contains analytical results for each sample obtained under the Facility Monitoring program. Due to the volume of these data, the report appendices are included on a USB flash drive, which significantly reduces the size of this report in printed format. **Appendix E** contains information on sample collection, analysis, and Quality Assurance/Quality Control (QA/QC). **Appendix F** consists of data supporting the remediation system discussions in **Section 3**, **Appendix G** is a compilation of data usability report forms and **Appendix H** includes the Assessment of OU VI EDB Capture and Cleanup

Timeframe (Arcadis 2021). In addition to the appendices, this entire report is included on the USB flash drive with active links to tables and figures.

1.1 Groundwater Monitoring Program

1.1.1 Regulatory Requirements

Activities at BNL are driven by federal and state regulations as well as Department of Energy (DOE) Orders.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

On December 21, 1989, BNL was included on the National Priorities List (NPL) of contaminated sites identified for priority cleanup. DOE, the United States Environmental Protection Agency (EPA), and the New York State Department of Environmental Conservation (NYSDEC) created a comprehensive Federal Facilities Agreement (FFA) that integrated DOE's response obligations under CERCLA, the Resource Conservation and Recovery Act (RCRA), and New York State hazardous waste regulations. The FFA, also known as the Interagency Agreement (IAG), was finalized and signed by these parties in May 1992, and includes a requirement for groundwater monitoring (USEPA 1992).

New York State Regulations, Permits, and Licenses

The monitoring programs for the Current Landfill and Former Landfill are designed in accordance with post-closure Operation and Maintenance requirements specified in 6 NYCRR (New York Code of Rules and Regulations) Part 360, *Solid Waste Management Facilities*.

BNL's Major Petroleum Facility (MPF) is operated under NYSDEC Bulk Petroleum Storage License No. 01-1700. This license requires BNL to routinely monitor the groundwater. Together with approved engineering controls, the groundwater monitoring program verifies that storage operations for bulk fuel have not degraded the quality of the groundwater. The engineered controls and monitoring program for the MPF are described in the *BNL Spill Prevention, Control and Countermeasure Plan* (BNL 2021f).

BNL's Waste Management Facility (WMF) is a hazardous waste storage facility operated under NYSDEC RCRA Part B Permit No. 1-4722-00032/00102-0. The permit requires groundwater monitoring as a secondary means of verifying the effectiveness of the facility's administrative and engineered controls.

BNL's State Pollution Discharge Elimination System (SPDES) permit (NY0005835) requires the collection of annual groundwater samples in the vicinity of the Sewage Treatment Plant's recharge basins.

DOE Orders

BNL conducts groundwater monitoring at active research and support facilities in accordance with the environmental surveillance requirements defined in DOE Order 458.1, *Radiation Protection of the Public and the Environment* and DOE Order 436.1, *Departmental Sustainability*. Groundwater monitoring is conducted to: characterize pre-operational conditions; to detect, characterize, and respond to contaminant releases from site operations and activities; evaluate dispersion and attenuation patterns; and to characterize the potential pathways of exposure to members of the public.

1.1.2 Groundwater Quality and Classification

In Suffolk County, drinking water supplies are obtained exclusively from groundwater aquifers (e.g., the Upper Glacial aquifer, the Magothy aquifer, and, to a limited extent, the Lloyd aquifer). In 1978, EPA designated the Long Island aquifer system as a sole source aquifer pursuant to Section 1424(e) of the Safe Drinking Water Act (SDWA). Groundwater in the sole source aquifers underlying

the BNL site is classified as "Class GA Fresh Groundwater" by the State of New York (6 NYCRR Parts 700–705); the best usage of Class GA groundwater is as a source of potable water. Accordingly, in establishing the goals for protecting and remediating groundwater, BNL follows federal Drinking Water Standards (DWS), New York State (NYS) DWS (also known as MCLs), and NYS Ambient Water Quality Standards (AWQS) for Class GA groundwater.

For drinking water supplies, the applicable federal maximum contaminant levels (MCLs) are set forth in 40 CFR (Code of Federal Regulations) 141 (for primary MCLs) and 40 CFR 143 (for secondary MCLs). In New York State, the SDWA requirements relating to the distribution and monitoring of public water supplies are promulgated under the NYS Sanitary Code (10 NYCRR Part 5), enforced by the Suffolk County Department of Health Services (SCDHS) as an agent for the New York State Department of Health (NYSDOH). These regulations apply to any water supply that has at least five service connections or that regularly serves at least 25 individuals. BNL supplies water to approximately 3,000 employees and visitors, and therefore must comply with these regulations. In addition, DOE Derived Concentration Guides (DCGs) are used for radionuclides not covered by existing federal or state regulations (DOE 2021). On August 26, 2020, New York State formally adopted MCLs of 10 ng/L for perfluorooctane sulfonate (PFOS), 10 ng/L for perfluorooctanoic acid (PFOA) and 1.0 µg/L for 1,4-dioxane.

BNL evaluates the potential impact of radiological and nonradiological levels of contamination by comparing analytical results to NYS and DOE reference levels. Nonradiological data from groundwater samples collected from surveillance wells usually are compared to NYS AWQS (6 NYCRR Part 703.5). Radiological data are compared to the DWS for tritium, strontium-90 (Sr-90), gross beta; gross alpha, radium-226, and radium-228; and the 40 CFR 141/DOE DCGs for determining the 4 millirems per year (mrem/yr) dose for other beta- or gamma-emitting radionuclides.

Tables 1-1, 1-2, 1-3, and **1-4** show the regulatory and DOE "standards, criteria, and guidance" used for comparisons to BNL's groundwater data.

1.1.3 Monitoring Objectives

Groundwater monitoring is driven by regulatory requirements, DOE Orders, best management practice, and BNL's commitment to environmental stewardship. BNL monitors its groundwater resources for the following reasons:

Groundwater Resource Management

- To support initiatives in protecting, managing, and remediating groundwater by refining the conceptual hydrogeologic model of the site and maintaining a current assessment of the dynamic patterns of groundwater flow and water-table fluctuations.
- To determine the natural background concentrations for comparative purposes. The site's background wells provide information on the chemical composition of groundwater that has not been affected by BNL's activities. These data are a valuable reference for comparison with the groundwater quality data from affected areas. The network of wells also can warn of any contaminants originating from potential sources that may be located upgradient of the BNL site.
- To ensure that potable water supplies meet all regulatory requirements.

Groundwater Facility Monitoring

- Determine pre-operational/baseline groundwater quality at new facilities.
- To verify that administrative and engineered controls effectively prevent groundwater contamination.
- To demonstrate compliance with applicable DOE and regulatory requirements for protecting groundwater resources.

1.1.4 Groundwater - CERCLA Monitoring

- To track a dynamic groundwater cleanup problem when designing, constructing, and operating treatment systems.
- To measure the performance of the groundwater remediation efforts in achieving cleanup goals.
- To protect public health and the environment during the cleanup period.
- To define the extent and degree of groundwater contamination.
- To provide early warning of the arrival of a leading edge of a plume, which could trigger contingency remedies to protect public health and the environment.

The details of the monitoring program are described in the *BNL 2021 Environmental Monitoring Plan* (BNL 2021a). This plan includes a description of the source area, description of groundwater quality, criteria for selecting locations for groundwater monitoring, and the frequency of sampling and analysis. **Figure 1-1** highlights BNL's operable unit (OU) locations designated as part of the CERCLA program, and Areas of Concern (AOCs). Details on the sampling parameters, frequency, and analysis by well are listed in **Tables 1-5** and **1-6**. Screen zone, total depth, and ground surface elevations are summarized in **Table 1-7**. **Figure 1-2** shows the locations of wells monitored as part of the Laboratory's groundwater protection program. Detailed groundwater monitoring rationale can be found in the *BNL 2021 Environmental Monitoring Plan* (BNL 2021a). BNL's CERCLA groundwater monitoring has been streamlined into five general phases **(Table 1-8)**:

Start-up Monitoring

A quarterly sampling frequency is implemented on all wells for a period of two years. This sampling frequency provides sufficient data while the system's operation is in its early stages.

Operations and Maintenance (O&M) Monitoring

This is a period of reduced monitoring during the time when the system is in a routine operational state. The timeframe for each system varies. This phase is also utilized for several plume monitoring programs not requiring active remediation.

Shutdown Monitoring

This is a two-year period of monitoring implemented prior to petitioning for system shut down. The increased sampling frequency provides the necessary data to support the shutdown petition.

Standby Monitoring

This is a period of reduced monitoring following system shutdown. The timeframe for each system varies but is typically up to a five-year duration to identify any potential rebounding of contaminant concentrations. If no significant rebound is observed during this time, the petition for closure and decommissioning of the system is recommended.

Post Closure Monitoring

This is a monitoring period of varying length for approximately 20 percent of the key wells in a given project following system closure. Monitoring continues until the Record of Decision (ROD) goal of meeting MCLs for VOCs in the Upper Glacial aquifer is reached. This is expected to occur by 2030. This phase is considerably longer for the Magothy and Sr-90 cleanups due to greater length of time to reach MCLs required for those projects.

Since 2001, BNL uses a structured Data Quality Objective (DQO) process to continually review and refine the groundwater monitoring and remediation projects. The results of the DQO reviews are documented annually in updates to the *BNL Environmental Monitoring Plan*.

Modifications are implemented to specific wells to adjust sample frequencies or parameters in order to account for changing conditions or unexpected results. These modifications may temporarily alter the monitoring of a well from specifications associated with the general phase of monitoring stated for that well.

Table 1-8. CERCLA Groundwater Monitoring Program – Well Sampling Frequency.

Project Activity Phase	Well Type	Phase Duration (yrs.)	Sampling Freq. (events/yr.)****
Start-up Monitoring	Plume Core	2	4x
	Plume Perimeter	2	4x
	Sentinel/Bypass	2	4x
O&M Monitoring	Plume Core	End Start-up to Shutdown*	2x
	Plume Perimeter	End Start-up to Shutdown*	2x
	Sentinel/Bypass	End Start-up to Shutdown*	4x
Shutdown Monitoring	Plume Core	2	4x
	Plume Perimeter	2	4x
	Sentinel/Bypass	2	4x
Standby Monitoring	Key Plume Core	5	2x
	Plume Perimeter	5	1x
	Sentinel/Bypass	5	2x
Post Closure Monitoring***	20% of key wells	Up To 2030**	1x

Notes:
*- Varies by project, see Table 1-5.
** - Magothy: 2065, BGRR Sr-90: 2070, South Boundary Rad: 2038, Chem Holes Sr-90: 2040
*** - Verification monitoring for achieving MCLs.
****- Sr-90 monitoring projects use approximately half the defined sampling frequency.

The groundwater monitoring well networks for each program are organized into background, core, perimeter, bypass, and sentinel wells. The wells are designated as follows:

- Background –water quality results will be used to determine upgradient water quality
- Plume Core – utilized to monitor the high concentration or core area of the plume
- Perimeter – used to define the outer edge of the plume both horizontally and vertically
- Bypass – used to determine whether plume capture performance is being met
- Sentinel – An early warning well to detect the leading edge of a plume.

1.2 Private Well Sampling

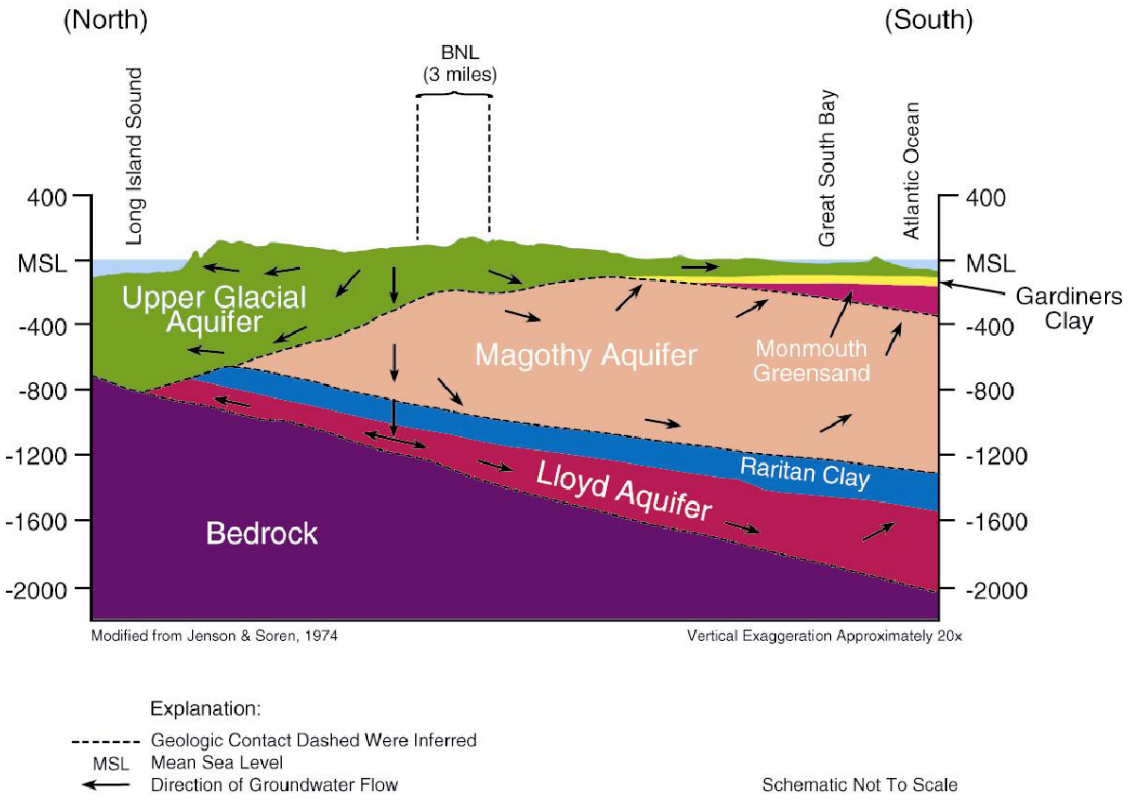
In accordance with the OU III and OU VI RODs, DOE formally offers the owners that previously declined DOE's offer of public water hookups free testing of their private drinking water wells on an annual basis. SCDHS coordinates and performs the sampling and analysis. During 2021, there were four residences within the defined hook-up area south and east of BNL who continue to use their private wells for drinking water purposes. In October 2021, all four homeowners had their wells sampled. One home had their private and agricultural well tested. In addition to the routine analyses typically performed, the wells were also analyzed for six per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane. The SCDHS transmitted the PFAS results to the homeowners in January 2022.

2.0 HYDROGEOLOGY

This section briefly describes the hydrogeologic environment at BNL and the surrounding area. It also summarizes the dynamics of the groundwater flow system in 2021, along with on-site pumping rates and rainfall recharge.

Detailed descriptions of the aquifer system underlying BNL and the surrounding areas are found in the U.S. Geological Survey (USGS) report by Scorca and others (1999), *Stratigraphy and Hydrologic Conditions at the Brookhaven National Laboratory and Vicinity, Suffolk County, New York, 1994–97,* and the USGS report by Wallace deLaguna (1963), *Geology of Brookhaven National Laboratory and Vicinity, Suffolk County, New York.* The stratigraphy below BNL consists of approximately 1,300 feet of unconsolidated deposits overlying bedrock (**Figure 2-1**). The current groundwater monitoring program focuses on groundwater quality within the Upper Pleistocene deposits (Upper Glacial aquifer), and the upper portions of the Matawan Group-Magothy Formation (Magothy aquifer).

Figure 2-1.
Generalized Geologic Cross Section in the Vicinity of Brookhaven National Laboratory.



The Pleistocene deposits are about 100–200 feet thick and are divided into two primary hydrogeologic units: undifferentiated sand and gravel outwash and moraine deposits, and the finer-grained, more poorly sorted Upton Unit. The Upton Unit makes up the lower portion of the Upper Glacial aquifer beneath several areas of the site. It generally consists of fine- to medium-grained white to greenish sand with interstitial clay. In addition to these two major hydrogeologic units, there are several other distinct hydrogeologic units within the Upper Glacial aquifer. They include localized, near-surface clay layers in the vicinity of the Peconic River (including the Sewage Treatment Plant [STP] area), and reworked Magothy deposits that characterize the base of the aquifer in several areas. The Gardiners Clay is a regionally defined geologic unit that is discontinuous beneath BNL and areas to the south. Typically, it is characterized by variable amounts of green silty clay, sandy and gravelly green clay, and clayey silt.

Where it exists, the Gardiners Clay acts as a confining or semi-confining unit that impedes the vertical flow and migration of groundwater between the Upper Glacial aquifer and the underlying Magothy aquifer.

The Magothy aquifer is composed of Cretaceous aged continental deltaic deposits. The Magothy aquifer at BNL is approximately 800 feet thick, and because it is composed of fine sand interbedded with silt and clay, it is generally less permeable than the Upper Glacial aquifer. The Magothy aquifer is highly stratified. Of particular importance at BNL is that the upper portion of the Magothy contains extensive, locally continuous layers of grey-brown clay (referred to herein as the Magothy Brown Clay). Regionally, the Magothy Brown Clay is not interpreted as being continuous; however, beneath BNL and adjacent off-site areas, it acts as a confining unit (where it exists), impeding the vertical flow and movement of groundwater between the Upper Glacial and Magothy aquifers.

Regional patterns of groundwater flow near BNL are influenced by natural and artificial factors. **Figure 2-2** shows the locations of pumping wells and recharge basins. Under natural conditions, recharge to the regional aquifer system is derived solely from precipitation. A regional groundwater divide exists immediately north of BNL near Route 25. It is oriented roughly east–west, and appears to coincide with the centerline of a regional recharge area. Groundwater north of this divide flows northward, ultimately discharging to the Long Island Sound (**Figure 2-1**). Shallow groundwater in the BNL area generally flows to the south and east. During high water-table conditions, groundwater can discharge into local surface water bodies such as the Peconic River and adjacent ponds. The BNL site is within a regional deep-flow recharge area, where downward flow helps to replenish the deep sections of the Upper Glacial aquifer, the Magothy aquifer, and the Lloyd aquifer. South of BNL, groundwater flow becomes more horizontal and ultimately flows upward as it moves toward regional discharge areas such as the Carmans River and Great South Bay. Superimposed on the natural regional field of groundwater flow are the artificial influences due to pumping and recharge operations.

2.1 Hydrogeologic Data

Various hydrogeologic data collection and summary activities were undertaken as part of the 2021 Groundwater Protection Program to evaluate groundwater flow patterns and conditions. This work is described in the following sections and includes the results of groundwater elevation monitoring, information on pumping and recharging activities on-site and off-site, and precipitation data.

2.1.1 Groundwater Elevation Monitoring

Synoptic water levels are obtained from a network of on-site and off-site wells screened within the shallow section of the Upper Glacial aquifer. These data are used to characterize the groundwater flow-field (direction and rate) and to evaluate seasonal and artificial variations in flow patterns.

The synoptic water-level measurement event for this report was conducted during October 13-18, 2021 using approximately 185 on-site and off-site wells. Water levels were measured with electronic water-level indicators following the BNL *Environmental Monitoring Standard Operating Procedure* EM-SOP-300. **Appendix A** provides the depth-to-water measurements and the calculated groundwater elevations for these measurements. Monitoring results for long-term and short-term hydrographs for select wells are discussed in **Section 2.2**. The water table elevation fluctuated within a two foot range during 2021 as the annual precipitation was slightly above average. As a result, the decline in source area contaminant concentrations observed at the BGRR, WCF, Building 96 and former HWMF during 2020 continued. The source area wells will continue to be monitored closely.

2.1.2 Pumpage of On-Site Water Supply and Remediation Wells

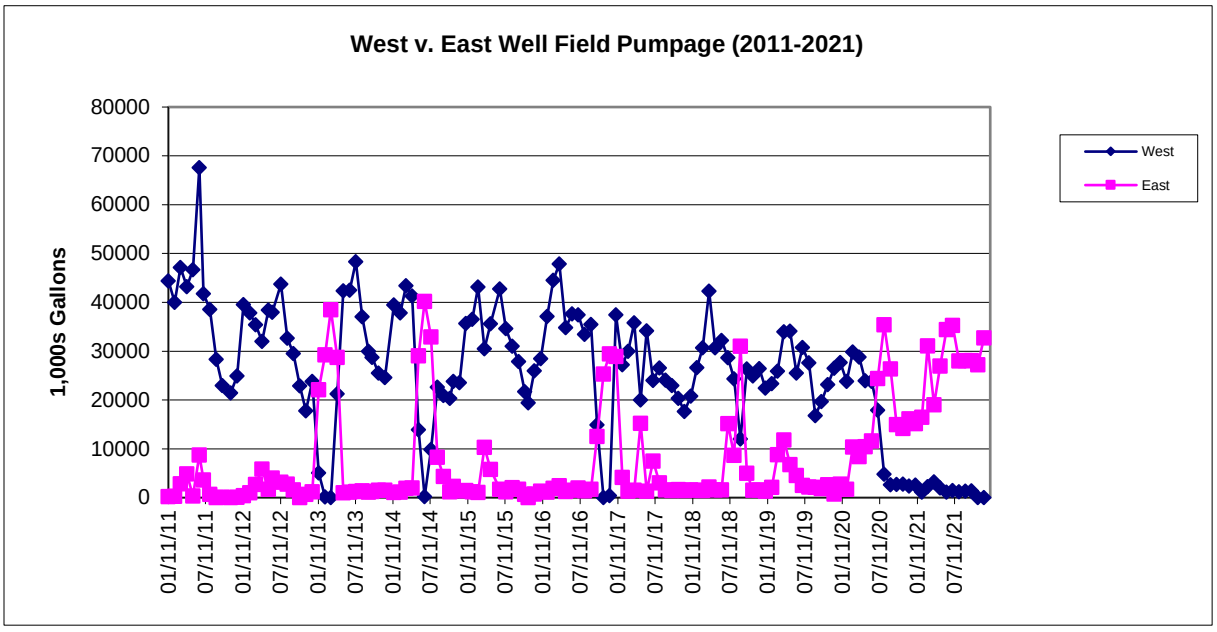
BNL has six water supply wells to provide potable and process cooling water, and 71 treatment wells used for the remediation of contaminated groundwater. All six water supply wells are screened entirely within the Upper Glacial aquifer. Twenty-six of the 71 treatment wells were in operation at some period in 2021 (**See Table 3.0-1**). The location and operational status of the treatment wells (full time operation,

pulsed pumping, standby/off) and treatment systems (operating, shut down, decommissioned) are shown on **Figure 3.0-1**. **Figure 2-2** show the locations of the water supply and remediation wells. The effects that the groundwater withdrawals have on the aquifer system are discussed in **Section 2.2**.

Table 2-1 provides the monthly and total water usage for 2021 for potable supply wells 4, 6, 7, 10, and 11. It includes information on each well's screened interval and pumping capacity. The variation in monthly pumpage reflects changes in water demand, and maintenance schedules for the water supply system. The western potable well field includes wells BNL-4, BNL-6, and BNL-7; and the eastern field currently includes wells BNL-10 and BNL-11. Although eastern supply well BNL-12 has been out of service since October 2008, this well was placed back into operation in April 2022. For the past 10 years, supply well BNL-4 has been of limited use due to low yield resulting from age and iron fouling of the screen. Its future use will be further restricted due to its close proximity to BNL's firehouse, which has been identified as a significant source of per- and polyfluoroalkyl substances (PFAS) contamination. Since June 2018, the use of supply well BNL-6 has been limited due to the detection of PFAS chemicals perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) at combined concentrations that were close to the EPA Lifetime Health Advisory Level (HAL) of 70 ng/L. Furthermore, individual PFOS concentrations in BNL-6 exceed the NYS drinking water standard of 10 ng/L that was established in August 2020.

Water supply operating protocols have been established by the BNL Water and Sanitary Planning Team to help minimize pumping induced changes in groundwater flow directions in the central portion of the BNL site. Under this protocol, the goal is to have the western well field provide 75 percent or more of the site-wide water supply. This goal could not be met during 2021, with the eastern well field suppling 95 percent of the water. **Figure 2-3** below summarizes monthly pumpage for the eastern and western well fields.

Figure 2-3.
Summary of Monthly Supply Well Pumpage from the BNL Eastern and Western Well Fields 2011 through 2021.



Since 1999, the implementation of effective water conservation measures has resulted in a significant reduction in the amount of water pumped from the aquifer. During 2021, a total of 340 million gallons of water were withdrawn from the aquifer by BNL's potable supply wells. With the required restrictions placed on the continued operation of western wells BNL-4 and BNL-6 due to PFAS contamination in the well's source water contributing areas, during 2020 and 2021 BNL was not able to meet its goal of obtaining more than 75 percent of its total water supply from the western well field. **Table 2-2**

summarizes the 2021 monthly water pumpage for the groundwater remediation systems. Additional details on groundwater remediation system pumping are provided in **Section 3** of this report.

2.1.3 Off-Site Water Supply Wells

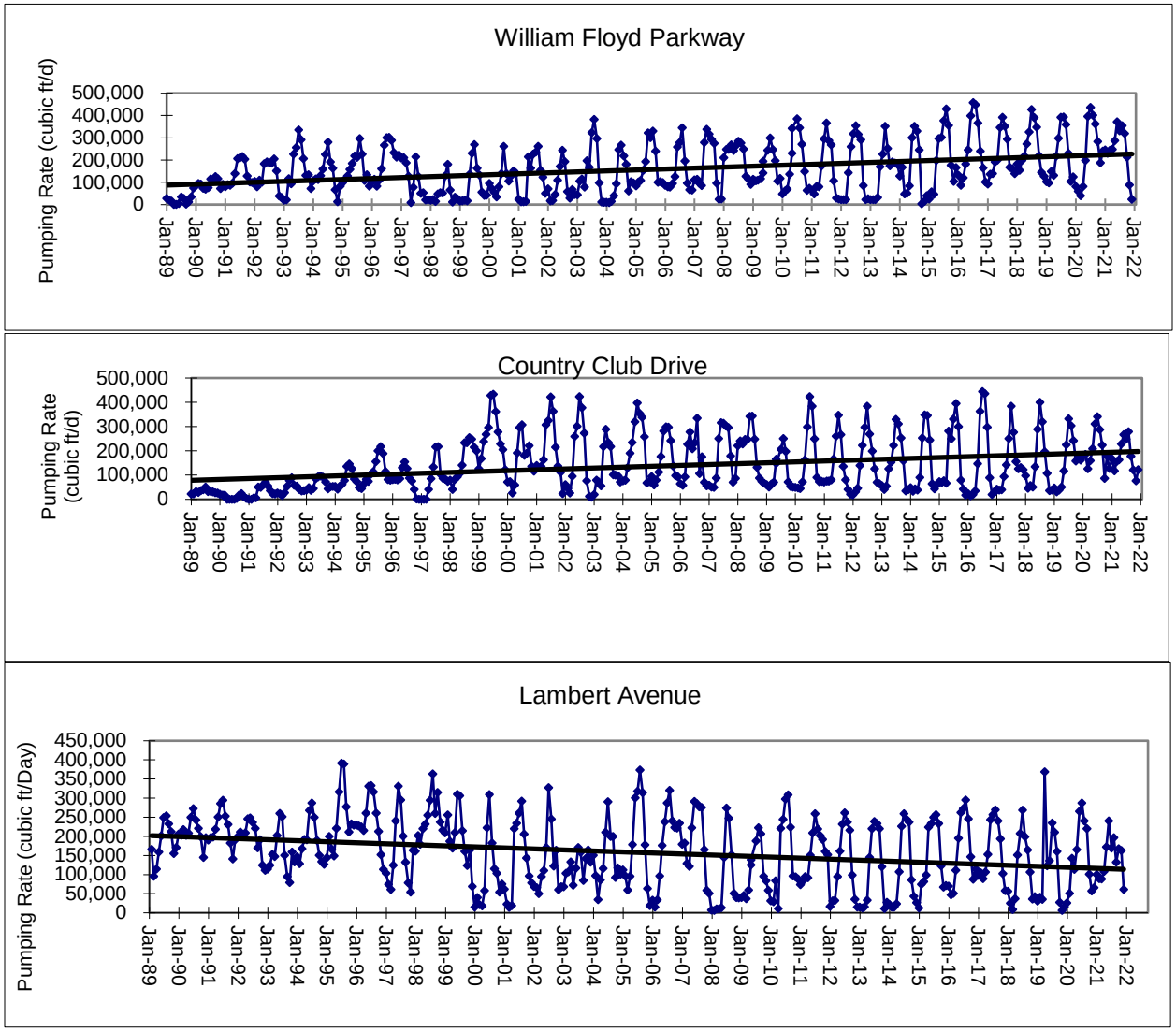
Several Suffolk County Water Authority (SCWA) well fields are in the vicinity of BNL. The William Floyd Parkway Well Field is west/southwest of BNL (see **Figure 2-2**) and consists of three water supply wells that withdraw groundwater from the mid to deep Upper Glacial aquifer. The Country Club Drive Well Field is south/southeast of BNL and consists of three water supply wells that withdraw groundwater from the mid-section of the Upper Glacial aquifer. Pumpage information for 1989 through 2021 is provided as **Figure 2-4.** In 2021, the William Floyd Parkway and Country Club Drive Well Fields produced 675 and 485 million gallons for the year, respectively. The Lambert Avenue Well Field, located south of BNL, produced 385 million gallons for the year.

2.1.4 Summary of On-Site Recharge and Precipitation Data

This section summarizes artificial (i.e., on-site recharge basins) and natural recharge from precipitation. **Table 2-3** summarizes the monthly and total flow of water through 10 on-site recharge basins during 2021. Their locations are shown on **Figure 2-2**. **Section 2.2** (Groundwater Flow) provides a discussion on the effects associated with recharge. Seven of the basins (HN, HO, HS, HT-W, HT-E, HX, and HZ) receive stormwater runoff and cooling water discharges. Flow into these basins is monitored monthly per NYSDEC State Pollutant Discharge Elimination System (SPDES) permit requirements. Generally, the amount of water recharging through the groundwater system to these basins reflects supply well pumpage. Annual water supply flow diagrams show the general relationships between recharge basins and the supply wells. Details on the SPDES program are provided in Volume I of the annual *Site Environmental Report (Chapter 5, Water Quality).*

The remaining three basins (Removal Action V [RA V], OU III, and Western South Boundary) were constructed to recharge water processed through several of the groundwater remediation systems. **Figure 2-5** provides a comparison of monthly flow rates for basins HO, RA V, OU III and HS over the period of 1999 through 2021. Until September 2001, treated groundwater from the OU III South Boundary Pump and Treat System was discharged solely to the OU III basin along Princeton Avenue. After September 2001, treated groundwater from that system and the OU III Middle Road system was discharged equally to the OU III and RA V basins. Until 2013, water from the OU I South Boundary and the High Flux Beam Reactor (HFBR) system was discharged to the RA V basin. The HFBR and OU I Treatment Systems met their cleanup objectives, and their extraction wells were shut down in May and July 2013, respectively. Because reductions in water discharges to the RA V basin could have resulted in significant changes in local groundwater flow patterns, groundwater modeling was used to determine how to effectively divide the remaining treated water discharges toward the OU III and RA V basins to maintain stable groundwater flow directions. Monitoring of groundwater flow patterns demonstrated that this effort was successful for several years. However, with additional reductions in water discharged from the OU III Treatment System, the groundwater flow direction in the Building 650 area has shifted more to the southeast (**Figure 2-2**). Starting in March 2019, the modification to the Western South Boundary Treatment System shifted the treatment of groundwater from this plume to the Middle Road/South Boundary Treatment System. As a result, the treated water has been redirected to the OU III and RA V basins. **Table 2-3** provides estimates of flow to the recharge basins. Other important sources of artificial recharge, not included on **Table 2-3**, include a stormwater retention basin referred to as HW (on Weaver Drive), and recharge basins at the STP. Until October 2014, treated water from the STP was discharged to sand filter beds, which contributed to localized mounding of the water table caused by shallow clay and silt deposits. Starting in October 2014, the STP discharge was re-directed to newly constructed groundwater recharge basins located along the eastern portion of the plant. Because the recharge basins are in an area containing highly permeable soils, these discharges are not causing significant mounding of the water table below the recharge basins. A groundwater mound is still present in the former filter beds due to persistent perched water table conditions resulting from near surface clay and silt deposits.

Figure 2-4.
Suffolk County Water Authority Pumping Near BNL.



Precipitation provides the primary recharge of water to the aquifer system at BNL. Under long-term conditions in undeveloped areas of Long Island, about 50 percent of precipitation is lost through evapotranspiration and direct runoff to streams; the other 50 percent infiltrates the soil and recharges the groundwater system (Aronson and Seaburn 1974; Franke and McClymonds 1972). For 2021, it is estimated that the recharge at BNL was approximately 24.6 inches. **Table 2-4** summarizes monthly and annual precipitation results from 1949 to 2021 collected on site by BNL Meteorology Services. Variations in the water table generally can be correlated with seasonal precipitation patterns. As shown on **Table 2-4**, total annual precipitation in 2021 was 49.27 inches, which was slightly above the long-term yearly average of 49.02 inches.

2.2 Groundwater Flow

BNL routinely monitors horizontal and vertical groundwater flow directions and rates within the Upper Glacial aquifer by using water-level data collected from a large network of on-site and off-site monitoring

wells. Short-term and long-term seasonal fluctuations of water levels are also evaluated using hydrographs for select wells, and trends in precipitation.

2.2.1 Water-Table Contour Map

Figure 2-2 is a groundwater elevation contour map representing the configuration of the water table for October 13-18, 2021. The contours were generated from the water-level data from shallow Upper Glacial aquifer wells. Localized hydrogeologic influences on groundwater flow were considered, including on-site and off-site pumping wells, and on-site recharge basins (summarized in **Section 2.1**).

Groundwater flow in the Upper Glacial aquifer is generally characterized by a southeasterly component of flow in the northern portion of the site, with a gradual transition to a more southerly direction at the southern boundary and beyond. Flow directions in the eastern portion of BNL are predominately to the east and southeast. The general groundwater flow pattern for October 2021 was generally consistent with historical flow patterns. As described in **Section 2.1.2**, the water supply operating protocols established by BNL in 2005 had a goal of using the western well field to obtain 75 percent or more of the site's water supply. This goal could not be achieved during 2021, and has resulted in a slightly more easterly groundwater flow direction in the north-central portion of the site.

In addition to pumping induced cones of depression near groundwater supply and remediation wells, influences from water recharge activities can be observed as localized mounding of the water table, particularly around the OU III and RA V recharge basins (in the center of the site), and the STP. The degree of mounding is generally consistent with the monthly flows to recharge basins summarized in **Section 2.1**. Groundwater mounding is also evident at the STP as a result of perched water table conditions resulting from near surface clay and silt deposits.

Other noteworthy features are the influence that surface water bodies have on groundwater flow directions. **Figure 2-2** shows groundwater flowing towards the Carmans River in areas south/southwest of BNL. This pattern is consistent with the fact that the Carmans River is a significant regional discharge boundary.

2.2.2 Well Hydrographs

Groundwater hydrographs are useful in estimating recharge rates and the location of the water table relative to contaminant sources. Long-term (typically 1950–2021) well hydrographs were constructed from water-level data that were obtained for select USGS and BNL wells. These hydrographs track fluctuations in water level over time. Precipitation data also were compared to natural fluctuations in water levels. **Appendix B** contains the well hydrographs, together with a map depicting the locations of these wells.

The long-term hydrographs indicate that typical seasonal water-table elevation fluctuations are on the order of 4 to 5 feet. Some of the water-table elevation changes have occurred during prolonged periods of low precipitation, where a maximum fluctuation of nearly 14 feet was observed during the regional drought of the early 1960s. As shown on the hydrograph for well 065-14, since 2010, when water levels at BNL reached the highest level on record, a nearly 10-foot variation in water table elevations has been observed. Generally, the highest groundwater elevations can be observed during the March-May timeframe in response to snow melt and spring rains. Normally, the position of the water table drops through the summer and into the fall.

A long-term hydrograph was constructed from historical water-level data from BNL well 065-14 (NYSDEC # S-5517.1; USGS Site Number 405149072532201). This well, installed by the USGS in the late 1940s, is screened in the Upper Glacial aquifer close to the water table. The USGS has collected monthly water-level information from this well from 1948 through 2005. In 2006, the USGS installed a real time continuous water-level recorder in the well. Data from this monitoring station can be accessed on the Web at: http://groundwaterwatch.usgs.gov/AWLSites.asp?S=405149072532201&ncd=rtn.

2.2.3 Groundwater Gradients and Flow Rates

Evaluation of the horizontal hydraulic gradients provides information on the driving force behind groundwater flow. These gradients can be used with estimates of aquifer parameters such as hydraulic conductivity (175 feet per day [ft/day]) and effective porosity (0.24) to assess the velocities of groundwater flow. The horizontal hydraulic gradient at the BNL site is typically 0.001 feet per foot (ft/ft), but in recharge and pumping areas it can steepen to 0.0024 ft/ft or greater. The natural groundwater flow velocity in most of the Upper Glacial aquifer is estimated to be approximately 0.75 ft/day, but velocities can be lower in some portions of the deep Upper Glacial aquifer where finer-grained sands are present. Flow velocities in recharge areas can be as high as 1.45 ft/day, and those in areas near BNL supply wells can be as high as 28 ft/day (Scorca et al. 1999).

2.3 New Geologic Data

During 2021, twelve shallow to middle Upper Glacial wells were installed in the southwestern section of the BNL site to obtain water level data needed to evaluate the influence that the SCWA's William Floyd well field is having on groundwater flow directions in that area. Water level data collected in October 2021 verified that the well field's capture zone extends into the southwestern portion of the BNL site (**Figure 2.2**). Geologic data was obtained in the off-site OU VI EDB area during the installation of vertical profile wells in September 2020 and March 2021. The geologic data collected during the installation of these wells indicated that the Gardiners Clay is not present in this area as had been previously understood (see **Figure 3.4-2**).

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3.0 CERCLA GROUNDWATER MONITORING AND REMEDIATION

Section 3.0 gives an overview of groundwater monitoring and remediation efforts at BNL during 2021. The section is organized first by Operable Unit, and then by the specific groundwater remediation system and/or plume monitoring program. **Figure 1-2** shows the locations of monitoring wells throughout the site by project. Project specific monitoring well location maps are included throughout **Section 3**.

Report and Data on Flash Drive

Appendices C and D contain the 2021 analytical results for each monitoring well sample. Due to the large volume of data, these appendices are included on a USB flash drive; this significantly reduces the size of the hardcopy of this report. The USB flash drive has a table of contents with active links, such that, by selecting the specific project and analytical suite, the user will be directed to the associated table of results. The groundwater results are arranged by specific monitoring project and then by analytical group [e.g., volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), Per- and Polyfluoroalkyl Substances (PFAS), 1,4-dioxane, metals, chemistry, pesticides/polychlorinated biphenyls (PCBs), and radionuclides]. The data are further organized by well identification (ID), the depth the sample was collected from and the collection date of the sample. Chemical results and analytical laboratory qualifiers if any, are identified. For radionuclides, results, detection limits/minimum detectable activity, and uncertainty/error are reported, along with a data verification, validation, and/or usability qualifier (if assigned), and/or a laboratory data qualifier. If a data verification/validation/usability qualifier was not assigned by BSA, the laboratory data qualifier is presented. The complete analytical results are included to allow the reader the opportunity for detailed analysis.

Plume Maps

Maps are provided that depict the areal extent and magnitude of the contaminant plumes. In most cases, the VOC plumes were simplified by using the total VOC (TVOC) values for drawing the contours, except for those plumes that consist almost exclusively of one chemical, such as the OU III North Street East Ethylene Dibromide (EDB) plume, the OU VI EDB plume, the OU X PFOS, PFOA and 1,4-dioxane plumes. TVOC concentrations are a summation of the individual concentrations of VOCs analyzed by EPA Methods 524.2 and 8260 Low Level. In June 2021, BNL switched from using EPA Method 524.2 to Method 8260 Low Level for analyses of VOCs in groundwater. The change was a result of BNL's contractor analytical laboratories that are now using Method 8260 Low Level for groundwater samples and Method 524.2 for drinking water samples. In addition, Method 8260 Low Level can meet the low detection limits identified in Method 524.2.

The extent of plumes containing VOC contamination was contoured to represent concentrations that were greater than the typical NYS AWQS of 5 micrograms per liter (µg/L) for most compounds. PFOS and PFOA plumes are contoured to the MCL of 10 ng/L and 1,4-dioxane to the MCL of 1.0 µg/L. Radionuclide and EDB plumes were contoured to their appropriate DWS. **Figure 3.0-1** shows the VOC and radionuclide plumes as well as the location and operational status of the groundwater extraction wells and treatment systems. Beginning with the *2022 Groundwater Status Report*, the two new groundwater treatment systems that address the PFAS plumes downgradient of the Current and Former Firehouses will be in operation and will be added to **Figure 3.0-1**.

Starting with the *2021 Groundwater Status Report*, individual posting of the data on the plume figures is represented to the nearest tenth for VOCs, Sr-90, PFOS, PFOA and 1,4-dioxane. Data for EDB is posted to the nearest hundredth. This will help improve clarity of the figures by reducing unnecessary detail. The **Appendix C and D** data tables will continue to report all monitoring well data to the hundredth, as applicable.

Following the capping of the landfill areas and the beginning of active groundwater remediation systems in 1997, there have been significant changes in the size and concentrations of several of the VOC plumes. These changes can be attributed to the following:

- The beneficial effects of active remediation systems.
- Source control and removal actions.
- The impacts of BNL pumping and recharge on the groundwater flow system.
- Radioactive decay, biological degradation, and monitored natural attenuation.

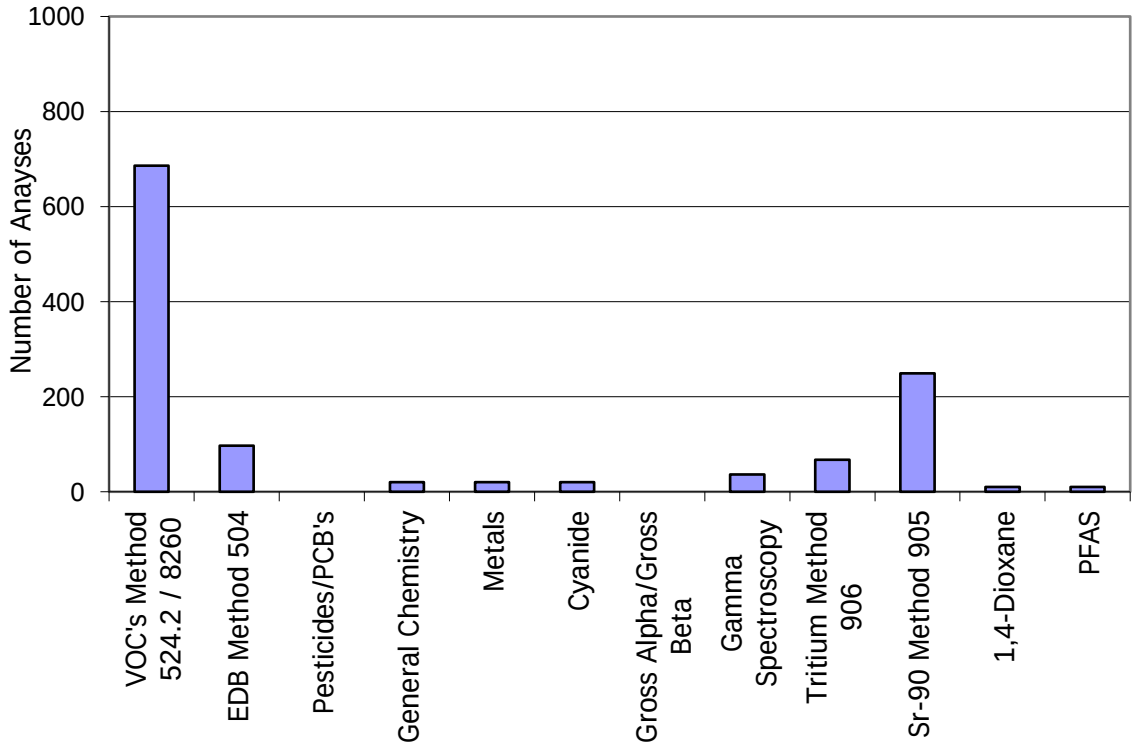
Additionally, BNL's ability to accurately depict these plumes has been enhanced over the years by:

- Installation of additional permanent monitoring wells to the existing well networks.
- Installation of temporary (e.g., drilled vertical profile wells and direct push Geoprobe® wells), single use wells that helped to fill in geologic and chemical data gaps as well as characterization of new plumes.
- Conducting periodic groundwater modeling to help predict possible changes in plume positions and concentrations over time.

During 2021, 1,122 groundwater sampling events from 491 on-site and off-site permanent monitoring wells were used to track the contaminant plumes. From April 1, 2021 through early May 2022, 70 temporary profile wells were installed, and 683 samples were collected. **Figure 3.0-2** below provides a summary of the number of analyses performed for the permanent monitoring wells arranged by analytical method. Unless otherwise noted, the extent of contamination for a given plume is based primarily on 2021 data from permanent monitoring wells. Contaminant plumes associated with OU III Middle Road and South Boundary, Brookhaven Graphite Research Reactor (BGRR) Sr-90, OU I Former Hazardous Waste Management Facility Sr-90, OU VI EDB and PFAS characterization were further defined in 2021 using temporary wells.

For the production of plume maps for this report, a single representative round of monitoring data is chosen for each plume, typically from the last quarter of the year because this period includes the most comprehensive sampling of monitoring wells for the year. This report also serves as the fourth quarter operations report for the remediation systems. Contaminant concentration trend plots for key monitoring wells in each plume are provided to identify significant changes. Data from monitoring wells sampled under BNL's Facility Monitoring Program are evaluated in **Section 4.0**.

Figure 3.0-2.
Summary of Laboratory Analyses Performed for the CERCLA Permanent Monitoring Well Program in 2021.



History and Status of Groundwater Remediation at BNL

Initial efforts to remediate groundwater contamination at BNL started in the mid-1980s with a treatment system designed to address VOC contamination at the former Hazardous Waste Management Facility. Groundwater remediation systems installed as part of BNL's CERCLA program have been in operation since 1997, beginning with the OU I South Boundary Pump and Treat System. The goal of groundwater remediation, as defined by the OU III Record of Decision, is to prevent or minimize plume growth and not to exceed MCLs in the Upper Glacial aquifer within 30 years or less (by 2030). Based on additional information obtained during the Strontium-90 Pilot Study, the *OU III Explanation of Significant Differences* (BNL 2005a) identified changes to the cleanup goal timeframes for the Sr-90 plumes. For the BGRR/WCF and Chemical Holes Sr-90 plumes, MCLs must be reached by 2070 and by 2040, respectively. In addition, cleanup of the Magothy aquifer VOC contamination must meet MCLs by 2065.

There are currently eight groundwater remediation systems in operation (as of December 2021). Three systems have met their cleanup goals and have been decommissioned: the OU IV Area of Concern (AOC) 5 Air Sparge/Soil Vapor Extraction System (OU IV AS/SVE); the Carbon Tetrachloride Pump and Treat System; and the Industrial Park East Treatment System. Since 2019, four additional systems, the HFBR Tritium Pump and Recharge System, the Building 452 Freon-11 Treatment System, the OU I South Boundary Treatment System and the North Street Treatment System were approved for closure by the regulators. Although the original North Street East (NSE) Treatment System was approved for an administrative closure in 2020, the carbon filtration units were repurposed for the treatment of the North Street East EDB plume. Furthermore, the HFBR carbon filtration units are being repurposed for treatment of the Former Firehouse PFAS plume. The air stripper piping for the Building 452 Freon-11 System was reconfigured to treat water from Building 96 extraction well RTW-1. The OU I and North Street systems will be maintained until characterization of PFAS and 1,4-dioxane is complete. Two new groundwater treatment systems are under construction for the treatment of PFAS originating from the Current Firehouse and Former

Firehouse source areas. These systems will be operational in late 2022. **Figure 3.0-1** shows the locations of the existing and decommissioned treatment systems. In addition to the groundwater treatment systems, two landfill areas (Current and Former) were capped and numerous soil source area removals were conducted, which minimizes the potential for further groundwater contamination.

BNL performs routine maintenance checks on the treatment systems in addition to their routine and non-routine maintenance. In 2021, 572 treatment system samples were obtained from 80 sampling points. The data from the treatment system samples are available in **Appendix F**.

In general, BNL uses two types of groundwater remediation systems to treat VOC contamination, air stripping and granular activated carbon (GAC) filters. Pump and treat remediation activities consist of pumping contaminated groundwater from the plume and piping it to a treatment system, where the contaminants are removed by either air stripping or GAC filters. Treated water is then introduced back into the aquifer via recharge basins, injection wells, or dry wells. In several on-site and off-site areas, BNL utilizes recirculation wells to remediate VOCs. Using these wells, VOC contaminated groundwater is pumped from a lower well screen, is treated by air stripping or carbon and is then reinjected into the aquifer using a shallower well screen. BNL utilizes ion-exchange treatment for remediating Sr-90 contaminated groundwater. Pump and recharge (without treatment for tritium) was utilized to hydraulically contain the HFBR tritium plume.

Table 3.0-1 summarizes the existing remediation systems. In addition to tracking contaminant levels in monitoring wells, extraction wells and treatment systems, groundwater modeling is also used as a tool to help determine if remediation of the plumes is proceeding as planned to meet the overall groundwater cleanup goals and to help determine whether modifications to the remediation systems are necessary.

Groundwater Sampling Methodology Summary

Groundwater sampling, analysis methods, quality assurance reviews and database methodologies are detailed in **Appendix E**. A summary of the techniques used to collect groundwater samples are described below.

Groundwater samples are collected from permanent, long-term monitoring wells typically using dedicated bladder purge pumps. Using a low flow purge technique, a minimum of two times the volume of the sample pump and discharge tubing are purged. Samples are collected once water quality parameters (pH, specific conductance, and dissolved oxygen) stabilize or when an amount of groundwater equal to 25 percent of a casing volume has been purged. Groundwater samples are collected using analytical laboratory-supplied bottles. The samples are preserved according to analysis requirements.

The collection of groundwater samples from temporary, single use wells is dependent on the method used to install them. When using an auger rig, hollow stem augers are advanced to the deepest sampling interval. A stainless-steel well screen is connected to two-inch diameter steel well pipe and lowered through the center of the augers to the required sampling depth. The augers are then withdrawn from the borehole. A submersible pump is lowered to the well screen and three well volumes of groundwater are purged prior to collecting samples. The samples are preserved according to the analysis requirements. This procedure is repeated at each depth interval required by the work plan.

When collecting groundwater samples via a Geoprobe®, a steel well casing with an expendable drive point is advanced to the deepest sample collection level and an internal screen is released from the bottom of the well casing using a trip rod. Typically, high density polyethylene tubing is used with an attached check valve and sent down the well until they reach the bottom of the screen. An inertial pump (e.g., Waterra®) is used to purge the Geoprobe® well. Three casing volumes of groundwater are typically removed from the well prior to collecting samples. The samples are preserved according to analysis requirements. This procedure is repeated at each depth interval required by the work plan.

Table 3.0-1. 2021 Summary of Existing Groundwater Remediation Systems at BNL (Shading indicates closed systems)

Operable Unit System	Type	Target Contam	No. of Wells	No. of Wells Oper in 2021[f]	Years in Operation	Recharge Method	Pounds VOCs Removed in 2021/Cumulative
Operable Unit I							
South Boundary[a]	P&T, AS	VOC	2	0	Closed Operated: 16	Basin	0/369
Operable Unit III							
South Boundary	P&T, (AS)	VOC	8	2	24	Basin	9/3070
HFBR Pump and Recharge[a]	Pump and Recirculate	Tritium	4	0	Closed Operated: 9	Basin	0/180
Industrial Park	Recirc. Well/ (AS/Carbon)	VOC	7	0	Operate: 16 Standby: 6	Recirc. Well	0/1066
	P&T (Carbon)	VOC	2	0	Operate: 5 Standby: 2	Inj. Wells	0/11
Building 96[d]	Recirc. Well (AS/Carbon)	VOC	4	1	Operate: 17 Standby: 3	Recirc. Well	1/146
Middle Road	P&T (AS)	VOC	7	3	20	Basin	22/1332
Western South Boundary[e]	P&T (AS)	VOC	6	5	19	Basin	16/181
Chemical Holes	P&T (IE)	Sr-90	3	0	Operate: 15 Standby: 3	Dry Well	0[b]/4.94
North Street[g]	P&T (Carbon)	VOC	2	0	Closed Operated: 11	Inj. Wells	0/342
North Street East	P&T (Carbon)	VOC/EDB	4	2	Operate:11 Standby: 6	Inj. Wells	2/47
LIPA/Airport	P&T and Recirc. Wells (Carbon)	VOC	10	3	17	Inj. Wells and Recirc. Well	8/495
BGRR/WCF	P&T (IE)	Sr-90	9	5	16	Dry Wells	0.3[b]/29.4
Building 452 Freon-11[a]	P&T (AS)	Freon-11	1	0	Closed Operated: 6	Basin	0/106
Operable Unit VI							
EDB	P&T (Carbon)	EDB	2	2	17	Inj. Wells	NA[c]
		Total Wells	71	23			

Notes:
AS = Air Stripping
AS/SVE = Air Sparging/Soil Vapor Extraction
EDB = ethylene dibromide
IE = Ion Exchange
LIPA = Long Island Power Authority
NA = Not Applicable
a = Approved for Closure in 2019
P&T = Pump and Treat
g = Approved for Closure in 2020
b = Sr-90 removal is expressed in mCi.
c = No cumulative EDB calculations are performed based on the low concentrations detected.
d = Well RTW-1 was modified from a recirculation well to surface discharge in May 2008.
e = Four additional extraction wells for the Western South Boundary System became operational in 2019.
f = Includes wells in operation for any time during the year.
Recirculation = Double screened well with discharge of treated water back to the same well in a shallow recharge screen
In-Well = The air stripper in these wells is located in the well vault.

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3.1 Operable Unit I

The two sources of VOC groundwater contamination contained within the OU I project are the former Hazardous Waste Management Facility (HWMF) and the Current Landfill. The former HWMF was BNL's central Resource, Conservation, and Recovery Act (RCRA) receiving facility for processing, neutralizing, and storing hazardous and radioactive wastes for off-site disposal until 1997, when a new Waste Management Facility was constructed along East Fifth Avenue. Several hazardous materials spills were documented at the former HWMF. Facility demolition and soil remediation programs were completed for this facility in September of 2005.

VOC plumes from the Current Landfill and former HWMF became commingled south of the former HWMF. The commingling was partially caused by the pumping and recharging effects of a spray aeration groundwater remediation system, which operated from 1985 to 1990. This system was designed to treat VOC-contaminated groundwater originating from the former HWMF. The remnants of the VOC plume are depicted on **Figure 3.1-1** and the cross-sectional view on **Figure 3.1-2**.

The on-site segment of the Current Landfill/former HWMF plume was remediated by a groundwater pump and treat system consisting of two wells (EW-1, EW-2) screened in the deep Upper Glacial aquifer at the site property boundary (OU I South Boundary Treatment System). The extracted groundwater was treated for VOCs by air stripping and recharged to the ground at the RA V basin, located northwest of the Current Landfill. A second system (North Street East System) was built to treat the off-site portion of the plume. The off-site groundwater remediation system began operations in June 2004 and was included under the Operable Unit III Record of Decision (**Section 3.2.7**). That system was shut down in 2014 and placed in standby mode. The North Street East System was modified by adding two extraction wells in 2019 to address newly discovered EDB contamination in the deep Upper Glacial aquifer. Operation of the new wells began in July 2020. A Petition for Shutdown of the OU I South Boundary Treatment System was approved by the regulatory agencies in July 2013. A Petition for Closure was approved by the regulatory agencies in September 2019 as the conditions for closure were satisfied as described in the *OU III ROD* (BNL, 2000a) and the *Operations and Maintenance Manual for the OU I South Boundary Treatment Facility* (BNL 2005b).

3.1.1 OU I South Boundary Treatment System

The OU I South Boundary Groundwater Treatment System was approved for closure by the regulatory agencies in September 2019.

3.1.2 System Description

For a complete description of the former OU I South Boundary Treatment System, see the *Operations and Maintenance Manual for the OU I South Boundary Treatment Facility* (BNL 2005b).

3.1.3 Groundwater Monitoring

Well Network

Six monitoring wells are used for post-closure VOC monitoring of the OU I South Boundary area (**Figure 3.1-1)**. 12 wells are used to monitor the Current Landfill source area (**Sect 3.7**). A total of 27 permanent wells are used to monitor the former HWMF Sr-90 plume supplemented by ten temporary wells installed in March and April 2022.

Sampling Frequency and Analysis

The wells are monitored for VOCs, and/or Sr-90 as per the schedule provided on **Table 1-5**.

3.1.4 Monitoring Well VOC Results

Figure 3.1-1 shows the remnants of the OU I VOC plume based on samples collected in the fourth quarter of 2021. The data posted on this figure were obtained from the six OU I Post Closure monitoring

wells and the Current Landfill monitoring program wells. The primary VOCs detected in this plume consisted of chloroethane and 1,1-dichloroethane (DCA), which originated from the Current Landfill.

The landfill was capped in November 1995. A detailed discussion of the landfill monitoring well data is provided in the *2021 Environmental Monitoring Report, Current and Former Landfill Areas (BNL 2022b)*. The downgradient portion of the OU I South Boundary VOC plume (as defined by TVOC concentrations greater than 5 µg/L) has been remediated by a combination of groundwater pump and treat, landfill capping and monitored natural attenuation (**Figure 3.1-1**). The off-site portion of the plume is discussed in **Section 3.2.7**, the North Street East Treatment System.

Figure 3.1-3 provides the historical trends in VOC concentrations for key plume core and bypass wells. **Appendix C** has a complete set of 2021 analytical results. Significant findings for 2021 include:

- TVOC concentrations in Current Landfill source area monitoring well 088-109 have fluctuated generally between not-detectable and 100 µg/L since monitoring of this well began in 1997. The historical maximum TVOC concentration in this well was 352 µg/L in 1998. The TVOC concentrations during 2021 ranged between 1 µg/L in July and 27 µg/L in November. This well is located immediately east of the Current Landfill footprint, and approximately 3,500 feet north of the BNL site boundary (**Figure 3.1-1**). All other source area monitoring well TVOC concentrations have remained below 20 µg/L since 2010. Monitoring well 098-99 was installed to provide a sentinel plume monitoring point approximately 1,200 feet downgradient of the Current Landfill. TVOC concentrations in this well have been less than 8 µg/L since 2017. These data continue to confirm groundwater modeling predictions for the attenuation of VOCs from the Current Landfill.
- Well 107-40 was originally installed to monitor the center line of the plume, approximately 500 feet north of the site boundary. In 2017, 1,1-dichloroethylene (1,1-DCE) was the last individual VOC detected above the AWQS in this well.

3.1.5 Radionuclide Monitoring Results

Two OU I Monitoring Program wells are analyzed annually for tritium (107-23 and 115-36). Tritium has not been detected in well 107-23 since 2014 and in well 115-36 since 2017. A subset of 25 wells are analyzed for gamma spectroscopy annually. There were no detections for gamma emitting radionuclides. The complete results for these wells are provided in **Appendix C**.

Twenty-eight permanent wells are monitored for Sr-90 contamination from the former HWMF **(Figure 3.1-4)**. A total of 10 temporary wells were installed in March and April 2022 to supplement the monitoring well network. The highest Sr-90 detected in 2022 was from temporary well OU I -SR-90-GP-71 where a concentration of 95 pCi/Lwas observed in March 2022 **(Table 3.1-1)**. Monitoring well 098-100 is located just downgradient of the source area. Sr-90 concentrations in this well have ranged between 17 pCi/Land 39 pCiL since it was installed in 2019. The two narrow Sr-90 plumes migrating south of the former HWMF are monitored by wells 098-103 (eastern plume) and 098-104 (western plume) as shown on **Figure 3.1-4**. These wells have been sampled three times since they were installed in 2020. Sr-90 concentrations in 098-103 have ranged between 44 pCi/Land 63 pCi/L. Sr-90 concentrations in 098-104 decreased significantly from 347 pCi/L in March 2021 to 29 pCi/L in August 2021. Temporary wells have been installed at the same locations over the past several years along a transect approximately 600 feet to the south in the Long Island Solar Farm (LISF) (OU I-Sr-90-GP-71, OU I-Sr-90-GP-72, and OU I-Sr-90-GP-73). Based on the 2021 temporary well results the leading edge of the higher Sr-90 concentrations has reached the GP-71 location. A transect consisting of four temporary wells (OU I Sr-90-GP-97 through OU I-Sr-90-GP-100) were installed approximately 400 feet further south, just outside the solar farm boundary. The highest Sr-90 concentration observed in these wells was 5.9 pCi/L in OU I-Sr-90-GP-99. The Sr-90 concentration in sentinel monitoring well 108-57 increased to 7 pCi/L in 2021. This well is approximately 300 feet upgradient of the site boundary. The well locations and plume map are shown on **Figure 3.1-4.** Sr-90 trend plots are provided on **Figure 3.1-5.**

3.1.6 System Operations

This system was approved for closure in September 2019. During 2021, the extraction wells did not operate (**Table F-1** and **Figure 3.1-6)**. Approximately 369 pounds of VOCs were removed from the aquifer during system operation from 1996 through 2013 (**Figure 3.1-7 and Table F-4**).

3.1.7 System Evaluation

Although the system remains closed, groundwater monitoring continues, and no rebound of VOC concentrations has been observed. The OU I South Boundary Treatment System performance can be evaluated based on the decisions identified by applying the DQO process.

1. Is there a continuing source of contamination? If present, has the source area been remediated or controlled?

Current Landfill

Yes, VOCs continue to be observed immediately downgradient of the Current Landfill which is covered by an engineered cap. Periodic high water table conditions are suspected to flush contaminants from the vadose zone and/or the bottom of the landfilled materials.

Former HWMF Sr-90

Yes, Sr-90 continues to be detected in wells associated with the former HWMF. Concentrations in source area monitoring well 098-100 have remained stable over the past two years. The September 2021 concentration was 39 pCi/L in this well. The highest plume concentrations are located between the southern boundary of the former HWMF yard and the southern boundary of the LI Solar Farm.

2. Were unexpected levels or types of contamination detected?

No unexpected results VOC or radionuclide results were observed. However, PFOA and 1,4-dioxane were detected above the MCLs in 2020. See **Section 3.5** of the *2020 Groundwater Status Report*.

3. Has the downgradient migration of the plume been controlled?

Current Landfill VOCs

The OU I South Boundary System was approved for closure in 2019. VOCs periodically released from the Current Landfill are attenuating as they migrate to the south. The VOC travel time from the Current Landfill to the BNL site boundary is approximately 12-15 years. Modeling simulations indicate that TVOC concentrations from the Current Landfill will attenuate to below 5 µg/L prior to reaching the site boundary. The modeling results continue to be supported by the TVOC concentration data observed in sentinel monitoring well 098-99 over the past several years.

Former HWMF Sr-90

A plume of Sr-90 exceeding the 8 pCi/l DWS extends from the former HWMF yard to an area within the LISF, approximately 2,400 feet to the south. This plume is migrating slowly to the south as verified by monitoring data obtained over the past several years. The Sr-90 concentration in sentinel monitoring well 108-57 increased to 7 pCi/L in 2021. This is not unexpected given concentrations in nearby upgradient wells over the past several years.

Groundwater model natural attenuation simulations were updated in 2020. The simulation showed that Sr-90 could reach the site boundary in the middle of the Upper Glacial Aquifer at a concentration of approximately 20 pCi/l in 2080. The 2021 monitoring data support the modeling results.

4. Has the groundwater cleanup goal of meeting MCLs for VOCs by 2030 been achieved? Has the groundwater cleanup goal of 8 pCi/l for Sr-90 been achieved?

VOCs
No. MCLs have not been achieved for individual VOCs in all wells. Several Current Landfill area wells have displayed individual VOC concentrations in exceedance of MCLs (e.g., choloroethane, 1,1-DCA). There were no exceedances of MCLs in the post-closure downgradient wells in 2021. A comparison of groundwater quality in the OU I South Boundary area is shown on **Figure 3.1-8** which compares the VOC plume from 1997 to 2021.

Sr-90
No. A monitoring program is in place to track the movement and attenuation of the Sr-90 plume.

3.1.8 Recommendations

The following recommendations are presented for the OU I Groundwater Monitoring Program:

- Maintain the VOC post-closure groundwater monitoring program of an annual sample collection from post-closure wells: 107-40, 107-41, 115-13, 115-16, and 115-51. Maintain quarterly sampling of Current Landfill sentinel well 098-99.
- Install temporary wells as needed to fill monitoring data gaps and characterize extent of the Sr-90 plume.

3.2 OPERABLE UNIT III

There were a number of groundwater issues addressed under the OU III Remedial Investigation/Feasibility Study (RI/FS). VOC plumes originated from several sources, including Building 96, Building 452 Freon, and sources (some unknown) in the north-central developed portion of the site, the Former Landfill and the former carbon tetrachloride underground storage tank (UST). **Figure 3.2-1** is a representation of the plumes based on areas containing TVOC concentrations exceeding 5 µg/L. The eastern portion of **Figure 3.2-1** also includes the North Street (OU I/IV) plumes. **Figure 3.2-2** is cross-section B–B′, which is drawn through the north–south center-line of the primary OU III VOC plumes, as shown in **Figure 3.2-1**.

The primary chemical contaminants found in OU III groundwater are 1,1,1-trichloroethane (TCA), tetrachloroethylene (PCE), and carbon tetrachloride. These three chemicals are the primary VOCs detected in the OU III on-site monitoring wells. Off site, carbon tetrachloride and PCE are the main contaminants detected.

Figure 3.2-3 presents a comparison of the OU III plumes between 1997 and 2021. Several changes in the plumes can be observed in this comparison:

- Significant progress is evident in reducing the higher concentration segments of the plumes both on and off-site. This is due primarily to the source control and groundwater remediation that has been implemented, along with the effects of monitored natural attenuation.
- Hydraulic control of the plumes by the OU III South Boundary Treatment System at the site boundary, Industrial Park and the LIPA/Airport system is evidenced by the segmentation of the plumes in these areas.
- VOC concentrations have been significantly reduced in the vicinity of the North Street System.
- Deeper VOC contamination was characterized in the Western South Boundary area over the past several years. Remediation of this contamination was enhanced by modifying the system to include four new extraction wells.
- While the NSE plume was addressed under OU III, it is the off-site portion of the OU I South Boundary plume and the plume comparison is included on **Figure 3.1-8**. Remediation of the NSE EDB plume was initiated in 2020 with the addition of two new extraction wells.

Three radiological plumes were addressed under OU III. The HFBR tritium plume, at its maximum extent had travelled several thousand feet south from the HFBR and remained on BNL property. This plume has naturally attenuated and the pump and recharge system received regulatory approval for closure in 2019. Sr-90 plumes are present downgradient of the former WCF and several sources related to the BGRR. A Sr-90 plume that is downgradient of the Chemical/Animal Holes area has been largely remediated and the system is currently in shutdown mode.

Sections 3.2.1 through **3.2.13** summarize and evaluate the groundwater monitoring and system operations data for the OU III VOC and radiological plumes, including both operational groundwater treatment systems and the monitoring-only programs.

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3.2.1 Building 96 Treatment System

This section summarizes the 2021 operational data from the OU III Building 96 Treatment System, which consists of one extraction well (RTW-1) with air stripping and three recirculation wells (RTW-2, RTW-3, and RTW-4) with air stripping and vapor-phase carbon treatment. It also presents conclusions and recommendations for future operation of the system. The system began operation in February 2001. Starting in 2012, treatment well RTW-1 was used to treat the low-level downgradient portion of the Building 452 Freon-11 plume. The Building 452 Freon-11 Treatment System was approved for closure in 2019.

3.2.1.1 System Description

Recirculation wells RTW-2, RTW-3, and RTW-4, draw contaminated groundwater from the aquifer via a submersible well pumps in a lower well screen, 48 to 58 feet below land surface (bls), near the base of the contaminant plume. The groundwater is pumped into a stripping tray adjacent to each of the three wells. After treatment, the clean water is recharged in wells RTW-2 through RTW-4 back to the upper screen, 25 to 35 feet bls. In May 2008, well RTW-1 was modified from a recirculation well to a pumping well with air stripping and hexavalent chromium ion exchange treatment, with discharge to the nearby surface drainage culvert. In January 2010, the ion exchange treatment was bypassed following a decline in hexavalent chromium concentrations below the AWQS and was decommissioned in 2018 following regulatory approval. In June 2019 a new pump and motor was installed in RTW-1 in addition to being connected via pipe to the former Freon-11 building. This building houses a larger air stripper to handle the increased flow. Well RTW-1 was restarted in June 2020 and the pumping rate was increased from 30 gallons per minute (gpm) to 60 gpm to extend capture of VOCs in the western portion of the plume. A complete description of the system is included in the *Operations and Maintenance Manual Building 96 Groundwater Treatment System* (BNL 2009a).

3.2.1.2 Source Area Soil Remediation

The excavation of soil from the VOC contaminated source area in 2010 had a positive impact on groundwater quality as described below. RTW-1 TVOC concentrations have remained below 10 µg/L since 2019. The increased pumping rate of RTW-1 since July 2019 has had the intended effect of reducing the higher VOC concentrations on the western edge of the plume. The ROD cleanup goal for this groundwater plume is to meet drinking water standards by 2030.

Figure 3.2.1-1 shows the location of the excavated soil contamination source area in relation to the 2021 VOC groundwater plume. **Figure 3.2.1-2** shows a hydrogeologic cross section of the area.

3.2.1.3 Groundwater Monitoring

A network of 33 wells is used to monitor the VOC plume and the effectiveness of the Building 96 groundwater remediation system (**Figure 3.2.1-1**). Most of the wells are sampled quarterly and analyzed for VOCs as noted in **Table 1-5**. Well 095-159 has been sampled at a monthly frequency since April of 2019 to evaluate the effect of the increase in RTW-1 pumping on the western edge of the plume.

3.2.1.4 Monitoring Well Results

Complete VOC results are provided in **Appendix C**. The fourth quarter 2021 plume is shown on **Figure 3.2.1-1** and trends for several wells are presented on **Figure 3.2.1-3**. PCE is the primary component of this plume. A summary of key monitoring well data for 2021 follows:

Former Source Area to RTW-1:

- Well 085-379 is located immediately south of the 2010 soil excavation area. The well is screened across the water table to ensure that the release of any residual groundwater contamination from the former source area is captured by sampling regardless of water table fluctuations. Concentrations in this well have ranged between 38 µg/L and 135 µg/L since 2016 (**Figure 3.2.1-3**). Following a dramatic decline in TVOC concentrations in the two to three-year period following the source area soil excavation, the trend has slowed considerably.
- TVOC concentrations in the eleven core monitoring wells placed up to 100 feet south of well 085-379 have remained below the system capture goal of 50 µg/L since 2017 (**Figure 3.2.1-1**). The historic high concentration in this area was 3,000 µg/L in well 095-305 during 2010.
- The maximum TVOC concentration in well 095-84, located immediately upgradient of extraction well RTW-1, ranged from 29 µg/L to 68 µg/L during 2021. These concentrations are significantly lower than the historical maximum TVOC concentration in this well of 18,000 µg/L in 1998.
- TVOC concentrations in monitoring wells 095-294, 095-307, 095-308, and 095-313 have remained at concentrations below 10 µg/L since 2017. These wells monitor the slightly deeper VOC contamination that had been observed west of the main Building 96 plume.

RTW-1 to Downgradient Recirculation Wells RTW-2 through RTW-4:

- TVOC concentrations in well 095-159 decreased from 134 µg/L in August 2020 to non-detect in December of 2020. In 2021 the concentrations ranged between 5 µg/L and 10 µg/L. This correlates well with the increased pumping rate for RTW-1 in July 2019 and indicates that the western portion of the plume is being captured.
- TVOC concentrations in plume bypass well 095-162 have been slightly above detectable levels since 2019. These data support the complete capture of the plume by RTW-1.

Wells Downgradient of RTW-2 through RTW-4:

- TVOC concentrations observed in the six bypass wells, located immediately downgradient of RTW-2, RTW-3, and RTW-4 (095-163, 095-165, 095-166, 095-168, 095-169, and 095-170) ranged from below to slightly above detectable levels in 2019-2021. The one exception was a detection of 7 µg/L in well 095-165 in October 2021.
- The maximum TVOC concentration in sentinel monitoring well 095-318, located on Weaver Drive, during 2021 was 2 µg/L in October. TVOC concentrations in this well have been largely below 5 µg/L since 2015.

Freon-11:

- Building 96 extraction well RTW-1 is also being used to address the remaining low-level Freon-11 concentrations. Well 085-386 was transferred from the Building 452 Freon-11 monitoring program to the Building 96 monitoring program in 2020 following the closure of the Building 452 System. This well is located nearby the former EW-18 extraction well. The 2021 result for Freon-11 from this well was < 1 µg/L. The highest concentration of Freon-11 detected in Building 96 monitoring wells during 2021 was 2 µg/L in 095-159.

3.2.1.5 System Operations

Operating Parameters

Extraction well RTW-1 operated full-time during 2021. Extraction well RTW-2 was placed in stand-by mode in June 2020. Extraction wells RTW-3 and RTW-4 have remained in stand-by mode since January 2016 and October 2012, respectively

January – September 2021

The system was down from February 4 to February 16 for repairs to the Programmable Logic Controller (PLC). The system operated normally during the remainder of this period and treated approximately 23 million gallons of water.

October – December 2021

The system operated normally during this period. The system treated approximately 7 million gallons of water.

During 2021 the system treated approximately 30 million gallons of water (**Table F-7**).

3.2.1.6 System Operational Data

Recirculation/Treatment Well Influent and Effluent

Table F-5 lists the monthly influent and effluent VOC concentrations for well RTW-1, and the influent concentrations for wells RTW-2 through RTW-4 which are sampled quarterly. The TVOC concentration from the RTW-1 influent ranged between 3 µg/L and 4.5 µg/L during 2021 which is a slight decrease from 2020 levels. **Figures 3.2.1-4 and 3.2.1-5** show the TVOC concentrations in the treatment wells over time. **Table 3.2.1-1** shows the maximum measured effluent contaminant concentrations compared to the SPDES equivalency permit for well RTW-1 (reported under the Building 452 Freon-11 SPDES Equivalency Permit). The system met all equivalency parameters for operation in 2021. RTW-1 was also used to capture lower levels of Freon-11 from the Building 452 area that migrated beyond extraction well EW-18. EW-18 was approved for closure in 2019. Freon-11 concentrations in RTW-1 have declined from a peak of 38 µg/L in 2013 to barely detectable levels in during 2021.

Table 3.2.1-1

OU III Building 96 RTW-1 Treatment Well, 2021 SPDES Equivalency Permit Levels

Parameter	Permit Level (µg/L)	Max. Measured Value (µg/L)
pH range	5.0–8.5 SU	6.0 – 7. 8 SU
tetrachloroethylene	5.0	<0.5
1,1,1-trichloroethane	5.0	<0.5
thallium	Monitor	<0.5
trichlorofluoromethane	5.0	<0.5
methyl bromide	5.0	<0.5
methyl chloride	5.0	<0.5
methylene chloride	5.0	<0.5

Note: Required effluent sampling frequency is monthly following a period of 24 consecutive weekly with no exceedances. *Weekly* for pH.

Note: The discharge is being reported on the Building 452 Freon-11 SPDES Equivalency Permit.

SU = Standard Units

Starting in June 2019, the flow from Bldg. 96 RTW-1 was increased to 60 gallons per minute and the water is being treated at the Building 452 Freon-11 treatment system due to the larger capacity of that system. Beginning with the July 2019 Discharge Monitoring Report (DMR), the RTW-1 discharge is formally reported under the Freon-11 Equivalency Permit.

Table 3.2.1-2
OU III Building 96 Area
2021 Average VOC Emission Rates

Parameter	Allowable ERP* (lb/hr)	Actual** ER (lb/hr)
dichlorodifluoromethane	0.0000187	NS
acetone	0.000674	NS
methylene chloride	0.000749	NS
2-butanone	0.000187	NS
benzene	0.000112	NS
tetrachloroethylene	0.000165	NS
m,p-xylene	0.0000116	NS
isopropylbenzene	0.000243	NS
n-propylbenzene	0.0000599	NS
1,3,5-trimethylbenzene	0.000375	NS
1,2,4-trimethylbenzene	0.000225	NS
4-isopropyltoluene	0.00000749	NS
naphthalene	0.0000225	NS
carbon disulfide	0.0000487	NS
styrene	0.00000637	NS
trans-1,3-dichloropropane	0.0000157	NS

Notes:
NS = Not Sampled
ER = Emissions Rate
ERP = Emissions Rate Potential, stated in lb/hr.
* ERP is based on NYSDEC Air Guide 1 Regulations.
** Actual rate reported is the average for the year.

Air Discharge

In 2021, no air sampling was performed from the GAC vessels. In June 2019, a new pump and motor was installed in RTW-1 in addition to being connected via pipe to the former Freon-11 building. This building houses a larger air stripper to handle the increased flow. Wells RTW-2, RTW-3 and RTW-4 remained in stand-by mode all of 2021.

Cumulative Mass Removal

Table 3.2.1-3 shows the monthly extraction well pumping rates. The annual average pumping rate for the system was 57 gpm. The pumping and mass removal data are summarized on **Table F-7**. In 2021, approximately 0.96 pounds of VOCs were removed. Since February 2001, the system has removed approximately 145.6 pounds of VOCs.

3.2.1.7 System Evaluation

The Building 96 Treatment System performance can be evaluated based on the decisions identified by applying the DQO process.

1. Is there a continuing source of contamination? If present, has the source area been remediated or controlled?

Yes, TVOC concentrations in source area groundwater declined significantly following the excavation effort but have been fluctuating from 38 µg/L to 135 µg/L in well 085-379 since 2016. TVOC concentrations in this well during 2021 ranged from 21 µg/L to 88 µg/L. The 21 µg/L detection in July was the lowest observed since 2010.

2. Were unexpected levels or types of contamination detected?

No, there were no unexpected VOC levels detected.

3. Has the downgradient migration of the plume been controlled?

Yes, the installation of a larger capacity pump and increased pumping rate in RTW-1 has expanded the capture zone to the west as evidenced by the low TVOC concentrations currently observed in well 095-159. See **Figure 3.2.1-6** for a comparison of the plume from 2000 to 2021. TVOC concentrations in plume bypass well 095-162 have been just above detectable levels since 2019. TVOC concentrations have remained low in sentinel well 095-318, located on Weaver Drive, indicating the plume is not reaching this location.

4. Can individual extraction wells or the entire treatment system be shut down or placed in pulsed pumping operation?

The system has not met all shutdown requirements. RTW-1 TVOC concentrations have not exceeded the TVOC capture goal since 2015 and concentrations continue to slowly decline. An operational

change to pulsed pumping of RTW-1 will be recommended in this report. Influent TVOC concentrations in downgradient recirculation wells RTW-3 and RTW-4 have been below 50 µg/L since 2008. Due to the consistently low TVOC levels, extraction wells RTW-3 and RTW-4 have remained in standby mode.

4a. Are TVOC concentrations in plume core wells above or below 50 µg/L?
TVOC concentrations in two of 21 core wells were above 50 µg/L in 2021.

4b. Is there a significant concentration rebound in core wells and/or extraction wells following shutdown?
No, concentrations in the downgradient extraction wells (RTW-2, RTW-3, and RTW-4) have remained below 5 µg/L since 2018. RTW-1 remained operational given the elevated VOC concentrations in well 085-379.

5. Has the groundwater cleanup goal of meeting MCLs been achieved?
MCLs have not been achieved for individual VOCs in all plume core wells. The highest TVOC concentration in 2021 was 88 µg/L in well 085-379.

3.2.1.8 Recommendations

The following are recommendations for the OU III Building 96 Groundwater Remediation System and monitoring program:

- RTW-1 TVOC concentrations have remained below the 50 µg/L system capture goal since 2015 and decreased to 3 µg/L in December 2021. This well will be placed in a pulsed pumping mode in May 2022 and operated every other month. RTW-1 and area wells will be monitored for any rebound of concentrations over the system capture goal.
- As per a recommendation in the *2021 CERCLA Five-Year Review Report* (BNL, 2021d), continue to closely monitor TVOC concentrations in the plume source area and evaluate/implement a liquid carbon with zero-valent iron in-situ treatment for the immediate source area.
- Implement the following monitoring program changes:
    - Reduce the monitoring frequency for well 095-318 from quarterly to annually due to the low VOC concentrations observed in this well since 2015 and the effectiveness of RTW-1 in capturing the plume.
    - Reduce the sampling frequency for well 085-293 from quarterly to annually. TVOC concentrations have remained below 5 µg/L since 2013.
    - Reduce the sampling frequency for well 095-85 from quarterly to annually. TVOC concentrations have remained below 5 µg/L since 2014. The higher VOC concentrations in this well cluster are now being observed in 095-84 which is screened at a shallower depth.
- Maintain treatment wells RTW-2, RTW-3, and RTW-4 in standby mode, and restart the wells if extraction or monitoring well data indicate that TVOC concentrations exceed 50 µg/L.

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3.2.2 Middle Road Treatment System

The Middle Road Treatment System began operating in October 2001. This section summarizes the operational data from the Middle Road System for 2021 and presents conclusions and recommendations for future operation. The analytical data from the monitoring wells are also evaluated in detail.

3.2.2.1 System Description

The Middle Road Treatment System uses seven extraction wells and air-stripping treatment to remove VOCs from the groundwater. The system is currently operating utilizing wells RW-2, RW-3, and RW-7. During 2019 the Middle Road system was interconnected with the Middle Road/South Boundary and Western South Boundary systems combining them into a single treatment system. During this modification four new and two existing Western South Boundary extraction wells were tied in, and effluent water discharge is now being monitored under the Middle Road and South Boundary Treatment System SPDES equivalency permit. A complete description of the system is included in the *Operation and Maintenance Manual for the OU III Middle Road and South Boundary Groundwater Treatment Systems, Revision 2* (BNL 2014a) and *Operations and Maintenance Manual for the Western South Boundary Treatment System* (BNL 2020b).

3.2.2.2 Groundwater Monitoring

The Middle Road Monitoring Program consists of a network of 33 monitoring wells (**Figure 1-2**). The locations of these wells are shown on **Figure 3.2.2-1**. The wells are sampled and analyzed for VOCs as shown on **Table 1-5**. During 2021, three (MR-VP-01-2021 through MR-VP-03-2021) temporary vertical profile wells were installed upgradient of RW-7 to investigate the persistent elevated VOCs in the area. These temporary wells were also analyzed for 1,4-dioxane and PFAS compounds (**Table 3.2.2-5**). The vertical profile locations are depicted on **Figure 3.2.2-1** and cross section **Figure 3.2.2-4.**

3.2.2.3 Monitoring Well Results

The complete VOC results are provided in **Appendix C**. The highest VOC concentrations are generally found in the area between extraction wells RW-7 and RW-2 (**Figure 3.2.2-1**). TVOC concentrations in monitoring wells east of RW-2 are well below the 50 µg/L capture goal for this system. The highest TVOC concentration in Middle Road monitoring wells during 2021 was 232 µg/L in well 105-68 during the January sampling round. This monitoring well is located approximately 500 feet north of extraction well RW-7.

Figure 3.2.2-2 shows the vertical distribution of contamination running along an east–west line through the extraction wells; the location of this cross section (E–E') is shown on **Figure 3.2.2-1**. VOC contamination in the western portion of the remediation area (RW-7 through RW-3) extends to the deep Upper Glacial aquifer/shallow and portions of the Magothy aquifer. **Figure 3.2.2-3** shows plots of the VOC concentrations versus time for key monitoring wells. Results for key monitoring wells are as follows:

- Plume core well 104-37 (screened in the deep Upper Glacial aquifer) is approximately 2,000 feet upgradient of RW-7, just south of Princeton Avenue. The TVOC concentration in January 2021 was 95 µg/L. TVOC concentrations in this well were much higher historically, followed by a significant decline. They have remained at its current level for the past few years.
- Well 105-68 is approximately 500 feet north of the extraction well RW-7. This well contains elevated TVOC concentrations with the highest concentration of 232 µg/L in January 2021. The data from this location along with data from monitoring wells 104-37 and 121-49 indicate that there is a zone of higher concentration VOC contamination, primarily PCE and carbon tetrachloride, in the deep Upper Glacial aquifer extending from Princeton Avenue to the Middle Road and then south of RW-7 to the South Boundary (**Figure 3.2.2-1** and **Figure 3.2.2-4**).

- Plume core monitoring wells 105-66 and 105-67 continued to show elevated TVOC concentrations in 2021 with maximum values during July of 216 µg/L and 121 µg/L, respectively.
- TVOC concentrations in monitoring wells in the vicinity of extraction wells RW-4, RW-5, and RW-6 were well below the system capture goal of 50 µg/L in 2021. See **Figure 3.2.2-6** for extraction well trend data for this area.
- Wells 095-322 and 095-323 are located along Weaver Drive (**Figure 3.2.2-1**). These wells were installed in 2014 to monitor VOCs in the deep Upper Glacial aquifer. Well 095-322 and well 095-323 had TVOC concentrations in November 2021 of 36 µg/L and 19 µg/L, respectively.
- VOC detections were observed in vertical profile wells MR-VP-01-2021 through MR-VP-03-2021. Maximum TVOC concentrations up to 174 µg/L were observed in MR-VP-01-2021 with the primary VOC being PCE at 114 µg/L. The maximum TVOC concentration observed in MR-VP-02-2021 was 80 µg/L and the maximum TVOC concentrations observed in MR-VP-03-2021 was 13 µg/L. VOC data for these vertical profile wells are summarized in **Table 3.2.2-4**.
- 1,4-Dioxane was detected above the newly promulgated MCL of 1.0 µg/L in all three vertical profile wells (MR-VP-01-2021 through MR-VP-03-2021). The highest observed 1,4-dioxane concentrations in MR-VP-01-2021, MR-VP-02-2021 and MR-VP-03-2021 were 5.6 µg/L, 6.5 µg/L and 5.9 µg/L respectively.
- Perfluorooctane sulfonate (PFOS) was also detected above the newly promulgated MCL of 10 ng/L in each of the three vertical profile wells. The highest observed PFOS concentrations in MR-VP-01-2021, MR-VP-02-2021 and MR-VP-03-2021 were 11 ng/L, 10.9 ng/L and 12.1 ng/L respectively.
- Perfluorooctanoic Acid (PFOA) was also detected above the newly promulgated MCL of 10 ng/L in vertical profile wells MR-VP-01-2021 and MR-VP-02-2021. The highest observed PFOA concentrations in MR-VP-01-2021, MR-VP-02-2021 and MR-VP-03-2021 were 37 ng/L, 77.5 ng/L and 7.3 ng/L respectively. 1,4-Dioxane and PFAS data for these vertical profile wells are summarized in **Table 3.2.2-5**.

Table 3.2.2-1.
OU III Air Stripping Tower
2021 SPDES Equivalency Permit Levels

Parameters	Permit Limit (µg/L)	Max. Observed Value (µg/L)
pH range (SU)	6.5–8.5	6.8 – 7.9
carbon tetrachloride	5	<0.5
chloroform	7	<0.5
dichlorodifluoromethane	5	<0.5
1,1-dichloroethane	5	<0.5
1,1-dichloroethylene	5	<0.5
methyl chloride	5	<0.5
tetrachloroethylene	5	<0.5
toluene	5	<0.5
1,1,1-trichloroethane	5	<0.5
1,1,2-trichloroethane	5	<0.5
trichloroethylene	10	<0.5

Notes: SU = Standard Units
Required sampling frequency is monthly for VOCs and pH.

3.2.2.4 System Operations

The effluent sampling parameters for pH and VOCs follow the requirements for monthly sampling, as per the SPDES equivalency permit (**Table 3.2.2-1**). The Western South Boundary is now operating under the same SPDES equivalency permit as the Middle Road and South Boundary projects. The effluent concentrations from the treatment system during this period of operation were below equivalency permit levels. Approximately 165 million gallons of water were treated in 2021 by the Middle Road Treatment System. The Middle Road, South Boundary and Western South System treated a combined

total of approximately 467 million gallons. 227 million gallons of this treated water was transferred to the RAV recharge basin while the remainder was discharged to the OU III recharge basin.

The following is a summary of the Middle Road System operations for 2021.

January – September 2021

The system operated normally with RW-2, RW-3 and RW-7 operating full time, and RW-1, RW-4, RW-5 and RW-6 in standby mode from January through mid-July. The system was shut down for electrical communication repairs as a result of a lightning strike from the mid-July to mid-September. The system resumed normal operations in mid-September. Approximately 112 million gallons of water were treated.

October – December 2021

During the fourth quarter the system operated normally and treated approximately 52 million gallons of water.

3.2.2.5 System Operational Data

System Influent and Effluent

Figure 3.2.2-6 plots the TVOC concentrations in the extraction wells versus time. Results of the extraction well samples are found on **Table F-8.** The influent VOC concentrations showed slight variations and values ranged from 12 µg/L to 22 µg/L. The results of the influent and effluent sampling are summarized in **Tables F-9** and **F-10**, respectively.

Cumulative Mass Removal

Mass was calculated for the period of operation to determine the mass removed from the aquifer by the extraction wells. Average flow rates for each monthly monitoring period were used, in combination with the TVOC concentration in the air-stripper influent, to determine the pounds removed. Flow averaged 319 gpm during 2021 (**Table 3.2.2-3**, and **Table F-11**), and approximately 22 pounds of VOCs were removed. Approximately 1,332 pounds of VOCs have been removed since the system began operations in October 2001. The cumulative total of VOCs removed vs. time is plotted on **Figure 3.2.2-5.**

Air Discharge

Table 3.2.2-2 shows the air emissions data from the system for the OU III Middle Road air stripper tower during 2021 and compares the values to levels stipulated in NYSDEC DAR-1 regulations. Emission rates are obtained through mass-balance calculations for the water treated during that time (Table

Table 3.2.2-2.
OU III Middle Road Air Stripper
2021 Average VOC Emission Rates

Parameter	Allowable ERP*	Actual** ER	MR/SB/WSB Total ER***
carbon tetrachloride	0.016	0.0002	0.0003
chloroform	0.0031	0	0.0001
chloroethane	10***	0	0
1,1-dichloroethane	10***	0	0
1,2-dichloroethane	0.008	0	0
1,1-dichloroethylene	0.034	0	0.0008
cis-1,2-dichloroethylene	10***	0	0
trans-1,2-dichloroethylene	10***	0	0
tetrachloroethylene	0.387	0.0022	0.0029
1,1,1-trichloroethane	10***	0.0001	0.0006
trichloroethylene	0.119	0.0001	0.0002

Notes:

ERP = Emissions Rate Potential, stated in lb/hr.
* ERP is based on NYSDEC DAR-1 Regulations. Conservative value used from MR/SB/WSB.
** Actual Emission Rate (ER) reported is the average for the year.
*** MR/SB/WSB Total ER =Cumulative Total for MR/SB/WSB.

F-9). The concentration of each constituent was averaged for 2021, and those values were used in determining the emissions rate. The air emissions for the Middle Road system were below permitted limits.

These emissions on **Table 3.2.2-2** are from the Middle Road system. The Middle Road/South Boundary and Western South Boundary systems are being co-treated via air stripping. The cumulative total emissions are provided and are still well below permitted levels.

Extraction Wells

The system is currently operating utilizing wells RW-2, RW-3, and RW-7. Extraction wells RW-4 and RW-5 were shut down in September 2003 and placed on standby due to low concentrations of VOCs. RW-6 was shut down in September 2006. Extraction well RW-1 was shut down in November 2015. The extraction wells are sampled quarterly. TVOC concentrations in wells RW-1, RW-4, RW-5 and RW-6 were all below the capture goal of 50 µg/L in 2021 with a maximum concentration of 10 µg/L in well RW-6 in October. The maximum concentration observed in the operating wells in 2021 was in well RW-7 with a peak TVOC concentration of 59 µg/L in October. See **Figure 3.2.2-6** for a plot of the TVOC concentrations for the seven extraction wells. **Table 3.2.2-3** shows the monthly extraction well pumping rates.

3.2.2.6 System Evaluation

The Middle Road Treatment System performance can be evaluated based on the decisions identified for this system from the groundwater DQO process.

1. Were unexpected levels or types of contamination detected?

No unexpected concentrations or types of contamination were detected. Although PFAS and 1,4-dioxane were detected above the MCL, the results are consistent with those presented in the *2020 Groundwater Status Report* (BNL 2021a). Additional characterization for PFAS and 1,4-dioxane in the MR/SB will be conducted during the planned OU X RI/FS.

2. Has the downgradient migration of the plume been controlled?

Yes, the plume in the deep Upper Glacial aquifer is being captured by extraction wells RW-2, RW-3 and RW-7. The VOCs that have migrated past Middle Road prior to the installation of RW-7 will be captured by the South Boundary Treatment System.

3. Can individual extraction wells or the entire treatment system be shut down or placed in pulsed pumping operation?

Extraction wells RW-1, RW-4, RW-5 and RW-6 have been in standby. TVOC concentrations below the 50 µg/L capture goal continued to be observed in the vicinity of these wells. Extraction wells RW-2, RW-3 and RW-7 will continue operating.

3a. Are TVOC concentrations in plume core wells above or below 50 µg/L?

Eight plume core wells during 2021 had TVOC concentrations above the capture goal of 50 µg/L.

3b. Is there a significant concentration rebound in core wells and/or extraction wells following shutdown?

There has been no contaminant rebound in the extraction wells currently in standby mode and no rebound in the monitoring wells in this area.

4. Has the groundwater cleanup goal of meeting MCLs been achieved?

Groundwater contaminant concentrations and areal extent of the OU III plume have decreased significantly due to the operation of the Middle Road Treatment System. However, several

monitoring wells are not declining at a rate that will definitively achieve the cleanup goal of 5 µg/L for VOC's by 2030. These monitoring wells include 104-37, 105-66, 105-67, and 105-68.

3.2.2.7 Recommendations

The following recommendations are made for the Middle Road Treatment System and groundwater monitoring program:

- Maintain extraction wells RW-1, RW-4, RW-5 and RW-6 in standby mode. Restart the well(s) if extraction or monitoring well data indicate that TVOC concentrations exceed the 50 µg/L capture goal.
- Continue operation of RW-2, RW-3 and RW-7.
- In order to help meet the OU III ROD cleanup goal, perform groundwater modeling simulations to evaluate the best locations, extraction rates, and number of extraction wells for a system modification design.

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3.2.3 OU III South Boundary Treatment System

This section summarizes the operational data from the South Boundary Treatment System for 2021 and provides conclusions and recommendations for future operation. Also included within this section is an evaluation of the extraction and monitoring well sampling data.

3.2.3.1 System Description

This system began operation in June 1997. It utilizes air-stripping technology for treatment of groundwater contaminated with chlorinated solvents. Extraction well EW-17 was installed in 2012 to address historical high VOC concentrations in the deeper segments of the plume near the site boundary. There are eight extraction wells. The system operated utilizing two extraction wells during 2021. The system operated with wells EW-4 and EW-17 for the majority of 2021 however, EW-4 was placed into a pulsed pumping mode in October 2021. The remainder of the wells are in standby mode. During 2019, the South Boundary system was interconnected with the Middle Road and Western South Boundary systems combining them into a single treatment system. During this modification, four new and two existing Western South Boundary wells were tied in and effluent water discharge is now being monitored under the Middle Road and South Boundary Treatment System SPDES Equivalency permit. A complete description of the system is included in the *Operation and Maintenance Manual for the OU III Middle Road and South Boundary Groundwater Treatment Systems, Revision 2* (BNL 2014a) and *Operations and Maintenance Manual for the Western South Boundary Treatment System* (BNL 2020b).

3.2.3.2 Groundwater Monitoring

The OU III South Boundary monitoring well network consists of a total of 33 monitoring wells and was designed to monitor the VOC plume(s) in this area of the southern site boundary, as well as the efficiency of the groundwater remediation system (**Figure 3.2.3-1**). As recommended in the *2020 Groundwater Status Report* wells 121-40, 121-44 and 122-41 were removed reducing the network from 36 from 33. During 2021, the monitoring wells were sampled and analyzed for VOCs at frequencies detailed in **Table 1-5**. During 2021, two temporary vertical profile wells (SB-VP-01-2021 and SB-VP-02-2021) were installed upgradient of EW-17 to investigate the persistent elevated VOCs in the area. These temporary wells were also analyzed for 1,4-dioxane and PFAS compounds (**Table 3.2.3-5**). These vertical profile locations are depicted on **Figure 3.2-1** and **Figure 3.2.3-1.**

3.2.3.3 Monitoring Well Results

The South Boundary segment of the OU III VOC plume continued to be bounded by the existing monitoring well network. VOCs were detected in the deep Upper Glacial aquifer in the vicinity of the site boundary, as depicted on **Figure 3.2-2, Figure 3.2.3-1,** and **Figure 3.2.3-2. Appendix C** has the complete groundwater monitoring well results for 2021.

Elevated VOC concentrations remain in the deep Upper Glacial aquifer upgradient of wells EW-4 and EW-17, as can be seen on **Figure 3.2.3-2**, which is a cross section (G–G') drawn along the south boundary. The VOC concentration trends for specific key wells are shown on **Figure 3.2.2-3**. Results for key monitoring wells are as follows:

- Bypass well 121-43, located several hundred feet south of extraction wells EW-4 and EW-17, historically had shown elevated levels of VOCs (**Figure 3.2.3-1**). Extraction well EW-17 was installed in 2012 to address the historical high VOC concentrations that had been observed in well 121-43 and capture the deeper portion of the VOC plume at the boundary. The TVOC concentration in well 121-43 has declined from 338 µg/L in 2011 to 1.6 µg/L in November 2021.
- In addition to 121-43, three monitoring wells are used to monitor the performance of extraction well EW-17. They include 121-47 a western plume perimeter well, 121-48 an eastern plume perimeter well and 121-49 located upgradient of extraction well EW-17. The upgradient monitoring well 121-49 showed elevated TVOC concentrations in 2021 with the highest concentration in July

at 292 µg/L. However, TVOC concentrations show an overall decreasing trend from 740 µg/L in 2017 to 19 µg/L in November 2021 (**Figure 3.2.2-3**).

- Monitoring well 121-45 was installed to monitor the plume between the Middle Road and South Boundary. TVOC concentrations were at 8 µg/L in November. This is a significant reduction from the initial concentration of 613 µg/L in 2006 (**Figure 3.2.2-3**).
- Well 121-54 was installed in 2014 to monitor VOC concentrations upgradient of extraction well EW-17. This well has had persistent TVOC concentrations between 100 µg/L and 250 µg/L since 2014 with a concentration of 103 µg/L in November 2021. Well 121-53 was also installed upgradient of EW-17 and it showed a peak TVOC concentration of 125 µg/L in 2021.
- Well 122-05 is a Magothy monitoring well west of EW-8. TVOC concentrations in this well showed a slight increase to 18 µg/L in November 2021.
- VOC detections were observed in vertical profile wells SB-VP-01-2021 and SB-VP-02-2021. TVOC concentrations were within expected values for their respective locations within the plume core and these data support the need for additional extraction well and monitoring wells. TVOC concentrations up to 347 µg/L were observed in SB-VP-01-2021 with the primary VOC being PCE at 282 µg/L. The maximum TVOC concentration observed in SB-VP-02-2021 was 98 µg/L. Data for these vertical profile wells are summarized in **Table 3.2.3-4** and **Figure 3.2.3-1**.
- 1,4-Dioxane was detected above the MCL of 1 µg/L in both vertical profile wells (SB-VP-01-2021 and SB-VP-02-2021). The highest observed 1,4-dioxane concentrations in SB-VP-01-2021 and SB-VP-02-2021 was 19 µg/L and 2.7 µg/L, respectively.
- Perfluorooctane sulfonate (PFOS) was not detected above the MCL of 10 ng/L in either vertical profile well. The highest observed PFOS concentrations in SB-VP-01-2021 and SB-VP-02-2021 were 6.2 ng/L and 8.4 ng/L, respectively.
- Perfluorooctanoic Acid (PFOA) was detected above the MCL of 10 ng/L in vertical profile wells SB-VP-01-2021 and SB-VP-02-2021. The highest observed PFOA concentrations in SB-VP-01-2021 and SB-VP-02-2021 were 13 ng/L and 10.2 ng/L respectively. 1,4-Dioxane and PFAS data for these vertical profile wells are summarized in **Table 3.2.3-5**.

Table 3.2.3-1.
OU III Air Stripping Tower
2021 SPDES Equivalency Permit Levels

Parameters	Permit Limit* (µg/L)	Max. Observed Value (µg/L)
pH range (SU)	6.5 – 8.5	6.8–7.9
carbon tetrachloride	5	<0.5
chloroform	7	<0.5
dichlorodifluoromethane	5	<0.5
1,1-dichloroethane	5	<0.5
1,1-dichloroethylene	5	<0.5
methyl chloride	5	<0.5
tetrachloroethylene	5	<0.5
toluene	5	<0.5
1,1,1-trichloroethane	5	<0.5
1,1,2-trichloroethane	5	<0.5
trichloroethylene	10	<0.5

Notes:
*Maximum allowed by requirements equivalent to a SPDES permit. Required sampling frequency is monthly for VOCs and pH.
SU – Standard units.

3.2.3.4 System Operations

The individual extraction wells are sampled quarterly and analyzed for VOCs. The effluent sampling parameters of pH and VOCs are obtained monthly, in accordance with SPDES equivalency permit requirements (**Table 3.2.3-1**). In addition, samples from the influent are analyzed for tritium with each system-sampling event. Tritium from these samples continues to be non-detect. Effluent VOC concentrations

from the treatment system during this period of operation were below equivalency permit requirements. Well EW-12 has not been sampled since 2012. This is because the installation of well EW-17 utilized some of the equipment from this well. In the unlikely event the use of this well is required, a minor modification could be made to make this well operational. This determination will be made based on the monitoring well data in the vicinity of EW-12. In 2021, approximately 92 million gallons of water were treated by the South Boundary System. The Middle Road, South Boundary and Western South System treated a combined total of approximately 467 million gallons. 227 million gallons of this treated water was transferred to the RAV recharge basin while the remainder was discharged to the OU III recharge basin.

The following is a summary of the South Boundary System operations for 2021.

January – September 2021

The system operated normally with EW-4 and EW-17. Extraction well EW-4 was pulsed pumped on a one month on, one-month off schedule for the first three quarters of 2021. EW-4 was placed in standby in October. The system was shut down for electrical communication repairs for one week in July. In the first three quarters the OU III South Boundary System pumped and treated approximately 74 million gallons of water.

October – December 2021

The system operated normally with only well EW-17. The OU III South Boundary System pumped and treated approximately 18 million gallons of water.

3.2.3.5 System Operational Data

System Influent and Effluent

Figures 3.2.3-3 and 3.2.3-4 plot the TVOC concentrations in the extraction wells versus time. The overall influent water and the individual extraction wells show a declining trend in TVOC concentrations. System influent and effluent sampling results are summarized on **Tables F-13** and **F-14**, respectively.

Cumulative Mass Removal

Average flow rates for each monthly monitoring period were used, in combination with the TVOC concentration in the air-stripper influent, to calculate the mass removal (**Table F-15**). The cumulative total of VOCs removed by the treatment system versus time is plotted on **Figure 3.2.3-5**. The 2021 total was approximately 7 pounds. Cumulatively, the system has removed approximately 3,070 pounds since it was started in June 1997.

Table 3.2.3-2.
OU III South Boundary Air Stripper
2021 Average VOC Emission Rates

Parameter	Allowable ERP*	Actual** ER	MR/SB/WSB Total ER***
carbon tetrachloride	0.016	0.0001	0.0003
chloroform	0.0031	0	0.0001
chloroethane	10***	0	0
1,1-dichloroethane	10***	0	0
1,2-dichloroethane	0.008	0	0
1,1-dichloroethylene	0.034	0	0.0008
cis-1,2-dichloroethylene	10***	0	0
trans-1,2-dichloroethylene	10***	0	0
tetrachloroethylene	0.387	0.0007	0.0029
1,1,1-trichloroethane	10***	0	0.0006
trichloroethylene	0.119	0	0.0002

Notes:
ERP = Emissions Rate Potential, stated in lb/hr.
* ERP is based on NYSDEC DAR-1 Regulations. Conservative value used from MR/SB/WSB.
** Actual Emission Rate (ER) reported is the average for the year.
*** MR/SB/WSB Total ER =Cumulative Total for MR/SB/WSB.

Air Discharge

Table 3.2.3-2 shows the air emissions data from the OU III South Boundary system for 2021 and compares the values to levels stipulated in NYSDEC DAR-1 regulations. Emission rates are obtained through mass-balance calculations for water treated during that time (**Table F-13**). The concentration of each constituent was averaged for 2021, and that value was used in the calculation. System air emissions were below allowable levels. These emissions on **Table 3.2.3-2** are from the South Boundary system. However, the Middle Road/South Boundary and Western South Boundary systems are currently being co-treated via air stripping and the cumulative total emissions are provided and are still well below permitted levels.

Extraction Wells

There were two extraction wells operating during 2021, EW-4 and EW-17. Well EW-4 operated during the first three quarters and then was placed in standby. EW-4 showed decreasing TVOC concentrations in 2021 from 2.3 µg/L in January to 1.6 µg/L in October. EW-17 showed TVOC concentrations ranging from 12.8 µg/L in April to 20.6 µg/L in October. This well is located slightly downgradient and deeper than well EW-4. **Table F-12** summarizes the data for the extraction wells. **Table 3.2.3-3** shows the monthly extraction well pumping rates. The system averaged 178 gpm in 2021.

3.2.3.6 System Evaluation

The OU III South Boundary Treatment System performance can be evaluated based on the decisions identified for this system resulting from the groundwater DQO process.

1. Were unexpected levels or types of contamination detected?

No unexpected concentrations or types of contamination were detected. Although PFAS and 1,4-dioxane were detected above the MCL, the results are consistent with those presented in the *2020 Groundwater Status Report* (BNL 2021a). Additional characterization for PFAS and 1,4-dioxane in the MR/SB will be conducted during the planned OU X RI/FS.

2. Has the downgradient migration of the plume been controlled?

Yes, extraction well EW-17 is capturing the higher concentrations. This has resulted in reduced VOC concentrations in bypass well 121-43 from 87 µg/L in October 2012 to 1.6 µg/L in November 2021 (**Figure 3.2.3-1 and Figure 3.2.2-3**).

3. Can individual extraction wells or the entire treatment system be shut down or placed in pulsed pumping operation?

Seven of the eight extraction wells have been shut down as they have achieved the capture goal for this system. Well EW-17 will continue to operate on a full-time basis to capture VOCs in this area.

4. Are TVOC concentrations in plume core wells above or below 50 µg/L?

There are still three plume core wells 121-49, 121-53, and 121-54 with persistent TVOC concentrations above 50 µg/L in the capture zone of well EW-17. Additionally, both temporary vertical profile wells SB-VP-01-2021 and SB-VP-02-2021 had TVOC concentrations above 50 µg/L.

5. Is there a significant concentration rebound in core wells and/or extraction wells following shutdown?

A significant concentration rebound has not been observed in the monitoring or extraction wells in the eastern segment of this system. One of the western extraction wells are still operating.

6. Has the groundwater cleanup goal of meeting MCLs been achieved?
Monitoring well 121-49, located near EW-4 and EW-17, has a shown a decrease from 1,265 µg/L TVOCs in November 2011 to less than 50 µg/L in 2021. However, similar to the Middle Road Treatment System, monitoring well 121-54 located approximately halfway between the Middle Road and South Boundary Treatment System has VOC concentrations that are not decreasing at a rate that will likely achieve cleanup goals by 2030.

3.2.3.7 Recommendations
The following are recommendations for the OU III South Boundary Treatment System and groundwater monitoring program:

- Maintain wells EW-3, EW-4, EW-5, EW-6, EW-7, EW-8, and EW-12 in standby mode. The system's extraction wells will continue to be sampled on a quarterly basis, with the exception of EW-12. The wells will be restarted if extraction or monitoring well data indicate TVOC concentrations exceed the 50 µg/L capture goal.
- Continue to operate well EW-17 on a full-time basis.
- In order to meet the OU III ROD cleanup goal:
    - Perform groundwater modeling simulations to help evaluate the best location, extraction rates, and number of extraction wells to optimize the system and achieve cleanup goals.

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3.2.4 Western South Boundary Treatment System

The Western South Boundary (WSB) Treatment System was designed to capture VOCs in the Upper Glacial aquifer along portions of the BNLWSB. The capture goal for the system is TVOC concentrations exceeding 20 µg/L. The system was designed to reduce additional off-site migration of VOCs, and potential impacts of the VOC plume to the Carmans River. The system began operating in September 2002 and was changed to pulsed pumping mode in late 2005, one month on and two months off. Based on increasing VOC concentrations in an upgradient monitoring well, extraction well WSB-1 was put back into full-time operation starting in November 2008. Extraction well WSB-2 was placed in standby in October 2016. During 2018 four new extraction wells were added to this system. They began operations in March 2019. Details are provided below on the new extraction wells.

3.2.4.1 System Description

A complete description of the WSB Treatment System is contained in the *Operations and Maintenance Manual for the Western South Boundary Treatment System, Rev. 3* (BNL 2020b). A modification to this system to add four new extraction wells was undertaken beginning in June 2018 (see BNL 2018d) and was completed in March 2019. The four new wells were installed to address deeper VOC contamination. These wells along with the two existing wells were connected to the Middle Road/South Boundary Treatment System. A schematic of the new well configuration and piping is included as **Figure 3.2.4-7.** The existing WSB air stripper is no longer operating and will be decommissioned in the future. The WSB extraction well effluent water discharge is now monitored under the Middle Road and South Boundary Treatment System SPDES Equivalency permit.

3.2.4.2 Groundwater Monitoring

A network of 35 wells is used to monitor this plume. The well locations are shown on **Figure 3.2.4-1**. The wells are sampled as per **Table 1-5.**

3.2.4.3 Monitoring Well Results

The primary VOCs associated with this plume are dichlorodifluoromethane (Freon-12), TCA, and DCE. These VOCs were first observed in vertical profile wells installed throughout the WSB area in the late 1990s as part of the OU III RI/FS. TVOC concentrations ranging from 20 µg/L to 40 µg/L were encountered at depths between 120-170 ft bls throughout the area at that time.

Monitoring of this plume has identified several specific areas of higher VOC concentrations than were observed during the RI/FS. An area of VOC concentrations higher than previously seen (up to 170 µg/L TVOC concentrations) was characterized beginning in 2008, from the Middle Road area south to WSB-1 at the south boundary. This plume segment of higher concentrations was primarily focused at depths between 130 and 150 feet bls. During 2008 and 2009 an area of Freon-12, with concentrations up to 55 µg/L, was characterized in the deep Upper Glacial aquifer at depths of 180-200 feet bls approximately 800 feet south of Princeton Avenue.

During characterization efforts in 2016-2017 to define the southern extent of the deeper Freon-12, a zone of high VOC concentrations was encountered. Most of the plume was at slightly greater depths than previously seen in this area (140-210 feet bls). The primary VOCs were TCA, DCE and Freon-12.

Figure 3.2.4-1 presents fourth quarter 2021 monitoring well concentrations. **Figure 3.2.4-2** provides a north-south cross section (H- H') of the plume. **Figure 3.2.4-6** provides an east-west cross section (H1-H1') along the site boundary and **Figure 3.2.4-3** provides trend graphs for key monitoring wells. A summary of key monitoring well data for 2021 follows:

- Upgradient monitoring wells 103-18 and 103-19 located near Princeton Avenue showed TVOC concentrations during 2021 up to 11 µg/L, in November in well 103-18. Both wells have had relatively steady concentrations for the past several years.

Based on the monitoring well and characterization data, the areas of higher TCA and DCE concentrations represent slugs of contamination that may have originated from periodic releases from the center of the site. The deeper zones of elevated Freon-12 are even more discontinuous. **Figure 3.2.4-2** is a vertical cross section from north to south that Shows the VOC contamination. It clearly shows this area of deeper VOC contamination at the WSB, with some areas of contamination below the Gardiners Clay.

- **Figure 3.2.4-6** shows an east west cross section near the BNL site boundary. This figure shows that the higher concentrations are slightly deeper than the original extraction well WSB-1 and further to the west.
- Well 126-20 located between WSB-4 and WSB-5 had a peak TVOC concentration in 2021 of 22 µg/L in January. This is a significant reduction from the 2018 peak of 150 µg/L. These contaminants are expected to be captured by the extraction wells WSB-5 and WSB-6.
- Monitoring well 126-18 is located upgradient of extraction wells WSB-5 and WSB-6. It is screened at a depth similar to well WSB-5, the shallower of the two extraction wells. Peak TVOC concentrations in this well were 16 µg/L in November, but declined to less than 1.0 µg/L in February 2022. This is a significant reduction from the peak concentration of 203 µg/L in 2018.
- Downgradient monitoring wells 130-09, 130-10 and 130-11 located south of extraction wells WSB-5 and WSB-6 showed a maximum TVOC concentration of 4 µg/L in well 130-11 in November. The other two wells were below AWQS in 2021. This is a good indication that the two extraction wells are capturing the plume.
- The area of higher TCA and DCE concentrations that was identified in 2008-2009, extending at that time from well 119-06 at the Middle Road south, to WSB-1, has now decreased to a small area in the vicinity of WSB-1. VOC concentrations in upgradient wells 119-06 and 126-17 are below AWQS. The plume segment has migrated towards WSB-1 as shown on **Figure 3.2.4-1**.
- TVOC concentrations in well 126-14, immediately upgradient of well WSB-1, ranged between 41 µg/L and 20 µg/L in 2021. This well is approximately 200 feet north of WSB-1. The well is showing a downward trend from a peak concentration in 2018 of 170 µg/L.
- Three off-site monitoring wells located on the west end of Carleton Drive and are identified as 000-558, 000-559, 000-560. The maximum TVOC concentration in these wells was 21 µg/L in well 000-558 in November. No individual VOCs exceeded the AWQS in 2021 in any of these wells.

3.2.4.4 System Operations

During 2021, the extraction well WSB-1 continued full-time operation. Extraction well WSB-2 was in standby mode in 2021 based on the TVOC concentrations remaining below the capture goal of 20 µg/L. Extraction wells WSB-3, WSB-4, WSB-5, and WSB-6 continued full-time operation through most of 2021. System samples were collected monthly, and extraction wells were collected quarterly and analyzed for VOCs. In addition, the effluent was analyzed for pH monthly in conjunction with the Middle Road and South Boundary pH sample. **Table 3.2.4-1** provides the effluent limitations for meeting the requirements of the SPDES equivalency permit. The Western South Boundary is now operating under the same SPDES equivalency permit as the Middle Road and South Boundary projects. The system's effluent discharges met the SPDES equivalency permit requirements during 2021. The system operations are summarized below.

January – September 2021

The system operated normally with WSB-1 and WSB-3 through WSB-6 operating full time through mid-July. The system was shut down for electrical communication repairs for one week in July. WSB-5 was off for pump repairs mid-February through mid-May. During the first three quarters, the system treated approximately 147 million gallons of water.

October – December 2021

The system operated normally with WSB-1 and WSB-3 through WSB-6 operating full time for the majority of the fourth quarter. WSB-4 was off mid-September for pump repair. The system treated approximately 63 million gallons of water.

Table 3.2.4-1
Western South Boundary Treatment System (South Boundary and Middle Road) 2021 SPDES Equivalency Permit Levels

Parameter	Permit Level (µg/L)	Max. Measured Value (µg/L)
pH range	6.5–8.5 SU	6.8-7.9 SU
carbon tetrachloride	5	<0.5
chloroform	7	<0.5
dichlorodifluoromethane	5	<0.5
1,1-dichloroethane	5	<0.5
1,1-dichloroethylene	5	<0.5
methyl chloride	5	<0.5
tetrachloroethylene	5	<0.5
toluene	5	<0.5
1,1,1-trichloroethane	5	<0.5
1,1,2-trichloroethane	5	<0.5
trichloroethylene	10	<0.5

Note:
Required effluent sampling frequency is monthly for VOCs and monthly for pH.
SU = Standard units

3.2.4.5 System Operational Data

Extraction Wells

During 2021, the WSB System treated approximately 210 million gallons of water, with an average flow rate of approximately 405 gpm. **Table 2-2** gives monthly pumping data for the six extraction wells. **Table 3.2.4-2** shows the monthly extraction well pumping rates. VOC concentrations for the extraction wells are provided in **Table F-16**. TVOC concentrations for extraction wells WSB-1 and WSB-2 have remained below the capture goal of 20 µg/L since 2006. TVOC concentrations for extraction wells WSB-3, WSB-4, WSB-5, WSB-6 showed a maximum concentration in well WSB-5 of 38 µg/L. Trends for the extraction wells are shown on **Figure 3.2.4-4.**

System Influent and Effluent

Influent TVOC concentrations remained stable with a maximum concentration of 13 µg/L. Individual VOC concentrations were above the AWQS during the year, with a maximum value of DCE at 6.1 µg/L in June (**Table F-17**).

The air stripping system effectively removed the contaminants from the influent groundwater. The system's effluent data were below the analytical method detection limit and below the regulatory limit specified in the equivalency permit conditions (**Table F-18**).

Cumulative Mass Removal

Average flow rates for each monthly monitoring period were used, in combination with the TVOC concentration in the influent, to calculate the pounds of VOCs removed per month (**Table F-19**). The cumulative mass of VOCs removed by the treatment system is provided on **Figure 3.2.4-5**. During 2021, sixteen pounds of VOCs were removed. A total of 181 pounds have been removed since the start-up of the system in 2002.

Air Discharge

Table 3.2.4-3 presents the VOC air emission data for 2021 and compares the values to levels stipulated in NYSDEC DAR-1 regulations. Emission rates are calculated through mass balance for water treated during operation. The VOC air emissions were well below allowable levels. The concentration of each constituent was averaged for 2021, and those values were used in determining the emissions rate. The air emissions for the Western South Boundary system were below permitted limits. The emissions shown on **Table 3.2.4-3** are from the Western South Boundary system. However, the Middle Road/South Boundary and Western South Boundary systems are currently being treated via air-stripping and the cumulative total emissions are provided and well below permitted levels.

Table 3.2.4-3.
Western South Boundary Air Stripper
2021 Average VOC Emission Rates

Parameter	Allowable ERP*	Actual** ER	MR/SB/WSB Total ER***
carbon tetrachloride	0.016	0	0.0003
chloroform	0.0031	0.0001	0.0001
chloroethane	10***	0	0
1,1-dichloroethane	10***	0	0
1,2-dichloroethane	0.008	0	0
1,1-dichloroethylene	0.034	0.0008	0.0008
cis-1,2-dichloroethylene	10***	0	0
trans-1,2-dichloroethylene	10***	0	0
tetrachloroethylene	0.387	0	0.0029
1,1,1-trichloroethane	10***	0.0005	0.0006
trichloroethylene	0.119	0.0001	0.0002

Notes:
ERP = Emissions Rate Potential, stated in lb/hr.
* ERP is based on NYSDEC DAR-1 Regulations. Conservative value used from MR/SB/WSB.
** Actual Emission Rate (ER) reported is the average for the year.
*** MR/SB/WSB Total ER =Cumulative Total for MR/SB/WSB.

3.2.4.6 System Evaluation

The Western South Boundary Treatment System performance can be evaluated based on decisions identified for this system from the groundwater DQO process.

1. Were unexpected levels or types of contamination detected?

There were no unexpected levels or types of VOC contamination. However, PFOA and 1,4-dioxane were detected above the MCLs in 2020. See **Section 3.5** of the *2020 Groundwater Status Report*.

2. Has the downgradient migration of the plume been controlled?

The four new extraction wells are addressing the migration of the recently identified deeper VOC contamination. The bypass wells at the site boundary and sentinel monitoring wells on Carleton Drive continue to remain below MCLs indicating the leading edge of the plume is controlled.

3. Can individual extraction wells or the entire treatment system be shut down or placed in pulsed pumping operation?

WSB-2 remained in standby mode and VOC concentrations in this area are well below the capture goal of 20 µg/L. TVOC concentrations in WSB-1 have declined to below the capture goal. However, continued operation of WSB-1 is necessary to ensure the capture of the higher VOC concentrations migrating south from well 126-14. The four new extraction wells began operation in March 2019 and it is too early to evaluate shutdown for these wells.

3a. Are TVOC concentrations in plume core wells above or below 20 µg/L?

Three wells remain above the capture goal of 20 µg/L.

3b. Is there a significant concentration rebound in core wells and/or extraction wells following pulsed pumping or shutdown?

No significant rebound was observed since extraction well WSB-2 was placed in standby.

4. Has the groundwater cleanup goal of meeting MCLs been achieved?

MCLs have not been achieved for individual VOCs in plume core wells. With the addition of the four new extraction wells, the groundwater cleanup goals are expected to be met. There has been a significant reduction in VOC concentrations in the monitoring wells since the start of the new extraction wells in March 2019.

3.2.4.7 Recommendations

The following are recommendations for the OU III Western South Boundary Treatment System and groundwater monitoring program:

- Continue full-time operation of extraction well WSB-1 based on elevated concentrations in well 126-14. If TVOC concentrations levels drop under 20 µg/L in this monitoring well, begin pulsed pumping well of WSB-1.
- Based on the TVOC concentrations below the capture goal of 20 µg/L, maintain extraction well WSB-2 in standby mode. If TVOC concentrations greater than 20 µg/L are observed in WSB-2 or the adjacent monitoring wells, extraction well WSB-2 may be put into full time operation.
- Continue operation of the four new extraction wells. With the operation of these wells, the groundwater cleanup goal of achieving MCLs by 2030 is expected to be met.
- Continue the current monitoring frequency for the WSB monitoring wells as shown in **Table 1-5**.

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3.2.5 Industrial Park Groundwater Monitoring and Treatment System

This section summarizes the operational data from the Industrial Park Groundwater Treatment System for 2021 and presents conclusions and recommendations for its future operation. The Industrial Park system was designed to contain and remediate a portion of the OU III plume between BNL's southern boundary and the Industrial Park. **Figure 3.2.5-1** illustrates the extent of the OU III contaminant plume in the vicinity of the Industrial Park, located south of the Long Island Expressway. The primary VOCs associated with this portion of the OU III plume are TCA, PCE, and carbon tetrachloride.

The system began operation in September 1999. A Petition for Shutdown was submitted to the regulators in February 2013 (BNL, 2013a). After receiving approval from the regulators, the system was shut down in May 2013. In March 2014, wells UVB-3 through UVB-6 were returned to full time operation due to a rebound of VOC concentrations. They were shut down in January 2017.

BNL was notified in January 2021 that the property immediately east of the treatment system building was under new ownership. BNL monitoring wells, extraction wells, injection wells and associated utilities fall withing the boundary of this property. A new access agreement is under negotiation with the property owners.

3.2.5.1 System Description

The original Industrial Park system consisted of a line of seven in-well air stripping treatment wells. Each treatment well is constructed with two well screens separated by an inflatable packer. Contaminated groundwater is withdrawn from the aquifer via submersible pump through a lower screen (extraction) set at the base of the treatment well. The groundwater is pumped to a stripping tray located in a below ground vault over the wellhead. After passing through the stripping tray, treated groundwater flows back down the well and is recharged to a shallower portion of the aquifer through an upper screen (recharge). Some of the treated groundwater that is recharged through the upper screen recirculates through the cell and is drawn back into the extraction screen for further treatment, while the balance flows in the direction of regional groundwater flow.

A closed-loop air system through a single blower keeps the vault under a partial vacuum. The vacuum draws air from below the stripping tray as contaminated groundwater is discharged on top. VOCs are transferred from the liquid phase to the vapor phase as contaminated groundwater passes through the stripping tray. The contaminated air stream is piped from the vault to a treatment and control building, where it is passed through two GAC units in series to remove the VOCs. Treated air is then recirculated back to the wellhead. The carbon units, system blower, and system control panel are all housed in a one-story masonry treatment building. A complete description of the system is included in the *Operations and Maintenance Manual for the OU III Offsite Removal Action* (BNL 2007b).

In 2014, a modification to the Industrial Park System was initiated which included the installation of two new groundwater extraction wells. They are shown on **Figure 3.2.5-1** as IP-EW-8 and IP-EW-9. These wells became operational in January 2015. The wells are screened deeper than the adjacent UVB wells to capture deeper VOC contamination identified just upgradient of this area (**Figure 3.2-2**). These wells are utilizing liquid phase carbon to treat the water rather than in-well air stripping. A complete description of the Industrial Park Modification is included in the *Operations and Maintenance Manual for the OU III Modification to the Industrial Park Groundwater Treatment System* (BNL 2015).

3.2.5.2 Groundwater Monitoring

Well Network

The monitoring well network consists of 41 wells and is designed to monitor the VOCs in the vicinity of the Industrial Park, and the effectiveness of the groundwater treatment system. BNL abandoned monitoring wells 000-280 (Industrial Park perimeter well), 122-24, and 122-25 (formerly

part of Industrial Park East program, but no longer monitored) in February of 2021. The wells were located within the footprint of new building plans for the property.

Sampling Frequency and Analysis

Wells are sampled for VOCs as per the schedule in **Table 1-5**.

3.2.5.3 Monitoring Well Results

The complete analytical results are included in **Appendix C**. VOC concentrations in the plume perimeter wells that monitor the width of the plume remained below AWQS during 2021. Based on these data, the plume is effectively bounded by the current well network. **Figure 3.2.5-1** shows the plume distribution based on fourth quarter 2021 data and the location of cross section I-I'. The vertical extent of contamination is shown on **Figure 3.2.5-2**. Concentration trend graphs for key monitoring wells are shown on **Figure 3.2.5-3.** Significant findings for 2021 include:

Plume Core Wells

- TVOC concentrations in wells 127-08, 127-09, 000-537, and 000-538 located in the northern portion of the industrial park were observed to decline significantly in 2016 (following the initial characterization of this area) from the higher concentrations detected in 2015 (up to 266 µg/L). TVOC concentrations in these wells since 2016 have varied but have largely remained below the capture goal of 50 µg/L. The highest concentration detected in 2021 was 59 µg/L in well 000-537 during the fourth quarter. This deeper VOC contamination was once continuous with the BNL site. It was cut off at the site boundary with the installation and startup of EW-17 in 2012. Significant VOC reductions in OU III South Boundary bypass well 121-43 were observed shortly afterward and the trailing edge of the higher concentrations migrated south. The wells in the northern portion of the industrial park now represent the trailing edge of the higher off-site VOC concentrations.
- Well 000-548 is located between well 000-528 and extraction well IP-EW-9. TVOC concentrations in this well ranged between 23 µg/L and 31 µg/L during 2021. There has been little change in TVOC concentrations in this well over the past six years.
- Well 000-529 is located 300 feet south of 000-548. TVOC concentrations have ranged between 14 µg/L and 21 µg/L since 2019.
- TVOC concentrations in well 000-541, located upgradient of IPE-EW-8, increased above the capture goal at a concentration of 54 µg/L in November which was the first exceedance of the capture goal since 2015.

Plume Bypass Wells

- Wells 000-432 and 000-544 provide bypass monitoring points downgradient of extraction wells IP-EW-8 and IP-EW-9, respectively. TVOC concentrations have been slightly above detectable levels in 000-432 over the past 10 years. The maximum TVOC concentration in well 000-544 was 28 µg/L in 2021.

3.2.5.4 System Operations

In 2021, wells UVB-1 through UVB-7 and extraction wells IP-EW-8 and IP-EW-9 remained in standby mode. These wells and associated monitoring wells had concentrations primarily below the capture goal of 50 µg/L with the exceptions noted above.

System extraction well pumping rates are included on **Table 3.2.5-1**. Extraction wells IP-EW-8 and IP-EW-9 operate under a SPDES Equivalency Permit (**Table 3.2.5-2).** The extraction wells are sampled on a quarterly basis for VOCs. No effluent VOC samples were taken.

3.2.5.5 System Operational Data

Well Influent and Effluent

Samples were obtained quarterly for wells UVB-1 through UVB-7 and wells IP-EW-8 and IP-EW-9. The samples are analyzed for VOCs.

During 2021, TVOC concentrations in the extraction wells were below the capture goal of 50 µg/L (**Figure 3.2.5-4**). The historical effluent and influent concentrations are shown on **Figure 3.2.5-5**. The removal efficiencies for the air strippers in the extraction wells UVB-1 through UVB-7 for 2021 where not calculated since the wells are not operating. Historical extraction well data are shown in **Table F-20 and F-23**.

Table 3.2.5-2
OU III Industrial Park Treatment System
2021 SPDES Equivalency Permit Levels

Parameters	Permit Limit (µg/L)	Max. Measured Value (µg/L)
pH (range)	5.0 – 8.5 SU	NS
carbon tetrachloride	5.0	NS
chloroform	7.0	NS
1,1-dichloroethylene	5.0	NS
1,2-dichloroethane	5.0	NS
tetrachloroethylene	5.0	NS
1,1,1-trichloroethane	5.0	NS
trichloroethene	5.0	NS

Notes:
NS = Not Sampled
Required sampling frequency is monthly for VOCs and weekly for pH.
SU = Standard Units

Cumulative Mass Removal

The system remained in stand-by mode in 2021. The cumulative mass total of VOCs removed from the aquifer is a total of 1,076 pounds since 1999.

Air Treatment System

Air samples were not collected because UVB-1 to UVB-7 were in stand-by mode (**Table F-22**).

3.2.5.6 System Evaluation

The Industrial Park Treatment System performance can be evaluated based on the major decisions identified for this system resulting from the groundwater DQO process.

1. Were unexpected levels or types of contamination detected?

There were no unusual or unexpected VOC concentrations observed in the monitoring wells or extraction wells associated with the OU III Industrial Park System during 2021. PFOA and 1,4-dioxane were detected above the MCLs in 2020. See **Section 3.5** of the *2020 Groundwater Status Report*.

2. Has the downgradient migration of the plume been controlled?

Yes, an analysis of the plume perimeter and bypass well data reveals that there were no TVOC concentrations above the capture goal of the system in 2021. A comparison of the plume from 1997 to 2021 is provided on **Figure 3.2.5-7.** There were several TVOC concentrations observed in wells 000-537 and 000-541 during 2021 just above the 50 µg/L system capture goal. These wells monitor the deeper VOC plume first characterized in 2013. The first quarter 20225 TVOC results for both wells decreased below the capture goal. The Industrial Park TVOC concentrations have remained relatively stable since 2015 at levels below the capture goal.

3. Can individual extraction wells or the entire treatment system be shut down or placed in pulsed pumping operation?

The UVB wells have been in stand-by since January 2017 and there has been little rebound of TVOC concentrations observed in the area monitoring wells.

Two extraction wells were added in 2014 (IP-EW-8 and IP-EW-9) and located to capture deeper upgradient VOCs. Since operation of these wells was initiated in 2015, the highest TVOC concentrations reported for wells IP-EW-8 and IP-EW-9 were 6 µg/L and 10 µg/L, respectively.

Individual VOCs have been below AWQS since 2017. IP-EW-8 and IP-EW-9 were subsequently placed in standby mode in July 2019. Based on stable VOC concentrations in the wells monitoring this deeper portion of the plume, system restart is not warranted.

4. Are TVOC concentrations in plume core wells above or below 50 µg/L?
There were two plume core wells, 000-537 and 000-541 that exceeded the capture goal in 2021. First quarter 2022 monitoring indicates the TVOC concentrations in both wells decreased to below 50 µg/L.

5. Is there a significant concentration rebound in core wells and/or extraction wells following shutdown?

There was no additional rebound of concentrations in the plume core wells associated with recirculation wells UVB-3 through UVB-6 in 2021. No rebound of concentrations has been observed in the vicinity of wells IP-EW-8 and IP-EW-9 since they were shut down in July 2019.

6. Has the groundwater cleanup goal of meeting MCLs been achieved?
MCLs have not yet been achieved, but are expected to be met by 2030.

3.2.5.7 Recommendations

The following are recommendations for the Industrial Park Treatment System and groundwater monitoring program:

- Maintain the seven UVB wells in standby. If TVOC concentrations exceed the 50 µg/L capture goal in these UVB wells or associated monitoring wells, they may be restarted.
- Maintain IP-EW-8 and IP-EW-9 in standby and continue to monitor for rebound of VOCs. If TVOC concentrations approach the capture goal of 50 µg/L in the vicinity of the extraction wells the system will be evaluated for restart.

3.2.6 North Street Groundwater Monitoring

The North Street Treatment Groundwater Monitoring Program addresses a VOC plume that originated at the Former Landfill/Chemical Holes area. The remnants of the VOC plume is presently located south of the site boundary, with the leading edge extending south to Flower Hill Drive (**Figure 3.2.6-1**). The groundwater treatment system began operating in May 2004. In June 2013, a *Petition for Shutdown OU III North Street Groundwater Treatment System* (BNL 2013c) was submitted to the regulators for review and approval. The system was shut down in August 2013 after receiving approval from the regulators. In February 2020, a *Petition for Closure for the OU III North Street Groundwater Treatment System* (BNL 2020a) was submitted to the regulators for review and approval. This document received regulatory approval in March 2020. The document recommended the following "*Seven of the 12 core monitoring wells are proposed for continued annual monitoring until the results for individual VOCs are consistently below MCLs. Sampling of the remaining 11 monitoring wells will be discontinued but the wells will be retained until the completion of the PFAS and 1,4-dioxane characterization at the BNL site. The two extraction wells and system infrastructure (building, carbon units, etc.) will also be retained until PFAS and 1,4-dioxane characterization is complete. The four recharge wells and the building will be used for the recently constructed North Street East Ethylene Dibromide Groundwater Treatment System"*. The system is now in a post closure monitoring phase.

The groundwater treatment system consists of two extraction wells, which are now permanently shut down. The system captured the higher concentration portion of the VOC plume (i.e., TVOC concentrations greater than 50 µg/L) in the Upper Glacial aquifer and minimized additional VOC migration into the Magothy aquifer. The North Street plume has been divided into two segments for remediation purposes. The area to the north of extraction well NS-2 was addressed by the North Street remediation system, whereas the Airport System captures and treats contaminated groundwater in the area to the south (**Figure 3.0-1**). The Airport System was constructed in part to address the leading edge of this plume (**Section 3.2.8**).

3.2.6.1 System Description

The North Street System consisted of two extraction wells. Extracted groundwater was piped through two 20,000-pound GAC units located in Building OS-5 on a parcel of land owned by DOE. The clean water was discharged to four injection wells located downgradient along North Street. Both the North Street and North Street East Systems share the four injection wells. Extraction wells NS-1 and NS-2 were designed to operate at a rate of up to 200 gpm each. A complete description of the system is contained in the *Operations and Maintenance Manual for the North Street/North Street East Offsite Groundwater Treatment Systems* (BNL 2020d).

3.2.6.2 Groundwater Monitoring

Well Network

A network of seven wells monitors the North Street VOC plume (**Figure 1-2 and Figure 3.2.6-1**). Per the approved Petition for Closure the other eleven wells remain but are no longer sampled. The seven wells being sampled are 000-108, 000-154, 000-212, 000-343, 000-465, 000-472, 000-474. In 2021 all seven wells were sampled. Wells sampled under the Airport program are also utilized for tracking the downgradient portions of the North Street VOC plume.

Sampling Frequency and Analysis

Sampling of the seven wells as part of the post closure monitoring program for VOCs is performed as per the schedule on **Table 1-5**.

3.2.6.3 Monitoring Well Results

The primary VOCs associated with this plume are carbon tetrachloride, TCE, TCA, and chloroform. **Figure 3.2-1** and **Figure 3.2.6-1** depict the TVOC plume distribution. The complete groundwater monitoring well data for 2021 are included in **Appendix C**. A north–south hydrogeologic cross section (J–J') of the plume is provided on **Figure 3.2.6-2. Figure 3.2.6-3** shows time-concentration plots for key monitoring wells. A summary of key monitoring well data for 2021 follows:

- Plume core well 000-465 is located 100 feet upgradient of extraction well NS-1. This well had historically shown the highest VOC concentrations (primarily carbon tetrachloride) in the North Street area. TVOC concentrations were as high as 1,796 µg/L in 2004. In December 2021 the concentration was 5 µg/L.
- Well 000-472, located in close proximity to extraction well NS-2, had TVOC concentration of 20 µg/L in December.
- TVOC concentrations in core well 000-474, located approximately 500 feet upgradient of extraction well NS-2, were 12 µg/L in December.
- Plume core well 000-154 had historically shown high VOC concentrations (primarily carbon tetrachloride). TVOC concentrations of approximately 1,000 µg/L were observed in this well in 1997 and 1998. However, they have steadily declined since then, and VOC concentrations have been below AWQS for several years. The trailing edge of the higher concentration segment of this plume has migrated south of this location.
- **Figure 3.2.6-6** compares the TVOC plume from 1997 to 2021. The southern portion of the plume that migrated south of the North Street System prior to system start-up is being captured by the Airport Treatment System eastern extraction wells.

Table 3.2.6-1
OU III North Street Treatment System
2021 SPDES Equivalency Permit Levels

Parameters	Permit Limit (µg/L)	Max. Observed Value (µg/L)
pH (range)	5.5 – 8.5 SU	NS
carbon tetrachloride	5	NS
chloroform	5	NS
1,1-dichloroethane	5	NS
1,2-dichloroethane	5	NS
1,1-dichloroethylene	5	NS
tetrachloroethylene	5	NS
toluene	5	NS
1,1,1-trichloroethane	5	NS
trichloroethylene	10	NS

Notes:
NS = Not Sampled as the system was not operating.
SU= Standard Units

3.2.6.4 System Operations

Table 3.2.6-1 provides the effluent limitations for the requirements of the SPDES equivalency permit. The extraction well sampling has been discontinued.

January – December 2021

Both extraction wells NS-1 and NS-2 remained shut down in 2021.

3.2.6.5 System Operational Data

The system was shut down in 2020 and is now in a post closure monitoring phase. No further system operational data is expected from this system.

Cumulative Mass Removal

The mass of VOCs removed from the aquifer by the North Street Treatment System was calculated using the average flow rates for each monthly monitoring period, in combination with the TVOC concentration in the carbon unit's influent, to calculate the pounds removed per month. The

cumulative mass of VOCs removed by the treatment system vs. time is plotted on **Figure 3.2.6-5**. Since May 2004, the system removed 342 pounds of VOCs. The mass removal is summarized in Table F-24. The system is now shut down and no further operations are expected.

The downgradient portion of the plume that was south of the North Street System prior to start-up is being captured by the Airport Treatment System's eastern extraction wells. Further detail on the Airport System is provided in **Section 3.2.8**.

3.2.6.6 System Evaluation

The North Street Groundwater Monitoring program can be evaluated from the decision rules identified in the groundwater DQO process.

1. Were unexpected levels or types of contamination detected?

There were no unusual or unexpected concentrations of contaminants observed in monitoring wells associated with the North Street plume in 2021. However, PFOA and 1,4-dioxane were detected above the MCLs in 2020. See **Section 3.5** of the *2020 Groundwater Status Report*.

2. Has the groundwater cleanup goal of meeting MCLs been achieved?

MCLs have not been achieved for individual VOCs in all North Street plume core wells. During 2021, three of the seven remaining wells had VOCs above the MCL, with a concentration of 10 μg/L of tetrachlorethylene in well 000-472 and 10 μg/L of carbon tetrachloride in well 000-465 being the highest concentrations detected. MCLs are expected to be achieved in all wells by 2030.

3.2.6.7 Recommendations

The following are recommended for the North Street Groundwater Monitoring Program.

- NS-1 and NS-2 will remain shut down until the PFAS and 1,4 dioxane characterization is completed. After the completion of this characterization, a determination of the future use of these wells will be made.
- Continue monitoring the seven wells on an annual monitoring schedule until the results for individual VOCs are consistently below MCLs. The remaining 11 monitoring wells will be retained until the completion of the PFAS and 1,4-dioxane characterization at the BNL site.

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3.2.7 North Street East Treatment System

This section summarizes the 2021 operational and monitoring well data for the OU III North Street East (NSE) Treatment System. The original system operated from 2004 to 2014 to capture and control the downgradient portion of the OU I VOC plume, which migrated beyond the BNL site boundary. This treatment system (which includes extraction wells NSE-1 and NSE-2) met its goals in 2014 with no significant rebound identified since (BNL 2014b). A formal petition for closure was not prepared for this system since the infrastructure is being used for remediation of an ethylene dibromide (EDB) plume subsequently identified in this area. As recommended in the *2019 Groundwater Status Report* (BNL 2020c), this system is now administratively closed for its originally designed purpose. In September 2019, a modification to the North Street East Groundwater Treatment System was submitted to the regulators. This included the addition of two new extraction wells to remediate the EDB plume that was characterized. This system became operational in July 2020.

3.2.7.1 System Description

The original NSE Treatment System consisted of two extraction wells (NSE-1 and NSE-2), which as noted above was administratively closed in 2020. Two additional extraction wells (NSE-EDB-EW-3 and NSE-EDB-EW-4) were installed and became operational in July 2020 to remediate the EDB plume in this area. Each well is designed to operate at approximately 100 gpm. The extracted groundwater water is pumped through two 20,000-pound GAC units and the treated water is discharged to four injection wells located on North Street. The North Street and NSE carbon treatment units and control systems are located in the same building on North Street. A complete description of the system is contained in the revised *Operations and Maintenance Manual for the North Street/North Street East Offsite Groundwater Treatment Systems* (BNL 2020d) which was submitted to the regulators in August 2020.

3.2.7.2 Groundwater Monitoring

The monitoring network for the EDB plume consists of 12 wells. See **Figure 3.2.7-1** for the location of the wells.

The sampling frequency for the EDB plume monitoring wells is quarterly, except for upgradient perimeter well 115-42 which is sampled semi-annually. Ten of the 12 wells are also sampled annually for VOCs using EPA Method 8260 Low Level. See **Table 1-5** for details.

3.2.7.3 Monitoring Well Results

Figure 3.2.7-1 shows the extent of the NSE EDB plume and the location of the two new extraction wells. The trace levels of VOCs identified from the original plume are discussed below and the data are provided in **Appendix C.**

Figure 3.2.7-2 depicts the vertical distribution of EDB within the deep Upper Glacial aquifer. The north-south transect line for cross section K–K' is shown on **Figure 3.2.7-1**. **Figure 3.2.7-3** presents the trends for EDB in the six monitoring wells that have detected EDB over the last three years. **Appendix C** contains a complete set of 2021 analytical results for the NSE program wells. A summary of key monitoring well data for 2021 follows:

- As shown on **Figure 3.2.7-3**, since August 2015 EDB has consistently been detected above the DWS of 0.05 µg/L in well 000-394, with a maximum concentration of 1.06 µg/L in the fourth quarter 2017. Since then, EDB concentrations have declined with the maximum detection in this well in 2021 of 0.06 µg/L in the first quarter. EDB concentrations in the three subsequent samples from this well were below the DWS, indicating a break in the plume. This well is immediately upgradient of extraction well NSE-EDB-EW-4.
- In addition to monitoring well 000-394, EDB was detected above the DWS in four of the 12 plume monitoring wells in 2021 (000-552, 000-554, 000-563 and 000-565). The maximum EDB

concentration in these four wells in 2021 was 0.87 µg/L in well 000-554. As seen on **Figure 3.2.7-3**, EDB concentrations in this well have been trending upward since late 2020. This well is located in the center of the plume between NSE-EDB-EW3 and NSE-EDB-EW-4.

- Two of the three bypass wells detected EDB in 2021. Wells 000-565 and 000-566 showed detections in the first three quarterly samples with a maximum concentration of 0.054 µg/L in well 000-565, just slightly above the standard. The fourth quarter samples for these wells did not detect EDB. EDB was first detected in wells 000-565 and 000-566 in December 2020 and June 2020, respectively. As discussed in **Section 3.2.7.6**, this portion of the plume was likely downgradient of extraction well NSE-EDB-EW-3 prior to system start-up.
- The two upgradient perimeter wells (115-42 and 000-138) have not detected EDB in 2019, 2020 and 2021.
- All 10 downgradient plume wells detected VOCs during 2021. However, only benzene exceeded the AWQS in two wells with a maximum concentration of 3.1 µg/L in 000-563. The AWQS for benzene is 1.0 µg/L. PCE has been detected historically in several wells up to a maximum concentration of 8 µg/L since 2017. The maximum PCE concentration in 2021 was 4.7 µg/L in well 000-553.

3.2.7.4 System Operations

EDB extraction wells NSE-EDB-EW-3 and NSE-EDB-EW-4 were sampled monthly for EDB and VOCs throughout 2021. In April 2020, NYSDEC issued a renewal SPDES equivalency permit for the North Street and North Street East Treatment Systems and included EDB as a discharge parameter. **Table 3.2.7-1** provides the effluent limitations for meeting the requirements of the equivalency permit. Approximately 107 million gallons of water were treated in 2021 by the North Street East Treatment System.

Table 3.2.7-1.
OU III North Street East Treatment System
2021 SPDES Equivalency Permit Levels

Parameters	Permit Limit (µg/L)	Max. Observed Value (µg/L)
pH range	5.5–8.5 SU	5.51-6.35
carbon tetrachloride	5	<0.5
chloroform	5	<0.5
1,1-dichloroethane	5	<0.5
1,2-dichloroethane	0.6	<0.5
1,1-dichloroethylene	5	<0.5
tetrachloroethylene	5	<0.5
toluene	5	<0.5
1,1,1-trichloroethane	5	<0.5
trichloroethylene	5	<0.5
Ethylene dibromide (EDB)	0.03	<0.02

Notes:
Required effluent sampling freq. is monthly for VOCs and pH.

3.2.7.5 System Operational Data

EDB extraction wells (NSE-EDB-EW-3 and NSE-EDB-EW-4) became operational in July 2020.

January through September 2021

The system operated normally with NSE-EDB-EW-3 and NSE-EDB-EW-4 operating full time. Approximately 82 million gallons of water were pumped and treated.

October through December 2021

The system operated normally with NSE-EDB-EW-3 and NSE-EDB-EW-4 operating full time. The system was shut down for one day in December for the replacement of a float switch in one of the injection wells. Approximately 25 million gallons of water were pumped and treated.

Extraction Wells

Extraction wells NSE-EDB-EW-3 and NSE-EDB-EW-4 were sampled monthly throughout 2021. The maximum EDB concentration detected was 0.07 µg/L in NSE-EDB-EW-4 in January. Samples

obtained from this extraction well in 2021 exceeded the DWS for EDB in January, February, and March. In contrast, EDB concentrations in NSE-EDB-EW-3 did not exceed the DWS in any of the monthly samples collected during 2021. The maximum concentration of EDB in NSE-EDB-EW-3 during 2021 was 0.03 µg/L. No other VOCs were detected in these extraction wells above AWQS. Sampling of NSE-1 and NSE-2 has been discontinued as of October 2020.

Table 2-2 shows the monthly pumping data for the two EDB extraction wells. **Table 3.2.7-2** identifies the pumping rates for NSE-EDB-EW-3 and NSE-EDB-EW-4. The system averaged 207 gpm in 2021. **Figure 3.2.7-4** plots the TVOC concentrations in all four extraction wells. **Figure 3.2.7-5** plots the EDB concentrations in extraction wells NSE-EDB-EW-3 and NSE-EDB-EW-4. VOC and EDB concentrations for the extraction wells are provided in **Table F-28**.

System Influent and Effluent

System influent and effluent sampling results are summarized on **Tables F-29** and **F-30**, respectively. As noted in **Table 3.2.7-1**, there were no exceedances of the equivalency permit parameters during 2021.

Cumulative Mass Removal

The cumulative mass of VOCs removed by the treatment system versus time is noted on **Figure 3.2.7-6**. A cumulative total of approximately 47 pounds of VOCs were removed from the aquifer during system operation (**Table F-31**).

3.2.7.6 System Evaluation

The original VOC treatment system began operation in 2004 and was predicted to run for approximately 10 years. The system operated as designed and was shut down in 2014 and administratively closed in 2020. Due to the identification of EDB in the area groundwater in 2015, two new extraction wells were installed and became operational in July 2020 to remediate this plume.

The NSE Treatment System performance can be evaluated based on decisions identified for this system from the groundwater DQO process.

1. Were unexpected levels or types of contamination detected?

EDB was detected in the monitoring and extraction wells as expected based on the system design. However, PFOA and 1,4-dioxane were detected above the MCLs in 2020. See **Section 3.5** of the *2020 Groundwater Status Report*.

2. Has the downgradient migration of the plume been controlled?

Based on the data from the monitoring wells and two new extraction wells, the system is providing effective capture of the EDB plume. Although two of the three bypass wells detected EDB during the first three quarters of 2021 (maximum concentration of 0.054 µg/L), this portion of the plume was likely downgradient of extraction well NSE-EDB-EW-3 prior to system start-up in July 2020. These two bypass wells are approximately 250 feet downgradient of this extraction well.

3. Can individual extraction wells or the entire treatment system be shut down or placed in pulsed pumping operation?

No, extraction well NSE-EDB-EW-4 continues to detect EDB above the DWS.

3a. Are EDB concentrations in plume core wells above or below 0.05 ug/L?

EDB was detected above the DWS in four of the nine plume core monitoring wells in 2021.

3b. Is there a significant concentration rebound in core wells and/or extraction wells following shutdown?
The two EDB extraction wells have not been shut down.

4. Has the groundwater cleanup goal of meeting MCLs been achieved?
No, EDB continues to be detected above MCLs in the monitoring wells and extraction well NSE-EDB-EW-4. Of the 10 monitoring wells sampled annually using Method 8260 Low Level, two wells detected VOCs above AWQS in 2021.

3.2.7.7 Recommendations

The following recommendations are made for the NSE Treatment System and groundwater monitoring program:

- Continue full time operation of the EDB treatment system and maintain monthly sampling of extraction wells NSE-EDB-EW-3 and NSE-EDB-EW-4.
- Maintain the quarterly sampling frequency for the 12 EDB monitoring wells using Method 504, except for upgradient perimeter well 115-42 which is sampled semi-annually. Maintain annual VOC sampling using Method 8260 Low Level for all wells except for 115-42 and 000-138.

3.2.8 LIPA/Airport Treatment System

This section summarizes the 2021 operational and monitoring well data for the LIPA/Airport Treatment System and presents conclusions and recommendations for its future operation. The LIPA system was designed to provide capture and control of the downgradient portion of the plume of VOCs in the Upper Glacial and Magothy aquifers that had migrated south of the Industrial Park System before that system became operational in 1999. The Airport Treatment System was designed to capture the leading edge of the OU III and OU I/IV VOC plumes and to prevent further migration of the plumes, which have migrated south of the LIPA extraction wells and the North Street extraction wells before the system began operations.

3.2.8.1 System Description

The three components of the LIPA/Airport Treatment System are as follows:

1. The Magothy extraction well (EW-4L) on Stratler Drive (**Figure 3.2.8-1**) addressed high-level VOCs identified in the Magothy aquifer immediately upgradient of this well on Carleton Drive. The capture goal for this well is 50 µg/L TVOCs. The capture goal for this well has been met and the well is currently in standby mode.
2. The other three LIPA extraction wells (EW-1L, EW-2L, and EW-3L) were installed to address high concentrations of VOCs in the Upper Glacial aquifer that had migrated past the Industrial Park System before that system became operational. The capture goal for these extraction wells of 50 µg/L TVOC has been met and these wells are in standby mode.
3. The six extraction wells in the Airport System were installed to address the leading edge of the plumes which have migrated past the LIPA extraction wells and the North Street extraction wells prior to their installation. The sixth well (RW-6A) was added in 2007 to address VOCs observed to the west of extraction well RTW-1A. The Airport system wells have a capture goal of 10 µg/L TVOC. RTW-4A also addresses Magothy aquifer contamination. Extraction wells RTW-1A, RTW-4A and RW-6A are in full time operation. Extraction wells RTW-2A, RTW-3A and well RTW-5A are shutdown.

The water from the four LIPA wells was pumped to the treatment plant, about one mile south on Brookhaven [Town] Airport property, where it is combined with the water from the six airport extraction wells (RTW-1A through RW-6A) and treated via granular activated carbon. The treated water is released back to the ground via a series of shallow reinjection wells located in Brookhaven Airport.

A more detailed description of this system is contained in the *Operations and Maintenance Manual for the LIPA/Airport Groundwater Treatment System* (BNL 2008a).

3.2.8.2 Groundwater Monitoring

Well Network

The monitoring network consists of 49 wells. The Magothy extraction well (EW-4L) on Stratler Drive has six monitoring wells associated with its operation. There are 12 wells associated with the Upper Glacial portion of the LIPA plume. The Airport system has 31 monitoring wells, which monitor the portions of the plume south of the LIPA and the North Street systems. All of these wells are used to evaluate the effectiveness and progress of the cleanup associated with these three components of the system. **Figure 1-2 and Figure 3.2.8-1** identify the monitoring wells for these plumes.

Sampling Frequency and Analysis

The monitoring wells for LIPA are currently on a semiannual and annual sampling schedule for

VOCs. The Airport wells are primarily sampled semi-annually and several wells are sampled quarterly for VOCs (**Table 1-5**).

3.2.8.3 Monitoring Results

The primary VOCs associated with these portions of the plume are carbon tetrachloride, TCA, TCE, and DCE. Groundwater monitoring for these systems was initiated in 2004. Fourth quarter 2021 well data are posted on **Figure 3.2.8-1** and **Figure 3.2.8-2**. The complete analytical results are in **Appendix C.** Results for key monitoring wells and extraction wells are as follows:

LIPA Monitoring

- During 2021, TVOC concentrations for the Magothy extraction well EW-4L on Stratler Drive were between 6 µg/L and 9 µg/L. This well was shut down in January 2017 as it achieved its TVOC capture goal of 50 µg/L.
- The Magothy monitoring wells located in the vicinity of extraction well EW-4L all detected TVOC concentrations below 5 µg/L during 2021. The highest TVOC concentration observed was in well 000-425 at 4.6 µg/L in June.
- All of the LIPA monitoring wells are below the TVOC capture goal of 50 µg/L. The highest TVOC concentration was 5.9 µg/L in well 000-451 in June 2021.
- The maximum TVOC concentration in extraction well EW-3L in 2021 was 2 µg/L. Extraction well EW-2L samples detected TVOC concentrations up to 3.8 µg/L. TVOC concentrations in extraction well EW-1L ranged from 5 µg/L to 9 µg/L. **Figure 3.2.8-3** plots the TVOC trends for the LIPA extraction wells.

Airport Monitoring

- Monitoring wells 800-94 and 800-95, are approximately 1,500 feet north of extraction wells RTW-1A, RTW-2A, and RW-6A. In 2021, well 800-94 had a maximum TVOC concentration of 76 µg/L in December and well 800-95 had a maximum concentration of 22 µg/L in June. Both of these wells have had persistently elevated TVOC concentrations. (**Figure 3.2.8-6**)
- **Figure 3.2.8-4** plots the TVOC influent trends for the airport extraction wells. All six airport extraction wells had TVOC concentrations below the capture goal of 10 µg/L in 2021. Extraction well RW-6A showed the highest TVOC concentrations of about 9 µg/L in 2021.
- Well 800-96 detected a maximum TVOC concentration of 76 µg/L in December (**Figure 3.2.8-1**, **Figure 3.2.8-6**).
- None of the bypass wells installed downgradient of this area detected VOCs above AWQS.
- Well 800-92, located upgradient of extraction wells RTW-3A and RTW-4A had TVOC concentrations above the capture goal for the past several years. However, during 2021 the maximum TVOC concentration was 4 µg/L. The concentrations are showing a downward trend. This is a slug of contamination that was south of the North Street extraction wells prior to the system start-up.
- Well 800-101, located directly upgradient of extraction well RTW-4A, has shown an increasing TVOC concentration trend over the past several years. The concentration ranged up to 58 µg/L in 2021. This is above the TVOC capture goal of 10 µg/L for the Airport extraction wells and warrants the continued operation of well RTW-4A, a Magothy extraction well (**Figure 3.2.6.2)**.
- Monitoring well 800-138 was installed adjacent to well 800-59 and screened about 40 feet deeper than this well (from 245 feet to 255 feet bls). This well is used to monitor concentrations of VOCs

identified in upgradient well 800-92. VOC concentrations in this well were below AWQS in 2021.

3.2.8.4 System Operations

In 2021, the Airport and LIPA extraction wells were sampled quarterly. The influent, midpoint, and effluent of the carbon units were sampled two times per month through August, then monthly thereafter. All system samples were analyzed for VOCs. Two of the Airport extraction wells (RTW-2A, RTW-3A) remained in standby as per the recommendation in the *2019 Groundwater Status Report* (BNL 2020c). Throughout 2021, wells RTW-1A, RTW-4A and RW-6A were pumped on a full-time basis. All four LIPA extraction wells are in standby since TVOC concentrations remained below the capture goal of 50 µg/L.

The following is a summary of the Airport/LIPA Treatment System operations for 2021:

January – September 2021

The Airport/LIPA System was operational in the first three quarters with RTW-1A, RTW-4A, and RW-6A operated on a full-time basis. Extraction wells RTW-2A, RTW-3A, RTW-5A, and all four LIPA extraction wells were in standby. The system was down for two days in July for a scheduled carbon change out.

October – December 2021

The Airport/LIPA System operated normally in the fourth quarter.

Extraction Wells Operational Data

During 2021, approximately 236 million gallons of groundwater were treated by the Airport/LIPA system, with an average flow rate of 455 gpm (**Table 3.2.8-2)**. **Table F-32** summarizes the system's mass removal. VOC concentrations for the Airport and LIPA extractions wells are provided in **Table F-33.**

3.2.8.5 System Operational Data

System Influent and Effluent

VOC concentrations for the carbon influent and effluent in 2021 are summarized on **Tables F-34** and **F-35,** respectively.

The carbon vessels for the system effectively removed the contaminants from the influent groundwater. System effluent samples were below the regulatory limit specified in the SPDES equivalency permit (**Table 3.2.8-1**).

Cumulative Mass Removal

The mass of VOCs removed from the aquifer by the Airport/LIPA Treatment System was calculated using the average flow rates for each monitoring period (**Table F-32**) in combination with the TVOC concentration in the carbon unit's influent, to calculate the pounds per month removed. The plot of cumulative mass of VOCs removed vs. time shows that 8 pounds of VOCs were removed during 2021, with a total of 495 pounds removed since system start-up (**Figure 3.2.8-5)**.

3.2.8.6 System Evaluation

The Airport/LIPA system performance can be evaluated based on the decision rules identified for this system resulting from the groundwater DQO process.

1. Were unexpected levels or types of contamination detected?

No, there were no unusual or unexpected VOC concentrations observed in the monitoring wells for the LIPA/Airport Treatment System during 2021. However, PFOA and 1,4-dioxane were detected above the MCLs in 2020. See **Section 3.5** of the *2020 Groundwater Status Report*.

2. Has the downgradient migration of the plume been controlled?

Yes. The monitoring data clearly show that the capture goal of 50 µg/L TVOC at the LIPA Upper Glacial and Magothy wells is being met. No TVOC concentrations above the 10 µg/L capture goal have been detected in the bypass monitoring wells at the Airport. Based upon these data, plume migration is being controlled.

Table 3.2.8-1
OU III LIPA/Airport Treatment System
2021 SPDES Equivalency Permit Levels

Parameters	Permit Level (µg/L)	Max. Measured Value (µg/L)
pH	5.5–7.5 SU	5.55-6.30 SU
carbon tetrachloride	5	<0.5
chloroform	7	1.0
1,1-dichloroethane	5	<0.5
1,1-dichloroethylene	5	<0.5
methylene chloride	5	<1.0
1,1,1-trichloroethane	5	<0.5
trichloroethylene	10	<0.5

Notes:
ND = Not detected above method detection limit
Sampling required on a monthly basis
SU= Standard Units

3. Can individual extraction wells or the entire treatment system be shut down or placed in pulsed pumping operation?

Yes, currently all four LIPA wells are shut down as they have reached their capture goals. Three of the six Airport extraction wells are shut down. Two small areas of VOC contamination remain that are associated with the Airport Treatment System and warrant the continued operation of the treatment system. One area to the west associated with monitoring wells 800-94 and 800-95 and one area to the east associated with well 800-101.

4. Are TVOC concentrations in plume core wells above or below 50 µg/L for LIPA and 10 ug/L for the Airport?

TVOC concentrations are all below 50 µg/L for all of the LIPA monitoring wells, and in fact all of these wells were below MCL's in 2021. Several Airport core wells are above a TVOC concentration of 10 µg/L. Well 800-96 located in the vicinity of well RW-6A continues to show levels of TVOC concentrations up to 76 µg/L. Well 800-130 located between well RW-6A and RTW-1A had TVOC concentrations of up to 13 µg/L in June. Wells 800-94 and 800-95 showed maximum TVOC concentrations of 76 µg/L and 22 µg/L, respectively. Well 800-101 is located immediately upgradient of well RTW-4A and showed a peak TVOC concentration of 58 µg/L.

4a. Is there a significant concentration rebound in core wells and/or extraction wells following shutdown?

No, all four LIPA and three Airport extraction wells that are shut down had VOC concentrations below MCLs in 2021.

5. Has the groundwater cleanup goal of meeting MCLs been achieved?

No, the cleanup goal has not been met for the Airport System. Based on monitoring results, MCLs are expected to be achieved by 2030 for the Upper Glacial aquifer, and in the Magothy aquifer by 2065, as required by the OU III ROD and ESD. The LIPA system has reached its cleanup goals and a Petition for Closure will be submitted.

3.2.8.7 Recommendations

The following recommendations are made for the LIPA/Airport Treatment System and groundwater monitoring program:

- Continue full time operation of wells RTW-1A, RTW-4A and RW-6A. Keep wells RTW-2A, RTW-3A and RTW-5A in standby mode. If concentrations above the capture goal of 10 µg/L TVOC are observed in any of the extraction wells or the monitoring wells adjacent to wells that are not operating, the well(s) will be put back into full-time operation.
- Maintain LIPA wells EW-1L, EW-2L, EW-3L and EW-4L in standby mode. These extraction wells may be restarted if TVOC concentrations rebound above the 50 µg/L capture goal in either the plume core monitoring wells or the extraction wells. Based upon the low VOC concentrations for the past several years in the monitoring and extraction wells for the LIPA System, submit a petition for closure of the LIPA system. All of the monitoring wells for the LIPA system were below MCL's in 2021 for individual VOC's.
- No changes to the current monitoring schedule are recommended at this time for the Airport System. Increase the sampling frequency for 17 LIPA monitoring wells from semi-annually to quarterly to support the decision for a petition for closure in 2022.
- Discontinue sampling Magothy well 000-460 as it has been below MCL's since 2015.

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3.2.9 Magothy Monitoring

This section provides a brief summary of the Magothy Aquifer Groundwater Monitoring and Cleanup Program and the remedial approach for addressing VOC contamination. The Record of Decision (ROD) states that the cleanup goal for the Magothy aquifer is to reach MCLs by 2065. The forty-four monitoring wells and nine extraction wells used to monitor the Magothy are shown on **Figure 3.2.9-1**. Ten of these wells are no longer sampled as VOC concentrations are below the AWQS. However, they may be used in the future for other monitoring programs.

Detailed descriptions of the monitoring well analytical results and remediation progress are presented in the following sections of this report: Western South Boundary, Middle Road, LIPA/Airport, North Street, OU III South Boundary, Industrial Park, Industrial Park East and William Floyd Well Field sentinel monitoring. A brief summary of the results is provided in **Table 3.2.9-1 and Figure 3.2.9-2**.

Table 3.2.9-1. Magothy Aquifer Contamination (Historical and 2021).

Location	Max. TVOC (in µg/L)		Primary VOCs	Results
	2021	Historical		
Western South Boundary	1	1	None	Magothy not impacted. Monitoring well 130-04 is located near the southwest site boundary and had a detection of freon-12 at 1 µg/L in 2021.
William Floyd Well Field Sentinel	.5	3.9	DCA	Wells 109-12 and 109-13 serve as outpost sentinel wells for the William Floyd Well Field. There were no detections of VOCs in well 109-13. Well 109-12 had one low level detection of VOCs in December 2021 (Benzene 0.5 µg/L and Toluene 0.4 µg/L).
Middle Road to South Boundary	78	340	PCE, CCl_4	VOCs identified in upper 20 to 40 feet of the Magothy at the Middle Road area where Magothy brown clay is absent (Figure 3.2-2). Well 113-09 had 78 µg/L TVOC in November, and well 113-19 had 29 µg/L in November. VOCs, not detected at the South Boundary beneath the clay.
Industrial Park	59	268	PCE, TCA	VOCs detected in the upper Magothy south of the OU III South Boundary system. Two Magothy extraction wells were installed in the Industrial Park in 2014 to capture and treat this contamination. Maximum TVOC concentrations were detected in well 000-537 at 59 µg/L in November and well 000-541 at 54 µg/L in November.
North Street to Airport	58	123	TCE, DCA	VOCs have been detected in localized areas in the upper 30 feet of the Magothy aquifer along North Street and downgradient near Vita Drive (Figure 3.2.6-2). The leading edge of this contamination is at the eastern portion of the Airport system, with 58 µg/L TVOC in well 800-101 in December, which is adjacent to Airport extraction well RTW-4A. Low VOC concentrations have been detected from the BNL South Boundary to North Street below the Magothy brown clay, at approximately 40 to 150 feet into the upper Magothy. A TVOC concentration of 8 µg/L was detected in well 000-343 in December.
South Boundary to Industrial Park East	18	570	TCA, CCl_4	TVOC concentrations were up to 18 µg/L in well 122-05 at the south boundary and off site in the Industrial Park East area, where the Magothy brown clay is absent. Magothy and Upper Glacial contamination is continuous in the industrial park. A TVOC concentration of 18 µg/L was detected in well 122-05 located at the south boundary in November. This is the maximum TVOC concentration identified in this area in 2021.
South of Carleton Drive	33	7,200	CCl_4	Historically high VOC concentrations just south of Carleton Drive where the Magothy brown clay is absent. However, data shows these high concentrations are no longer present in this area. Contamination is continuous between Magothy and Upper Glacial aquifers. Well 000-130 which had 7,200 µg/L in 1998, showed a maximum TVOC concentration of 2 µg/L in December. Well 000-460 located on Stratler Drive showed VOC concentrations below detection limits in 2021. Well 000-544 showed a high TVOC concentration of 33 µg/L in March. This well is located downgradient of the extraction well IP-EW-9. These concentrations have declined significantly from the historical highs.

The Magothy remedy identified in the *OU III Explanation of Significant Differences* (BNL, 2005a) document calls for the following:

1. Reaching MCLs in the Magothy aquifer by 2065 by active groundwater treatment and monitored natural attenuation.
2. Operation of the nine extraction wells until cleanup objectives are met as part of the treatment systems that provide capture of Magothy VOC contamination at Middle Road (RW-7 and RW-3), South Boundary (EW-17 and EW-8 (shutdown), Airport RTW-3A (shutdown in 2020) and RTW-4A, Industrial Park IP-EW-8 and IP-EW-9 (both shutdown in 2019), and LIPA EW-4L (shut down).
3. Continued evaluation of monitoring well data to ensure protectiveness. **Table 3.2.9-2** describes how each of the Magothy investigation areas is addressed by the selected Magothy aquifer remedy.
4. Institutional controls and five-year reviews.

Table 3.2.9-2. Magothy Remedy.

Area Investigated	Status of Selected Remedy
Western South Boundary	Continue monitoring and evaluate data.
William Floyd Well Field Sentinel Monitoring	Continue monitoring and evaluate data see section 3.2.10
Middle Road to South Boundary	Continue operation of the Magothy extraction wells at Middle Road (RW-3 and RW-7). Continue to monitor the three Magothy monitoring wells at Middle Road and five at the South Boundary until cleanup goals are met. Continue to operate South Boundary well EW-17.
North Street to Airport	The Airport extraction well RTW-4A should continue to operate to capture contaminants. Continue monitoring and evaluate data.
North Street East	Continue monitoring and evaluate data.
South Boundary to Industrial Park East	Continue monitoring and evaluate data.
South of Carleton Drive	The LIPA Magothy extraction well (EW-4L) on Stratler Drive has met cleanup goals and is now in standby. Continue monitoring until MCLs are met.
Industrial Park	The two industrial park extraction wells (IP-EW-8 and IP-EW-9) were placed in standby in 2019. Continue monitoring and data evaluation. Wells will be restarted if any significant rebound in concentrations is observed.

3.2.9.1 Monitoring Well Results

See the appropriate sections for detailed discussion of the monitoring well results.

3.2.9.2 Recommendations

The following are recommendations for the Magothy groundwater monitoring program:

- Continue the current monitoring frequency for the Magothy monitoring program. (**Table 1-5)**.
- Continue pumping the Magothy extraction wells at Middle Road, South Boundary (EW-17 only) and the Airport. The two IP extraction wells were placed in standby in July 2019 and continue to be monitored for rebound of VOCs. The North Street, OU III South Boundary EW-8 and LIPA and Airport RTW-3A Magothy extraction wells are currently in standby as they have reached the OU III capture goals identified for shutdown of these wells.

- Remove wells 109-12 and 109-13 from this program since they were previously used to monitor impacts to the former William Floyd Magothy aquifer supply well.
- The wells no longer sampled are being kept for potential future use for PFAS and 1,4-dioxane as part of OU X.

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3.2.10 William Floyd Wellfield Sentinel Monitoring

The Suffolk County Water Authority (SCWA) operates the William Floyd Parkway Wellfield located west of the BNL site. The wellfield contains three Upper Glacial supply wells (one screened between 126 feet bls to 162 feet bls, another between 125 feet bls to 176 feet bls and the third between 123 feet bls to 173 feet bls). In 2013, a Magothy aquifer supply well was retired and replaced by the third Upper Glacial well. See **Section 2.0** for the well pumpage data. Because the source water contributing area for this wellfield extends into the BNL property, two Upper Glacial wells were installed by SCDHS in 1996 (109-03 and 109-04) to serve as sentinel wells to monitor groundwater quality within the on-site portion of the contributing area. These wells have been sampled quarterly under a joint BNL-SCDHS program. From 2018 through 2021, Magothy wells 109-12 and 109-13 were also sampled by BNL as part of the monitoring program.

In 2021, BNL began to evaluate the downgradient migration of a high concentration PFAS plume segment and whether the migration pathway is being influenced by the William Floyd Wellfield. **Section 3.5.1** discusses the results from temporary wells installed in this area.

To improve BNL's ability to evaluate the influence the William Floyd Wellfield has on groundwater flow directions, 12 new monitoring wells were installed in August and September 2021. Water level measurements were used to prepare groundwater contours. Water table data from these wells indicate the wellfield is impacting groundwater flow on the BNL site (See **Figure 2-2** for the groundwater flow directions).

Starting in late 2021, the monitoring program was modified to include six wells: 109-03, 117-01, 117-02 (existing wells) and three new wells 117-04, 117-05, and 117-06. The screen depth for these wells range between 80 feet to 130 feet bls.

Between December 2021 and March 2022, six temporary wells were installed upgradient of the William Floyd Wellfield on BNL property to characterize the extent of the low-level PFAS detected in monitoring wells 117-01 and 117-02 (**Table 3.2.10-1**).

3.2.10.1 Groundwater Monitoring

Well Network

During 2021, nine monitoring wells were sampled which included six existing wells (109-03, 109-04, 109-12, 109-13, 117-01 and 117-02) and three new wells (117-04, 117-05 and 117-06). See **Figure 3.2.10-1**.

Sampling Frequency and Analysis

Wells 109-03 and 109-04 were jointly sampled by BNL and the SCDHS on a quarterly basis for VOCs, gamma spectroscopy, tritium, and Sr-90 (**Table 1-5**). Wells 109-12 and 109-13 were sampled by BNL quarterly for VOCs and three times in 2021 for PFAS and 1,4-dioxane. Wells 117-01, 117-02, 117-04, 117-05 and 117-06 were sampled in the fourth quarter 2021 and analyzed for PFAS and 1,4-dioxane. Complete monitoring results are presented in **Appendix C**.

3.2.10.2 Monitoring Well Results

Monitoring results for 2021 are summarized below:

Upper Glacial Wells 109-03 and 109-04: The only VOC detected was chloroform in well 109-03 at a maximum concentration of 0.9 µg/L. The AWQS for chloroform is 7.0 µg/L. 1,4-Dioxane, PFOS and PFOA were not detected in either well.

Magothy Wells 109-12 and 109-13: The maximum VOC detected was benzene in well 109-12 at a maximum estimated concentration of 0.5 µg/L. The AWQS for benzene is 1.0 µg/L. 1,4-Dioxane, PFOS and PFOA were not detected in either well.

In 2021, PFOS and PFOA were detected below the AWQS of 10 ng/L in two of the five remaining wells with maximum concentrations of 7.5 ng/L and 6.5 ng/L, respectively in well 117-01. However, in February 2022, PFOS was detected above the standard with a concentration of 13.4 ng/L in well 117-01. This well also detected PFOS at 9.7 ng/L during this sampling round. 1,4-Dioxane was detected once at an estimated concentration of 0.1 µg/L in well 117-06 in February 2022. Trace levels of bromodichloromethane, bromoform, chloroform and dibromochloromethane were detected with a maximum detection of 1.2 µg/L of bromoform in well 117-01.

The six temporary wells installed upgradient of the William Floyd Wellfield on BNL property in late 2021 and early 2022 identified PFOS up to 13 ng/L in PFC-GP-172 and PFOA at a maximum concentration of 9.8 ng/L in PFC-GP-170. The detections were within approximately 10 feet below the water table. The locations of the temporary wells are shown on **Figure 3.2.10-1**.

3.2.10.3 Groundwater Monitoring Program Evaluation

The evaluation of the William Floyd Wellfield Sentinel Monitoring Program is based on the decision rule established for this program using the groundwater DQO process.

1. Have the SCWA William Floyd Wellfield sentinel wells remained below the MCLs?

During 2021, no VOCs or radionuclides were detected at concentrations exceeding the MCLs. However, PFOS was detected in well 117-01 at 13.4 ng/L in a February 2022 sample. In addition, PFOS was detected above the MCL in one sample interval from temporary well PFC-GP-172 (13 ng/L at 88 feet bls). The remaining five temporary wells did not detect PFOS or PFOA above MCLs.

3.2.10.4 Recommendation

The following changes are recommended for the William Floyd Wellfield Sentinel Monitoring Program:

- Starting in the first quarter of 2022, the joint BNL-SCDHS monitoring program will be modified to consist of six wells, 109-03 (existing), and the five new wells 117-01, 117-02, 117-04, 117-05, and 117-06. They will be sampled on a quarterly basis for VOCs, Sr-90, Tritium, Gamma spec, 1,4-dioxane and PFAS.
- Remove wells 109-04, 109-12 and 109-13 from the program since these were used to monitor impacts to the former SCWA former Magothy aquifer supply well.

3.2.11 BGRR/WCF Strontium-90 Treatment System

The Brookhaven Graphite Research Reactor (BGRR)/ Waste Concentration Facility (WCF) Treatment System addresses the Sr-90 plumes in groundwater downgradient of these facilities. The BGRR/ WCF remedy consists of:

1. Operation of nine extraction wells using ion exchange to remove Sr-90, with discharge of the treated water to dry wells,
2. Operation of the system to minimize plume growth and meet DWS by 2070,
3. Continued monitoring and evaluation of data to ensure protectiveness, and
4. Institutional controls and five-year reviews

The analytical results indicate the presence of three Sr-90 plumes:

1. South from the former WCF area,
2. South from the BGRR (Building 701)/ Below Ground Ducts (BGD) and former Canal House and,
3. South of the former Pile Fan Sump (PFS)/Building 801 Area (Figure 3.2.11-1).

3.2.11.1 System Description

Operation of this treatment system began in January 2005. There are two extraction wells (SR-1 and SR-2) located south of the former WCF, and three extraction wells (SR-3, SR-4, and SR-5) located south of the BGRR. SR-4 and SR-5 were placed in standby mode in 2016. Four extraction wells (SR-6, SR-7, SR-8, and SR-9) were installed in 2010 to address higher Sr-90 concentrations located in the downgradient portion of the former WCF plume (in the vicinity of the HFBR) and began operation in 2011. SR-6 was placed in a pulsed pumping mode in 2016. During 2017, wells SR-4, SR-5 and SR-6 were placed in stand-by mode. Wells SR-3 and SR-7 operated on a one month on, one month off pulsed pumping schedule. In October 2018 wells SR-3 and SR-7 were also placed in stand-by mode and well SR-8 was placed in a one month on, one month off pulsed pumping mode. SR-3 was returned to full time operation in January 2019 following an increase in source area Sr-90 concentrations.

Groundwater from the extraction wells is piped to an ion exchange treatment system inside Building 855 (within the BNL Waste Management Facility). The vessels of ion exchange media are designed to treat groundwater contaminated with Sr-90 to below the 8 pCi/L DWS. In addition, the influent is also treated for low-level concentrations (less than 10 µg/L) of VOCs using liquid-phase activated carbon.

Effluent is recharged to the Upper Glacial aquifer via three drywells located approximately 850 feet west of Building 855. A SPDES equivalency permit regulates this discharge. A complete description of the system is included in the *Operations and Maintenance Manual for the Sr-90 BGRR/ WCF/PFS/Building 801 Area Groundwater Treatment System* (BNL 2012).

3.2.11.2 Groundwater Monitoring

Well Network

A network of 72 monitoring wells is used to monitor the Sr-90 plumes associated with the BGRR, former WCF, and PFS/Building 801 areas. 15 temporary wells were installed from March-May 2022 to supplement the permanent well network.

Sampling Frequency and Analysis

The well samples are analyzed for Sr-90. As noted in **Table 1-5**, several of the wells are also monitored under other programs. Monitoring well results are tabulated in **Appendix C**. In 2021, the sampling frequency for all three of the Sr-90 plume segments (BGRR, PFS/Building 801 area and

former WCF), was either annual or semi-annual for most wells. Source area monitoring wells 075-701 and 075-664 were sampled monthly to monitor Sr-90 releases from underneath Building 701/BGDs resulting from high water table conditions. The sampling frequency for monitoring wells 065-325 and 065-405 (located downgradient of Building 801) was also monthly.

3.2.11.3 Monitoring Well/Temporary Well Results

The Sr-90 plume distribution is shown on **Figure 3.2.11-1**. The distribution of Sr-90 throughout the BGRR, former WCF, and PFS/Building 801 areas is based on groundwater data obtained from the fourth quarter 2021 sampling round. Hydrogeologic cross-sections drawn along the center line of each of the plumes from the three Sr-90 source areas are shown on **Figures 3.2.11-2, 3.2.11-3, and 3.2.11-4**. In addition, historical Sr-90 concentration trends for key wells are plotted on **Figure 3.2.11-5**.

Historically, the highest Sr-90 concentration observed in these plumes (3,150 pCi/L) was during 2003 in a temporary well installed approximately 185 feet south of Building 701, and just upgradient of extraction well SR-3. The highest historical Sr-90 concentration in the former WCF area (1,560 pCi/L) occurred in 2003 in a temporary well installed immediately downgradient of the six former underground storage tanks (USTs A/B), and approximately 25 feet northwest of the former WCF (Building 811). The highest historical Sr-90 concentration associated with the former PFS/Building 801 (566 pCi/L) occurred in 1997 in a temporary well installed immediately downgradient of this area.

A comparison of the plumes from 2004 through 2021 is provided on **Figure 3.2.11-10.** The three Sr-90 plumes were characterized extensively for the first time using numerous temporary wells in 1998. The permanent monitoring network was enhanced significantly in 2004 prior to the startup of groundwater treatment operations. Groundwater flow conditions have changed significantly in this area since the late 1990s. This is due to changes in supply, process, and remediation pumping and recharge in the east-central portion of the site. Flow has shifted from a southerly to southeasterly direction in response to the changes. As a result, a number of permanent wells are no longer positioned for monitoring Sr-90. Some older wells have been dropped from the monitoring network over the years and temporary wells are increasingly required to fill data gaps. A supplement temporary well program designed to enhance the permanent monitoring network was initiated in March 2022 (**Table 3.2.11-1**) and is ongoing as of the writing of this report. The following is a summary of the 2021 monitoring data for the three Sr-90 plumes:

WCF Plume

Extraction wells SR-1 and SR-2 have been effective at capturing source area contamination and preventing any southward migration of the plume as can be viewed on **Figure 3.2.11-1**. The downgradient portion of this plume has been influenced over time by an easterly shift in groundwater flow, particularly in the vicinity of Building 750 (HFBR) and areas just to the west of that building.

- Monitoring well 065-175 has historically contained the highest Sr-90 concentrations immediately downgradient of the former WCF source area with a historical high concentration of 821 pCi/L in 2000. Sr-90 concentrations significantly declined over the years, with a peak concentration of 52 pCi/L observed during October 2021 **(Figure 3.2.11-5).** The removal of Building 811 and associated radiologically contaminated structures and soils in the WCF yard was completed in 2016. Despite some localized elevated Sr-90 levels in temporary wells sampled following the work in 2019, groundwater monitoring of the source area has not shown an appreciable increase in Sr-90 levels. Well 065-174, located approximately 40 feet to the west of 065-175, had a concentration of 19 pCi/L in October of 2021. The concentration in this well ranged between 1 pCi/L and 20 pC/L over the previous ten years.

- Sr-90 concentrations in monitoring wells located immediately downgradient of extraction wells SR-1 and SR-2 have been below the 8 pCi/L DWS since 2018. This indicates the extraction wells are capturing Sr-90 migrating south from the source area.
- Based on the 2022 temporary well results (**Table 3.2.11-1**) from the HFBR south to Temple Place, the downgradient high concentration segment of the Sr-90 plume as represented by the 50 pCi/L isocontour (**Figure 3.2.11-1**) has decreased in extent since the last characterization effort in 2018.
- Four temporary wells were installed to the east of Building 725 along an east-west transect approximately 300 feet south of Temple Place to characterize the downgradient extent of this plume (**Figure 3.2.11-1**). Sr-90 was detected above 8 pCi/L in each of these temporary wells at depths ranging between 70 feet and 120 feet bls. The highest Sr-90 concentration was 26 pCi/L at a depth of 99 feet bls in BGRR-GP-172.

BGRR (Building 701 Area) Plume

- Source area monitoring well 075-701 (screened across the water table from 35-55 ft. msl) has been sampled on a monthly basis since late 2012. The monthly data was collected to evaluate a correlation between water table elevation and Sr-90 concentration increases in the source area as shown on **Figure 3.2.11-6**. This figure plots water table elevation data from a nearby USGS monitoring well with 075-701 Sr-90 concentrations over time. The data shows a correlation between high water table periods and increased Sr-90 concentrations in well 075-701. The higher than average table elevation of almost 47 feet msl in 2019 resulted in a historical high Sr-90 concentration of 1,170 pCiL in this well. Declining water table elevations are associated with declining Sr-90 concentrations in well 075-701. In 2020, the water table decreased about six feet from its peak in 2019 and by early 2021 the Sr-90 concentration dropped below 5 pCi/L. The Sr-90 concentration during 2021 ranged from 0.6 pCi/L to 7 pCi/L.
- The BGRR cap monitoring wells have been in place for ten years. Sr-90 concentrations in monitoring wells 075-699 and 075-700 have been largely below the DWS. Initial concentrations observed in these wells were 40 pCi/L (April 2012) and 104 pCi/L (April 2013), respectively. The peak Sr-90 concentration in well 075-699 during 2021 was 3.5 pCi/l, while concentrations in 075-700 were <MDA.
- The trailing edge of the downgradient segment of the Building 701 Sr-90 plume continues to migrate south based on the data from temporary wells BGRR-GP-39 and BGRR-GP-137 as shown on **Figure 3.2.11-1**.
- Wells 085-398 and 085-403 are monitoring Sr-90 concentrations near the leading edge of the Building 701 and Building 801 plumes. Sr-90 concentrations slowly increased in 085-398 from <MDA following well installation in 2012, up to 13 pCi/L in 2019, followed by a slight decline to the 2021 value of 8 pCi/L. Sr-90 concentrations also increased in 085-403 from 1 pCi/l following well installation in 2015, up to 35 pCi/L in 2019, followed by a decline to 13 pCi/L in 2021. A new sentinel well 095-326 was installed in 2020 at a location approximately 750 feet further to the south. Sr-90 has not been detected in this well since it was installed.

Former Pile Fan Sump/Building 801 Plume

- Sr-90 concentrations in wells immediately downgradient of Building 801 continued to decline in 2021, following a general increase in 2020. The elevated 2020 Sr-90 concentrations in area wells resulted from the increased water table elevation in 2019. The highest 2020 Sr-90 concentration was observed in well 065-325 (**Figure 3.2.11-1**) at 186 pCi/L in January 2020. The October 2021 concentration in this well decreased to 24 pCi/L which is representative of the Sr-90 decline in other area wells.

- The trailing edge of the plume segment migrating under Building 725 continues to migrate south based on the data from BGRR-GP-139. The maximum Sr-90 concentration at this location during the 2018 sampling event was 208 pCi/l. The maximum concentration detected at this location in 2022 was 81 pCi/l.

3.2.11.4 System Operations

In accordance with the SPDES equivalency permit, the required frequency for Sr-90 and VOC sampling is monthly, and the pH measurement is weekly. The influent was also analyzed for tritium. Extraction well Sr-90 concentrations from 2021 are summarized on **Table F-36**. System influent and effluent concentrations are summarized on **Tables F-37** and **F-38**. **Table F-39** contains the monthly Sr-90 removal totals for the system. Operating details are given in the O&M manual for this system (BNL 2012).

Below is a summary of the system operations for 2021:

January – September 2021

From January to September 2021, wells SR-4, SR-5, SR-6, and SR-7 were in stand-by mode. Well SR-8 operated on a one month on, one month off pulsed pumping schedule. Well SR-3 was off for the month of January to replace the pump and motor. The system was off from May 21 to May 27 due to power issues and repair to the PLC. The system was off from June 2 to June 14 to change out the two carbon filtration tanks. The system treated approximately 11.5 million gallons of water during this period.

October – December 2021

From October to December 2021, wells SR-4, SR-5, SR-6 and SR-7 were in stand-by mode. Well SR-8 operated in a one month on, one month off pulsed pumping schedule. The system was off from November 3 to November 8 to replace some piping on the system. The system was off again from December 9 to January 5 for repairs of faulty sensors. The system treated approximately 2.5 million gallons of water during this period.

Extraction Well Operational Data

During 2021, approximately 14 million gallons of water were treated by the remediation system, with an average flow rate of 27 gpm. **Table 3.2.11-2** shows the monthly extraction well pumping rates while **Table F-36** shows Sr-90 concentrations.

Table 3.2.11-3
BGRR Sr-90 Treatment System
2021 SPDES Equivalency Permit Levels

Parameter	Permit Level	Max. Measured Value
pH range	5.5–8.5 SU	6.1–6.8 SU
Sr-90	8.0 pCi/L	2.1
Chloroform	7.0 µg/L	<0.5
1,1-Dichloroethane	5.0 µg/L	<0.5
Ethylbenzene	5.0 µg/L	<0.5
Methyl Chloride	5.0 µg/L	<0.5
Methylene Chloride	5.0 µg/L	<0.5
Toluene	5.0 µg/L	<0.5
1,2,3-Trichlorobenzene	5.0 µg/L	<0.5
1,1,1-Trichloroethane	5.0 µg/L	<0.5
1,2,4-Trimethylbenzene	5.0 µg/L	<0.5
Xylene, total	10.0 µg/L	<0.5

Notes:
SU = Standard Units
Required sampling frequency is monthly for Sr-90 and VOCs, and weekly for pH.

3.2.11.5 System Operational Data

During 2021, system influent Sr-90 concentrations ranged from 1.0 pCi/L to 20.5 pCi/L. Tritium was not detected in any sample during 2021. During 2021, Sr-90 was detected in the effluent at a maximum concentration of 2.1 pCi/L. There were no VOCs or Sr-90 detected above the SPDES Equivalency Permit discharge limits in the 2021 effluent samples (**Table 3.2.11-3**).

Extraction Wells

Maximum Sr-90 concentrations in each of the extraction wells during 2021 were as follows:

- SR-1 26.4 pCi/L in June
- SR-2 22.3 pCi/L in September
- SR-3 63.6 pCi/L in March
- SR-4 2.4 pCi/L in January
- SR-5 1.7 pCi/L in April
- SR-6 3.2 pCi/L in January
- SR-7 3.0 pCi/L in October
- SR-8 2.7 pCi/L in February
- SR-9 5.3 pCi/L in December

Cumulative Mass Removal

Average flow rates for each monitoring period were used, in combination with the Sr-90 influent concentrations, to calculate the number of milliCuries (mCi) removed. During 2021, the flow averaged 27 gpm. Approximately 0.44 mCi of Sr-90 was removed during 2021, for a total of 29.5 mCi removed since system start-up in 2005 (**Table F-39**). Cumulative mass removal of Sr-90 is shown on **Figure 3.2.11-7**. **Figures 3.2.11-8** and **3.2.11-9** show the Sr-90 concentrations over time for the extraction wells.

3.2.11.6 System Evaluation

The BGRR/ WCF Strontium-90 Treatment System and Monitoring Program can be evaluated in the context of the decisions established for this program using the groundwater DQO process:

1. Is there a continuing source of contamination? If present, has the source area been remediated or controlled?

WCF Plume: Yes. Buildings 810 and 811, located in the eastern portion of the former WCF yard, were demolished in 2015. Contaminated piping and soils located underneath and adjacent to the buildings were also removed and sent to an approved disposal facility following the building demolition. Some paved areas were also removed. The excavated areas were backfilled in September 2016. Sr-90 levels in extraction well SR-1, located at the southeast boundary of the former yard, increased to 100 pCi/L in 2017. Concentrations subsequently decreased and ranged from 9 pCi/L to 26 pCi/L in 2021. Sr-90 concentrations in source area monitoring well 065-175 increased from 13 pCi/L to 52 pCi/L in 2021. It appears that the remediation work (including removal of building structures and paved areas) resulted in the release of some Sr-90 to the water table. The source area remains controlled by extraction wells SR-1 and SR-2.

BGRR Plume: Yes. The source area is capped by Building 701 and an engineered cap that was completed in 2011. Following an historical high water table elevation in 2019, both the water table and Sr-90 concentrations decreased again to levels below the DWS in the source area during 2020. Concentrations remained low with a detection of 1.8 pCi/L in December 2021. Monthly monitoring will continue in this area in 2022. Until the inventory of Sr-90 in the unsaturated zone beneath Building 701 and the below ground ducts has been depleted, the water table flushing process is expected to continue intermittently. Data from monitoring well 075-701 is a reliable indicator of new Sr-90 releases. The downgradient migration of the Sr-90 plume is controlled by extraction well SR-3. The operation of extraction well SR-3 will be managed going forward based on data from both 075-701 and SR-3 and will be placed in standby mode during periods of lower water table elevation and lower source area concentrations.

PFS/Building 801 Area Plume: Yes. The Sr-90 concentration decrease in source area monitoring well 065-325 during 2020-21 correlates with the decrease in water table elevation during that timeframe. Concentrations decreased from 186 pCi/l in January 2020 to 24 pCi/L in October 2021. Sr-90 also decreased in downgradient monitoring wells 065-405 and 065-37. Monitoring will continue in this area.

2. Were unexpected levels or types of contamination detected?

WCF Plume: No, unexpected or types of contamination detected.

BGRR Plume: No. It was anticipated that declining water table elevations would result in a decrease in Sr-90 source area concentrations.

PFS/Building 801 Area Plume: No. It was anticipated that declining water table elevations would result in a decrease in Sr-90 source area concentrations. However, PFAS and 1,4-dioxane were detected above the MCLs during 2020.

3. Has the downgradient migration of the plume been controlled?

WCF Plume: The downgradient migration of the plume has been largely controlled. The eastward shift in the downgradient segment of this plume over the years has resulted in part of the plume bypassing the capture zone of SR-9. The Sr-90 concentrations to the south and east of SR-9 are well below the system capture goal of 175 pCi/L and are expected to naturally attenuate and meet the ROD cleanup goals. This downgradient segment of the plume is monitored by a combination of temporary and permanent wells.

BGRR Plume: Yes. Extraction well SR-3 is positioned to capture the migration of Sr-90 from the source area. This well was fully operational during 2021 due to elevated Sr-90 concentrations in source area well 075-701.

PFS/Building 801 Area Plume: This plume is not being actively remediated. Based on source area concentrations, the plume is expected to attenuate and meet the ROD cleanup goals.

4. Can individual extraction wells or the entire treatment system be shut down or placed in pulsed pumping operation?

WCF Plume: The cleanup goal has not yet been met. The extraction wells are capturing source area residual Sr-90 contamination immediately downgradient of the former WCF. Extraction wells SR-6, SR-7, and SR-8 are all below DWS. Extraction well SR-6 is currently in stand-by mode and concentrations remained low in 2020. SR-7 is currently in stand-by mode and Sr-90 concentrations have remained low over the past year. SR-8 is in a pulsed-pumping mode and Sr-90 concentrations have remained below the DWS since 2019. Concentrations in SR-9 have remained below MCLs since June 2020.

BGRR Plume: SR-3 has been operational since January 2019 due to increasing source area Sr-90 concentrations. The well will be placed back on standby mode due to the decrease of Sr-90 concentrations to levels below the DWS in 2021. Extraction wells SR-4 and SR-5 will be maintained in standby mode.

PFS/Building 801 Area Plume: This plume is not being actively remediated.

5. Has the Groundwater Cleanup goal of meeting MCLs been achieved?

The groundwater cleanup goal of meeting MCLs has not been achieved for these plumes.

3.2.11.7 Recommendations

The following are recommendations for the BGRR/WCF Building 701 Groundwater Treatment System and Monitoring Program:

- Continue operating wells SR-1 and SR-2 in full time mode. Maintain wells SR-4, SR-5, SR-6, and SR-7 in standby mode.
- Place extraction well SR-3 in standby mode following return to low Sr-90 concentrations in this well and source area monitoring well 075-701 in 2021.
- Place extraction well SR-8 in standby mode as Sr-90 concentrations in this well have remained below the DWS since 2019.
- Place extraction well SR-9 in pulsed pumping mode based on Sr-90 concentrations remaining below DWS since June 2020.
- Maintain a source area monitoring frequency of monthly for BGRR source area wells 075-701 and 075-664.
- Reduce the sampling frequency of source area monitoring wells 065-325 and 065-405 from quarterly to semi-annually based on the Sr-90 concentration decrease in these wells in 2021.
- Complete the temporary well plume characterization along east-west transects immediately south of the HFBR and at Temple Place.
- Sample newly constructed PFAS extraction well FF-RW-A for Sr-90 based on the location of the WCF Sr-90 plume immediately to the north.
- Obtain samples from existing monitoring wells 075-415, 075-417, 075-419, 085-171, 085-285, 085-286, 085-287, 085-01, and 085-290 for Sr-90 analysis. This data will help to evaluate the presence of Sr-90 in the vicinity of extraction well FFH-RW-A. See Figure 3.2.11-1 for these well locations.
- Obtain samples from new former firehouse TCRA monitoring wells FFH-MW01, FFH-MW02, and FFH-MW-03. This data will help to evaluate the presence of Sr-90 in the vicinity of extraction well FFH-RW-A.

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3.2.12 Chemical/Animal Holes Strontium-90 Treatment System

This section summarizes the operational data from the Chemical/Animal Holes Strontium-90 Treatment System for 2021 and gives conclusions and recommendations for future operation. This system began operation in February 2003. Due to the declining Sr-90 concentrations, a *Petition for Shutdown of the OU III Chemical Holes Strontium-90 Groundwater Treatment System* (BNL 2018b) was submitted to the regulators in March 2018 and subsequently approved. In July 2018, the system was placed in standby mode.

3.2.12.1 System Description

The Chemical/Animal Holes were located in the south-central portion of the BNL property (**Figure 1-1** and **3.2.12-1**). The area consisted of 55 pits east of the Former Landfill that were used for the disposal of a variety of laboratory chemicals and animal remains. The buried waste was excavated in 1997.

The elements of the Sr-90 groundwater remediation at the Chemical/Animal Holes are:

1. Three extraction wells pumping into an ion exchange treatment system to remove Sr-90 from the extracted groundwater, and on-site discharge of the clean water into two drywells.
2. Operation of the system to minimize plume growth, in conjunction with monitored natural attenuation to meet the 8 pCi/L DWS by 2040.
3. Continued monitoring and evaluation of the data to ensure protectiveness.

Details of operations are provided in the *Chemical/Animal Holes Strontium-90 Groundwater Treatment System Operation and Maintenance Manual* (BNL 2008b).

3.2.12.2 Groundwater Monitoring

Well Network

The Chemical/Animal Holes monitoring network consists of 29 wells. **Figures 1-2** and **3.2.12-1** show the monitoring well locations.

Sampling Frequency and Analysis

The sampling frequency for the monitoring wells was annual (standby phase) in 2021, except for the three upgradient wells that monitor the former source area which were sampled semi-annually (**Table 1-5**).

3.2.12.3 Monitoring Well Results

Figure 3.2.12-1 shows the Sr-90 plume distribution. The plume depiction is derived from third quarter 2021 monitoring well data.

The area of highest Sr-90 concentration is currently located in the former source area upgradient of extraction well EW-1. Strontium-90 was detected in July 2021 at a concentration of 72 pCi/L in monitoring well 097-314. Overall, the plume concentrations have significantly decreased since 2006 with no significant rebound identified. To date, the highest Sr-90 concentration observed in groundwater in this area was 4,720 pCi/L at well 106-99 in 2005. Sr-90 concentrations in the plume have been below 50 pCi/L since mid-2015 except for sporadic detections since 2018 in well 097-314. See **Figure 3.2.12-2** for concentration trends of key monitoring wells and **Figure 3.2.12-3** for a cross-sectional view. The complete monitoring results for all wells in this program are in **Appendix C**.

Sr-90 concentrations in monitoring wells have been significantly reduced over the last ten years. Low precipitation conditions from 2015 through 2017 resulted in the lowering of the water table which may have impacted flushing of Sr-90 from the vadose zone in the former source area during that period. This could have influenced the Sr-90 concentrations in the monitoring wells between the

former source area and EW-1. Although there was an increase in the water table elevation in 2018, there has not been a significant corresponding rebound in Sr-90 concentrations. Sr-90 concentrations in the monitoring wells in 2021 were generally consistent over the last four years.

A summary of key monitoring well data for 2021 follows:

- Sr-90 concentrations in plume core wells have declined over the past several years as shown in the trend charts. However, since mid-2018, Sr-90 concentrations in well 097-314 began to increase to a maximum of 72 pCi/L in July 2021. Strontium-90 concentrations in this well dropped off in the first quarter 2022 to 36 pCi/L. Wells 097-313 and 097-315, also located in the former source area, have not detected Sr-90 above the DWS since 2016. Thus, this a very narrow area of contamination.
- Sr-90 concentration trends in plume core wells 106-16, 106-94, 106-95 and 106-99 have significantly declined over time and have remained less than 40 pCi/L since 2016. These wells are located immediately upgradient of EW-1. As shown on the plume comparison on **Figure 3.2.12-6**, the plume has become discontinuous and Sr-90 concentrations have been significantly reduced as a result of the groundwater remediation efforts in this area.
- All remaining plume monitoring wells were less than the DWS in 2021.

3.2.12.4 System Operations

The system remained in standby mode in 2021. Therefore, the influent, midpoint, and effluent locations were not sampled (**Tables 3.2.12-1 and 3.2.12-2**). The three extraction wells were sampled quarterly for Sr-90 (**Table F-40**).

The maximum Sr-90 concentration in the extraction wells in 2021 was 21 pCi/L in EW-1. Sr-90 was not detected in EW-2 or EW-3 above the DWS in 2021.

Tables F-41, 42 and 43 contain no data since the system remained shut down since 2018.

Table 3.2.12-1.
Chemical Holes Sr-90 Treatment System
2021 SPDES Equivalency Permit Levels

Parameter	Permit Level	Max. Measured Value
pH range (SU)	5.0–8.5	NS
Sr-90 (pCi/L)	8.0	NS

Notes:
pCi/L = pico Curies per liter
SU = Standard Units
MDA = Minimal detectable activity
NS = Not sampled since the system was not operating
Required sampling frequencies are monthly for Sr-90 and pH.

3.2.12.5 System Operational Data

Concentrations of Sr-90 in EW-1 have steadily dropped-off since 2009, however there was a slight increase starting in 2019. Sr-90 concentrations in EW-2 have decreased as expected since this well became operational. Upon start-up, up to 139 pCi/L of Sr-90 was detected in EW-2 and the concentration has steadily dropped to less than the DWS since 2012 with the exception of a detection in April 2020 of 19 pCi/L. Strontium-90 concentrations dropped back down to below the DWS in all subsequent samples. Sr-90 concentrations in EW-3 have remained below the DWS since 2014. **Figure 3.2.12-4** presents the Sr-90 extraction well data over time.

Cumulative Mass Removal

The system remained in stand-by mode in 2021. The cumulative total mass of Sr-90 removed during system operations from 2003 through July 2018 is 4.94 mCi (**Figure 3.2.12-5**).

3.2.12.6 System Evaluation

The Chemical/Animal Holes Sr-90 Treatment System performance can be evaluated based on decisions identified for this system as part of the DQO process.

1. Is there a continuing source of contamination? If present, has the source area been remediated or controlled?
Yes, there is a low-level continuous source of Sr-90. The former Chemical/Animal Holes, located upgradient of extraction well EW-1 were excavated in 1997. The inventory of Sr-90 that remains in the vadose zone in this area is decreasing based on the monitoring data. The temporary well soil and groundwater samples obtained in this area in late 2015 did not identify a continuing source of Sr-90. As shown by the trends in **Figure 3.2.12-2**, Sr-90 concentrations in monitoring wells immediately upgradient of EW-1 have been significantly reduced over the last ten years. This is indicative of the remediation progress. However, there was a slight increase in Sr-90 concentrations in source area well 097-314 starting in 2018 with a maximum of 72 pCi/L in July 2021. This may be associated with the significant rise in the water table in 2018 following three years of low precipitation conditions, resulting in flushing of Sr-90 from the vadose zone. This area will continue to be monitored.

2. Were unexpected levels or types of contamination detected?
No. There were no unexpected levels or types of contamination detected in 2021.

3. Has the downgradient migration of the plume been controlled?
Yes. The monitoring data from plume perimeter wells to the west and east as well as the system bypass wells indicate that the main portion of the plume was controlled by extraction well EW-1. The downgradient portion of the plume was also controlled by operation of EW-2 and EW-3.

4. *Can individual extraction wells or the entire treatment system be shut down or placed in pulsed pumping operation?*
Following regulatory approval, the system was shut down and placed in standby mode in July 2018 and will continue to be monitored for potential rebound.

4a. Are Sr-90 concentrations in plume core wells above or below 8 pCi/L?
Sr-90 concentrations in five of 21 core wells were above 8 pCi/L in 2021 with a maximum of 72 pCi/L in well 097-314. The number of core wells above the MCL have been reduced from the nine identified in 2018.

4b. Is there a significant concentration rebound in core wells and/or extraction wells following shutdown?
There was a slight rebound in Sr-90 concentrations in source area monitoring well 097-314 in the first quarter of 2020, as well as extraction wells EW-1 and EW-2. In the third quarter of 2021 there was another slight increase in Sr-90 in well 097-314 but no corresponding rise in EW-1 or EW-2. These concentrations did not warrant restarting extraction well EW-1. Monitoring will continue to evaluate any significant rebound and increasing trends.

5. *Has the groundwater cleanup goal of meeting drinking water standards been achieved?*
The DWS has not been achieved for Sr-90 in all plume core wells. However, based on the projected attenuation of the remaining Sr-90, the DWS is expected to be achieved before 2040. Comparison of the current plume with a series of plume snapshots dating back to 2002 is provided in **Figure 3.2.12-6.**

3.2.12.7 Recommendations

The following are the recommendations for the Chemical/Animal Holes Strontium-90 Treatment System and groundwater monitoring program:

- Maintain the system in standby mode and maintain quarterly sampling of the extraction wells. If significant rebound in either the extraction wells or monitoring wells is identified, these extraction wells may be restarted.
- Maintain the annual monitoring well sampling frequency (standby phase), except for source area wells 097-313, 097-314, 097-315, which will remain semi-annual.
- If Sr-90 concentrations in the monitoring and extraction wells do not show any significant rebound, then a Petition for Closure of the treatment system may be prepared.

3.2.13 HFBR Tritium Monitoring Program

In late 1996, tritium was detected in monitoring wells near the HFBR. The source of the release was traced to the HFBR spent fuel pool. In response, the fuel rods were removed and the spent fuel pool was drained. In May 1997, a three-well groundwater pump and recharge system was constructed on the Princeton Avenue firebreak road, approximately 3,700 feet downgradient of the HFBR to capture the leading edge of the tritium plume in the event is was necessary to prevent off site migration of the plume. Extracted water was recharged at the RA V Recharge Basin. The extraction system was placed on standby status in September 2000, as groundwater monitoring data demonstrated that the plume was attenuating to concentrations below DWS in the vicinity of the extraction wells.

As described in the OU III ROD, the selected remedy to address the HFBR tritium plume included implementing monitoring and low-flow extraction programs to prevent or minimize the plume's growth. Beginning in June 2000 and ending April 2001, 20 low-flow extraction events removed 95,000 gallons of tritiated water with concentrations greater than 750,000 pCi/L. This water was sent off site for disposal.

The OU III ROD contingencies are defined as either a detection of tritium above 25,000 pCi/L in monitoring wells at the Chilled Water Facility Road, or above 20,000 pCi/L in monitoring wells along Weaver Drive. The OU III ROD contingency of exceeding 20,000 pCi/L at Weaver Drive was triggered with a detection of 21,000 pCi/L in November 2006. In 2007, extraction well EW-16 was installed to supplement the three extraction wells and the system was restarted in November 2007 as per the ROD contingency.

The *Petition For Shutdown, High Flux Beam Reactor, Tritium Plume Pump and Recharge System* (BNL 2013d) was submitted to the regulatory agencies in March 2013 based on satisfaction of the criteria established in the *2008 Groundwater Status Report* (BNL, 2009b) and documented in the *Operations and Maintenance Manual for the High Flux Beam Reactor Tritium Plume Pump and Recharge System (*BNL, 2009b). The petition was approved by the regulatory agencies in May 2013 and the extraction wells were placed in standby mode. A *Petition for Closure* (BNL, 2018c) of this system was submitted to the regulators in July 2018 and approved in March 2019. The extraction wells are now shut down.

3.2.13.1 System Description

Extraction wells EW-9, EW-10, EW-11, and EW-16 are no longer in use and will be decommissioned upon a determination that they will not be needed for use related to PFAS and 1,4-dioxane contamination.

3.2.13.2 Groundwater Monitoring

Well Network

A monitoring well network of 10 wells is utilized to monitor source area tritium concentrations immediately downgradient of the HFBR (**Figure 1-2 and 3.2.13-1**).

Sampling Frequency and Analysis

In 2019, the plume monitoring was scaled back to the area immediately south of the HFBR, based on the attenuation of the downgradient portion of the plume. The monitoring wells are sampled quarterly for tritium.

3.2.13.3 Monitoring Well Results

The fourth quarter 2021 data are posted on **Figure 3.2.13-1** for each of the wells in the monitoring network. The highest tritium concentration observed in 2021 was 4,800 pCi/L in well 075-804 in April, which is well below the 20,000 pCi/L DWS. **Appendix C** contains the complete set of monitoring well data.

Elevated tritium concentrations in wells located immediately downgradient of the HFBR have been observed to correlate with high water-table elevation events. This results in water table flushing of the remaining tritium inventory in the unsaturated zone beneath the HFBR. The correlation is evident when comparing water table elevations immediately downgradient of the HFBR with peak tritium concentrations in the monitoring wells located in this area as shown in **Figure 3.2.13-2**. The correlation between the water table and tritium concentrations is shown on **Figure 3.2.13-2**. The figure demonstrates how the magnitude and frequency of the peak tritium concentrations has diminished over the 24 years of monitoring. The water table fluctuated approximately two feet in 2021 and remained close to the long-term average elevation. The HFBR monitoring time frame has now spanned two tritium half-lives (a half-life equals 12.3 years). Based on the decreasing concentration trend, the inventory of tritium present in soils beneath the HFBR appears to have significantly decreased over the past 24 years of monitoring.

3.2.13.4 System Operations

A petition for closure of this system was approved by the regulators in 2019. No extraction well samples were collected in 2021 (**Table F-47**).

3.2.13.5 System Evaluation

The OU III HFBR Tritium Pump and Recharge System and Monitoring Program can be evaluated based on the decision rules established for this program using the groundwater DQO process.

1. Is there a continuing source of contamination? If present, has the source area been remediated or controlled?

Yes, the inventory of tritium that remains in the unsaturated zone beneath the HFBR building is decreasing based on groundwater monitoring data immediately downgradient of the building. The highest concentration observed in the source area during 2021 was 4,800 pCi/L in monitoring well 075-804. The long-term decline in the peak tritium concentration trend in wells immediately downgradient of the HFBR and water table elevations is shown in **Figure 3.2.13-2**.

2. Were unexpected levels of contamination detected?

There were no unusual or unexpected concentrations/types of contaminants observed in the monitoring wells during 2021.

3. Is the plume attenuating as expected?

Yes. Tritium slightly exceeding the 20,000 pCi/L DWS has been observed intermittently in individual wells immediately downgradient of the HFBR. **Figure 3.2.13-2** demonstrates the decline in source area concentrations over the years.

4. Has the groundwater cleanup goal of meeting MCLs been achieved?

MCLs have been attained south of Brookhaven Avenue. The area immediately downgradient of the HFBR remained below the 20,000 pCi/L MCL in 2021.

3.2.13.6 Recommendations

The following are recommendations for the HFBR Tritium Monitoring Program:

- Continue to monitor the source area with the ten wells located immediately downgradient of the HFBR. Maintain the quarterly sampling frequency.
- Maintain the downgradient monitoring wells and extraction wells until a determination is made on their utilization related to PFAS and 1,4-dioxane.

3.3 OPERABLE UNIT IV

This section summarizes the data from the Building 650 and Sump Outfall Strontium-90 Monitoring Program that monitors a Sr-90 plume and offers conclusions and recommendations for monitoring.

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3.3.1 Building 650 and Sump Outfall Strontium-90 Monitoring Program

The Building 650 and Sump Outfall Strontium-90 Monitoring Program monitors a Sr-90 plume from a remediated source area known as the former Building 650 Sump Outfall Area. This source area consisted of a depression (sump outfall) at the terminus of a discharge pipe from the building. The pipe conveyed discharges from a concrete pad located approximately 1,200 feet to the west, where radioactively contaminated clothing and equipment were decontaminated beginning in 1959 (**Figure 3.3.1-1**).

3.3.1.1 Groundwater Monitoring

The network consists of 24 wells used to monitor Sr-90 concentrations originating from the former Building 650 Sump Outfall Area (**Figure 1-2 and 3.3.1-1**). During 2021, the monitoring wells were sampled either annually or semiannually, and the samples were analyzed for Sr-90 (**Table 1-5**). During 2020 wells 076-420 and 076-421 were installed to evaluate for potential impacts to groundwater from Demolition and Decommissioning (D&D) of Building 650. These wells were installed prior to any D&D activity and will monitor any releases caused by the disruption of the former foundation and soils during the D&D process. D&D activity was completed during 2021. Additionally, wells 076-418 and 076-419 were installed during 2020 to provide long term downgradient monitoring of the Sump Outfall Area. These additional wells are incorporated into the monitoring well network and are depicted on **Figure 3.3.1-1.**

3.3.1.2 Monitoring Well Results

The complete monitoring well radionuclide sampling results can be found in **Appendix C**. The Sr-90 plume continues to attenuate as it migrates away from the former Building 650 Sump Outfall Area. The locations of the monitoring wells and the Sr-90 concentrations are shown on **Figure 3.3.1-1**. The leading edge of the plume, as defined by the 8 pCi/L DWS is presently located in the area immediately north of the NSLS II Facility.

Sr-90 concentrations in source area wells 076-13 and 076-168 have remained below DWS over the past year (**Figure 3.3.1-2**). There has been a shift in the groundwater flow direction to the southeast in this area as shown on **Figure 2-2**. This shift is attributable to the reduction of treated water discharging into the RAV basin. This shift could also be contributing to the decrease in concentrations in some of the plume core wells e.g., (076-24, 076-182, and 076-416) over the past several years. Furthermore, it is possible a shift back towards the southwest could occur when discharges to the RAV basin increase upon completion of construction of the Former Firehouse PFAS Treatment System.

Well 076-184, located to the east of wells 076-182 and 076-416, increased to its historical high of 52.6 pCi/L in August of 2021. Well 076-184 showed an increase from 3.8 pCi/L in 2018 to 52.6 pCi/L in 2021. These Sr-90 concentrations may still be the result of fluctuating groundwater elevations and plume shift in the area.

Monitoring well 076-25 has seen a decrease in Sr-90 concentrations from a high of 12 pCi/L in 2018 to 2.9 pCi/L in 2021. This well is located approximately 160 feet to the south-southeast of Building 650. Again, this decrease in concentrations may be the result of plume shift and fluctuating groundwater elevations.

Wells 076-420 and 076-421 were installed in 2020 to evaluate for potential impacts to groundwater from D&D of Building 650. These wells were initially sampled in October of 2020 and the results serve as a baseline. Both wells 076-420 and 076-421 had shown a slight increase from initial sample results in Sr-90 during 2021 with a result of 1.4 pCi/L and 1.0 pCi/L respectively.

Wells 076-418 and 076-419 were installed downgradient of the Sump Outfall Area at locations where data from 2019 indicated the need for permanent monitoring wells based on the eastward shift of the plume. These wells 076-418 and 076-419 are located approximately 200 feet and 425 feet southwest of 076-168. The Sr-90 results collected during 2021 were 10.9 pCi/L and 17.3 pCi/L respectively. The Sr-90 concentrations in these wells have remained stable since 2020.

3.3.1.3 Groundwater Monitoring Program Evaluation

The monitoring program can be evaluated based on the decision rules identified from the groundwater DQO process.

1. Is there a continuing source of contamination? If present, has the source area been remediated or controlled?

The source area was remediated in 2002 yet there are still persistent detections of Sr-90 in the Sump Outfall Area at levels near or above the DWS. Based on the Sr-90 concentrations in source area monitoring wells, any residual contamination that may remain at depth in the unsaturated zone above the water table appears to be minimal.

2. Were unexpected levels or types of contamination detected?

No. All Sr-90 detections in 2021 were within the expected concentration range. Wells near the sump outfall area have remained stable. Some slight increases in Sr-90 near the area of former Building 650 have been observed, however it is to be expected following the D&D activities associated with the removal of Building 650. Monitoring well 076-184 had a historic high value of 52.6 pCi/L however this is indicative of downgradient plume migration shift which has been observed due to changes in recharge in the area.

3. Is the plume naturally attenuating as expected?

The groundwater modeling conducted in 2010 predicted that the plume will attenuate to below the 8 pCi/L DWS by approximately 2034. The leading edge of the plume, as defined by the DWS, is predicted to advance approximately 250 feet south of Brookhaven Avenue. This is currently where the leading edge of the plume is located.

4. Has the groundwater cleanup goal of meeting MCLs been achieved?

No. There were four monitoring wells exceeding the MCL in 2021 (076-184, 076-28, 076-418 and 076-419). Therefore, the performance objectives have yet to be achieved. The groundwater plume continues to degrade due to natural attenuation (i.e., radioactive decay and dispersion).

3.3.1.4 Recommendations

The following are recommendations for the Building 650 and Sump Outfall Strontium-90 Monitoring Program:

- No changes to the current monitoring program are warranted at this time.

3.4 OPERABLE UNIT VI EDB TREATMENT SYSTEM

The OU VI EDB Treatment System addresses an EDB plume in groundwater currently located off site from south of North Street, southward for approximately 2,500 feet. EDB was used during the 1970s as a fumigant for the BNL Biology Department's biology fields located in the southeastern portion of the site (**Figure 3.4-1**). In the mid-1990s, low levels of EDB were detected in groundwater near the fields. Higher levels were found migrating toward the southern site boundary and off site to the south. In addition, the depth of the plume increased within the Upper Glacial aquifer to the south. EDB has not been detected on BNL property since 2009 and on-site monitoring was discontinued in 2016.

3.4.1 System Description

A groundwater remediation system to address the off-site EDB plume began routine operations in August 2004. The OU VI EDB Treatment System consists of two extraction wells and two recharge wells. A complete description of the system is included in the *Operations and Maintenance Manual for the OU VI EDB Groundwater Treatment System* (BNL 2004).

3.4.2 Groundwater Monitoring

Well Locations

A network of 23 wells monitor the EDB plume from North Street to locations on private property south of North Street and west of Weeks Avenue (**Figure 3.4-1**). These include three monitoring wells (000-570, 000-571 and 000-572) installed in July 2021.

Sampling Frequency and Analysis

The OU VI EDB plume monitoring program is in the O&M phase (**Table 1-8**). The sampling frequency for 11 of the plume core and perimeter wells is semi-annual (**Table 1-5**). Three perimeter wells located upgradient of the plume are sampled annually. The remaining nine wells are sampled quarterly. The wells are analyzed for EDB using EPA Method 504. The federal DWS for EDB is 0.05 µg/L.

3.4.3 Monitoring Well Results

Appendix C contains the complete analytical results of the OU VI EDB monitoring well sampling program. The distribution of the EDB plume for the fourth quarter of 2021 is shown on **Figure 3.4-1**. Six temporary vertical profile wells were sampled in 2021. Data from four of the six wells that were sampled between March and May 2021 were discussed in the *2020 Groundwater Status Report* (2021e). The results for the remaining two vertical profile wells sampled in June and July 2021 are discussed below. Based on the characterization and geologic data obtained in 2020 and 2021, the plume is deeper in the Upper Glacial aquifer than originally understood. This is depicted on cross section Q–Q' (**Figure 3.4-2)**. See **Figure 3.4-3** for historical EDB trends for key monitoring wells. A summary of key monitoring well data for 2021 follows:

- As a follow-up to temporary vertical profile wells VP-02-2021 and VP-03-2021 installed in March and April 2021 immediately upgradient of the extraction wells, two new monitoring wells were installed in July 2021 at the same location to monitor elevated EDB concentrations in the deeper portion of the aquifer. These wells (000-571 and 000-572) are screened approximately 45 and 65 feet deeper than extraction wells EW-1E and EW-2E, respectively. The only samples collected in 2021 for these wells were in the fourth quarter, with EDB detected at 1.46 µg/L and 0.78 µg/L in 000-571 and 000-572, respectively.
- In July 2021, a third monitoring well (000-570) was installed at the location of VP-01-2021 (installed in March 2021) to also monitor elevated EDB concentrations in the deeper portion of

the aquifer. This well is located approximately 350 feet upgradient of EW-2E and is screened between 155 and 165 feet bls. The fourth quarter sample detected EDB at 1.25 µg/L.

- As recommended in the *2020 Groundwater Status Report* (BNL 2021e), two temporary vertical profile wells were installed in June and July 2021 (see **Figure 3.4-1**) for the purpose of obtaining updated geologic information as well as groundwater quality data to determine the presence of deeper EDB in these areas. Well VP-05-2021 was installed downgradient of EW-1E and just to the west of bypass well 000-508. Well VP-06-2021 is located approximately 500 feet upgradient of EW-1E on the western edge of the plume. The data from these temporary wells is presented in **Table 3.4-3**. Well VP-05-2021 did not detect EDB in any of the sample intervals. The maximum EDB detected in VP-06-2021 was 0.43 µg/L at 157 feet bls. In general, the depth of EDB detections in the temporary wells installed in 2021 were deeper than anticipated. As noted above, data from four of the six temporary wells that were sampled between March and May 2021 were presented in the *2020 Groundwater Status Report* (BNL 2021e). One of the six temporary wells was also analyzed for 1,4-dioxane. Well VP-01-2021 detected 1,4-dioxane up to 0.35 µg/L at 147 feet bls.
- EDB concentrations have declined significantly in upgradient perimeter well 000-173. The 2021 sample detected EDB at 0.03 µg/L. Concentrations in 000-175 have remained below the DWS since 2011.
- Well 000-283, located approximately 1,700 feet upgradient of extraction well EW-1E, detected the maximum historical EDB concentrations in the plume of 7.6 µg/L in 2001. This well has seen a steady drop in EDB concentrations since 2005, and remained below the DWS in 2021. Well 000-284, located east of 000-283, also continues to exhibit a significant drop in EDB concentrations from a high of 6.8 µg/L in 2003 to below the DWS for the first time in 2021.
- Monitoring wells 000-567 and 000-568, installed in October 2020, have consistently detected EDB above the DWS with a maximum EDB concentration of 0.51 µg/L in 000-568 in the first quarter. These wells were installed along the centerline of the plume to enhance the monitoring of upgradient well 000-507.
- EDB-VP-03-2021 was installed approximately 400 feet south of EW-2E and no EDB was detected in this profile.
- Core well 000-520, located on the eastern edge of the plume near the OS-6 treatment building, has shown an increasing trend in EDB concentrations starting in 2019. During 2021 the maximum EDB concentration was 0.24 µg/L.
- The three bypass monitoring wells have not detected EDB since they were installed in 2005. As noted above, geologic and groundwater quality data were obtained from temporary well VP-05-2021 to determine the presence of deeper EDB downgradient of EW-1E. There were no EDB detections in any of the sample intervals. In addition, results for EDB-VP-03-2021, installed near bypass well 000-519 and discussed in the *2020 Groundwater Status Report* (BNL 2021e) did not detect EDB.

The southern migration of the plume is observed by analyzing the trends on **Figure 3.4-3**. Comparing the plume's distribution from 1999 to 2021 (**Figure 3.4-4**), as well as the EDB concentrations in monitoring wells just south of North Street, helps to illustrate the southern movement of the plume as well as the reduction in plume extent. Overall, peak EDB concentrations declined from 7.6 µg/L in 2001 (in well 000-283) to 1.46 µg/L in 2021 (in recently installed well 000-571).

3.4.4 System Operational Data

The sampling frequency of the extraction wells is quarterly. In conformance with the SPDES equivalency permit, the sampling frequency for the influent and effluent is monthly. All OU VI system samples were analyzed for VOCs and EDB, and the effluent sample was analyzed monthly for pH. **Table 3.4-1** provides the effluent limitations for meeting the requirements of the SPDES equivalency permit. During 2021, equivalency permit limits were not exceeded.

January – September 2021

Well EW-2 was off from March 22 to April 12 for a faulty flow meter. The system was down for the majority of August for repairs to the programmable logic control panel. Well EW-1 remained off until September 22 to repair the starter motor. The system treated approximately 114 million gallons of water during this period.

October – December 2021

The system ran normally for this period. The system treated approximately 45 million gallons of water for this period.

Extraction Wells

During 2021, the system treated approximately 159 million gallons of water, with an average flow rate of approximately 305 gpm. **Table 2-2** contains the monthly pumping data for the two extraction wells, and **Table 3.4-2** shows the pumping rates. VOC concentrations for EW-1E (000-503) and EW-2E (000-504) are provided on **Table F-44**. In 2021, EDB was detected in all four quarterly samples in EW-2 and in two quarterly samples in EW-1. In 2021, the extraction wells had a maximum EDB detection of 0.057 µg/L in EW-2E in January, which is just above the DWS. No other VOCs were detected in the extraction wells above the AWQS.

Figure 3.4-5 shows the EDB concentrations in the extraction wells over time. EDB levels in EW-1E remained relatively stable from 2008 through 2013, just above the DWS. Since then, concentrations diminished to below the DWS. EDB in EW-2E has remained steady from 2012 through 2019, with detections just below the DWS. EDB concentrations in EW-2E began increasing in 2020 to just above the DWS.

System Influent and Effluent

EDB was detected during all the monthly sampling events of the system influent throughout 2021. The maximum influent concentration was 0.054 µg/L. During 2021, the system effluent was below the regulatory limits specified in the SPDES equivalency permit (**Table 3.4-1**). Influent and effluent results are reported on **Table F-45** and **Table F-46**, respectively.

Cumulative Mass Removal

No cumulative mass removal calculations were performed because of the low detections of EDB historically below the DWS in the system influent. The last influent detection exceeding the DWS was 0.054 µg/L in September 2021. The last previous detection above the DWS was in 2014.

3.4.5 System Evaluation

The OU VI EDB System performance can be evaluated based on decisions identified in the groundwater DQO process.

1. Is there a continuing source of contamination? If present, has the source area been remediated or controlled?

There is no continuing source of EDB.

2. Were unexpected levels or types of contamination detected?

Yes. EDB concentrations in the deeper zones of vertical profile wells installed in 2020/2021 were higher than expected. The deeper contamination was also observed in newly installed monitoring wells 000-567, 000-568, 000-570, 000-571 and 000-572. In addition, observations of geologic data obtained from 2020/2021 vertical profile wells indicates that the Gardiners Clay unit is not present beneath the southern portion of this plume as was previously understood. This accounts for the deeper than expected EDB recently observed.

In addition, 1,4-dioxane was detected above the DWS in three monitoring wells in 2020. See **Section 3.5.2** of the *2020 Groundwater Status Report.*

3. Has the downgradient migration of the plume been controlled?

The detection of EDB in recent temporary and permanent wells in the vicinity of the extraction wells presents the possibility that EDB could be migrating beneath the capture zones. Several of these new wells are screened between 45 and 65 feet deeper than extraction wells EW-1E and EW-2E. There have been no EDB detections in the bypass wells or the two temporary wells installed downgradient of the extraction wells. However, there is the potential that the deeper EDB may have passed by the extraction wells and is held up in a stagnation zone prior to reaching the bypass wells. As described in the capture assessment performed by Arcadis in the *Assessment of OU VI EDB Capture and Cleanup Timeframe* (Arcadis 2021) (**Appendix H**), the downward vertical hydraulic gradients including recharge of treated water through the diffusion wells are unlikely to be overcome by pumping to the degree necessary to achieve an additional 50 to 60 ft of capture vertically. As such, it is unlikely this deep portion of the EDB plume is captured by the current treatment system. The updated hydrogeologic conditions, including groundwater quality, are significant enough to change the original basis of design for the treatment system. Groundwater modeling followed by design of additional deeper extraction wells are recommended in this report to address this issue.

Table 3.4-1
OU VI EDB Treatment System
2021 SPDES Equivalency Permit Levels

Parameters	Permit Limit (µg/L)	Max. Measured Value (µg/L)
pH (range)	5.0 – 8.5 SU	5.1 – 6.1 SU
ethylene dibromide	0.03	<0.02
chloroform	7.0	1.1
1,1-dichloroethene	5.0	<0.50
1,1,1-trichloroethane	5.0	<0.50
methyl chloride	5.0	<0.50
methylene chloride	5.0	<0.50

Notes:
Required sampling frequency is monthly for VOCs and pH.
SU = Standard Units

4. Can individual extraction wells or the entire treatment system be shut down or placed in pulsed pumping operation?

No, the system has not met all shutdown requirements and is operating longer than the eight to ten years originally envisioned. Although EDB concentrations in EW-2E have been slightly above the DWS since 2020, the higher concentration portion of the plume is still evident in the plume core wells and temporary wells. As presented in the cleanup timeframe assessment (Arcadis 2021), the movement of the plume off-site has slowed with continued migration south of North Street towards the extraction wells. The reduction in average velocity from north to south aligns with the recently observed presence of the upper Glacial Silt and Clay deposit **(Figure 3.4-2**). In addition to impeding vertical flow, this unit would also impede horizontal flow relative to the sandier portions of the Upper Glacial aquifer above and below. Based on the depth of the plume in relation to the extraction wells and the Arcadis assessment performed in 2021, a modification to the remediation system is planned.

4a. Are EDB concentrations in plume core wells above or below 0.05 µg/L?
In 2021, 11 of 17 plume core wells show EDB concentrations greater than the DWS.

4b. Is there a significant concentration rebound in core wells and/or extraction wells following shutdown?
The OU VI EDB system has not been pulsed pumped or shut down.

5. Has the groundwater cleanup goal of meeting MCLs been achieved?
The MCL has not been achieved for EDB based on the data from plume core wells and recent vertical profile wells.

3.4.6 Recommendations

The following recommendations are made for the OU VI EDB Treatment System and groundwater monitoring program:

- Maintain full time operation of the treatment system and continue quarterly sampling of the extraction wells.
- Based on the data collected from the deeper vertical profile wells, the new monitoring wells and the capture and cleanup timeframe assessment, the following is recommended:
    - Update the Regional Groundwater Flow Model to reflect the current hydrogeologic conditions, then evaluate extraction/recharge scenarios to modify the current treatment system so that capture and cleanup timeframe objectives of meeting DWS by 2030 are achieved.
    - Following the modeling, prepare a system design modification for submittal to the regulators.

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3.5 OPERABLE UNIT X

A class of chemicals called Per- and Polyfluoroalkyl Substances (PFAS) and the chemical 1,4-dioxane have impacted soil and groundwater quality in several areas of the BNL site. PFAS have been used in a wide variety of common products including non-stick pans, water-repellent clothing, and Class B firefighting foam. 1,4-Dioxane has been broadly used as a stabilizer in chlorinated solvents such as 1,1,1-trichloroethane (TCA), and is present in some paint strippers, greases, waxes, laundry detergents, shampoos, and personal care products.

At BNL, PFAS have impacted groundwater quality in areas where firefighting foam was used for training, fire suppression systems, and emergency response, whereas 1,4-dioxane has impacted groundwater quality in solvent spill areas. In August 2020, NYS established drinking water standards (referred to as Maximum Contaminant Levels or MCLs) of 10 nanograms per liter (ng/L) for the PFAS compounds perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA), and 1.0 microgram per liter (µg/L) for 1,4-dioxane.

Since 2017, BNL has been investigating the impact that these chemicals are having on groundwater quality at the Laboratory and nearby downgradient areas. The results of the investigations conducted from 2017 through early 2020 were summarized in the *2018 BNL Groundwater Status Report* (BNL 2019b) and the *2019 BNL Groundwater Status Report* (BNL 2020c). Results for characterization efforts conducted during 2020 were presented in the *Phase 4 Characterization Report* (BNL 2021b),the *Time Critical Removal Action Characterization Report* (BNL 2021b) and were summarized in the *2020 BNL Groundwater Status Report* (BNL 2021e). Data collected during 2021 are summarized in **Section 3.5.1** and **Section 3.5.2** of this report.

To establish the appropriate CERCLA regulatory framework for potential future remedial actions for PFOS, PFOA and 1,4-dioxane, new Areas of Concern (AOCs) 33 and 34 were established. The AOCs identified below are now included under newly established Operable Unit X (OU X):

AOC 33 – PFOS and PFOA groundwater and soil contamination:

- Sub-AOC 33A Former Bubble Chamber Experiment and Blockhouse Area
- Sub-AOC 33B Building 924 Area
- Sub-AOC 33C East of Building 902
- Sub-AOC 33D Current Firehouse
- Sub-AOC 33E Former Firehouse
- Sub-AOC 33F Major Petroleum Facility
- Sub-AOC 33G Building 526 Area
- Sub-AOC 33H Recreation Center Area
- Sub-AOC 33I Sewage Treatment Plant
- Sub-AOC 33J Building 170 Area (Formal AOC Classification is Pending)
- Sub-AOC 33K Current Landfill (Formal AOC Classification for PFAS/14D Pending)

AOC 34 – 1,4-Dioxane groundwater contamination

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3.5.1 PFOS AND PFOA IN GROUNDWATER

Per- and Polyfluoroalkyl Substances (PFAS) have impacted soil and groundwater quality in several areas of the BNL site. Although PFAS have been used in a wide variety of industrial processes and commercial products, at BNL the impact that PFAS is having on groundwater quality is primarily the result of the past use of Class B firefighting foam that contained fluorinated surfactants. In 2016, the US EPA has established a Lifetime Health Advisory Level (HAL) of 70 ng/L for the combined concentrations of two PFAS compounds, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). In August 2020, New York State promulgated individual drinking water standards of 10 ng/L for PFOS and PFOA.

In 2017, the BNL potable water supply wells were sampled for PFAS for the first time. The samples were analyzed for the same six PFAS compounds that were evaluated under the Third Unregulated Contaminant Monitoring Rule (UCMR3) program. PFAS were detected in samples from three of BNL's five active water supply wells (BNL-6, BNL-10 and BNL-11). Following these detections, BNL searched available records on the use of firefighting foam that may have contained PFAS. This effort identified eight areas where foam had been used for firefighter training or the maintenance of fire suppression systems during the period of 1966 through 2008 (BNL 2019b). To determine whether foam releases at these eight areas had impacted groundwater quality, BNL began a multiphase characterization effort:

Phase 1: In May 2018, BNL installed seven temporary wells to characterize the distribution of PFAS within the 2-year (travel time) source water contributing areas of the BNL supply wells (BNL 2018a). The primary goal of the effort was to determine whether PFAS concentrations in the source water contributing areas are at high enough levels to potentially affect future supply well operations.

Phase 2: From August through November 2018, thirty temporary groundwater monitoring wells were installed in the eight areas where firefighting foam had been released to soil (BNL 2018f).

Phase 3: From December 2018 through January 2019, samples were collected from on-site groundwater treatment systems, monitoring wells downgradient of two closed landfills, the Sewage Treatment Plant (STP) effluent, and in select Operable Unit V monitoring wells located downgradient of the STP (BNL 2018g). In February 2019, BNL sampled 33 existing monitoring wells and installed 11 temporary wells positioned along the southern site boundary (BNL 2019a).

Phase 4: From January through September 2020, groundwater samples were collected from 360 on-site and off-site monitoring wells and extraction wells associated with five off-site groundwater treatment systems (BNL 2021a).

Phase 5/Time Critical Removal Action (TCRA): From July 2020 through January 2021, groundwater samples were collected from 76 temporary wells installed to characterize the high concentration segments of the PFAS plumes associated with the current and former firehouse facilities (BNL 2021c). These data were used to design groundwater treatment systems for the two plumes (BNL 2021g).

The monitoring results for Phases 1, 2 and 3 were presented in the *2018 BNL Groundwater Status Report* (BNL 2019b). Monitoring results for Phase 4 and Phase 5/TCRA were presented in two detailed characterization reports (BNL 2021b and BNL 2021c) and summarized in the *2020 BNL Groundwater Status Report* (BNL 2021e). The characterization conducted to date has shown that PFOS and PFOA concentrations exceed the NYS 10 ng/L MCL in all eight known foam release areas. Furthermore, PFOS and PFOA were also detected in the shallow groundwater near the STP, and PFOA was detected downgradient of the Current Landfill at concentrations that exceed 10 ng/L. During 2021-2022, a ninth foam release area was discovered near Building 170, where firefighter training occurred from

approximately 1986 until the early 1990s. To date, the highest PFOS and PFOA concentrations were detected downgradient of the training areas at the current and former firehouse facilities and the Building 170 training area. Downgradient of the current firehouse, PFOS and PFOA were detected at concentrations up to 12,200 ng/L and 602 ng/L, respectively. Downgradient of the former firehouse facility area, PFOS and PFOA were detected at concentrations up to 5,210 ng/L and 1,400 ng/L, respectively. And at the Building 170 training area, PFOS and PFOA were detected at concentrations up to 8,470 ng/L and 66 ng/L, respectively.

3.5.1.1 PFOS/PFOA Monitoring

Well Network

A permanent monitoring program has not been established specifically for PFAS. During 2021, BNL characterized downgradient sections of the current firehouse plume and the Building 170 training area using 30 temporary Geoprobe wells. Six additional temporary wells were used to characterize PFAS in the southwest portion of the site, and five temporary vertical profile wells were installed in the Middle Road and South Boundary Areas. During 2021, BNL installed 12 permanent monitoring wells to obtain water level data to better characterize the impact the SCWA's William Floyd well field is having on groundwater flow directions in the southwest portion of the BNL site. Three of the new wells were incorporated into the William Floyd Wellfield Sentinel Program, which now includes routine sampling for PFAS.

Sampling Frequency and Analysis

During 2021, 41 temporary wells were installed to characterize PFOS/PFOA in the Upper Glacial aquifer. To evaluate the vertical distribution of PFOS and PFOA in the aquifer, multiple samples were collected at each well. Nine permanent wells were also sampled as part of the William Floyd Wellfield Sentinel Monitoring Program (**Section 3.2.10**). The groundwater samples were analyzed by EPA Method 537.1 for 23 PFAS. Monitoring results for the temporary wells are presented in **Tables 3.2.2-5**, **3.2.3-5**, **3.2.10-1** and **3.5.1-1**, and data for the permanent monitoring wells are presented in **Appendix C.**

3.5.1.2 Monitoring Results

During 2021, PFAS monitoring was conducted in five general areas:

1) *Area West of Current Firehouse*: Four temporary wells were installed in the open field west of the current firehouse facility to verify where PFOS/PFOA concentrations dropped to less than 10 ng/L (**Figure 3.5.1-1**). The western margin of the plume was defined using temporary wells PFC-GP-149 and PFC-GP-150, where PFC-GP-149 had PFOS and PFOA concentrations up to 25.3 ng/L and 10.9 ng/l, respectively (**Table 3.5.1-1**).

2) *Building 170 to West Princeton Avenue*: Temporary wells were used to track a PFAS plume originating from the parking lot area west of dormitory Building 170 to approximately 1,000 feet south to West Princeton Avenue (**Figure 3.5.1-1**). The highest PFAS concentrations were detected near the southwest portion of the parking lot in temporary well PFC-GP-182, with PFOS and PFOA concentrations of 8,470 ng/L and 66 ng/L, respectively (**Table 3.5.1-1**). Near West Princeton Avenue, the highest PFAS concentrations were detected in temporary well PFC-GP-160, with PFOS and PFOA concentrations of 2,330 ng/L and 45 ng/L, respectively.

3) *BNL Apartment Area*: Eight temporary wells were installed approximately 1,400 feet south of West Princeton Avenue to evaluate the downgradient portions of the Building 170 plume and current firehouse plume (**Figure 3.5.1-1**). PFOS and PFOA concentrations were less than 10 ng/L in the five westernmost wells (PFC-GP-162 through PFC-GP-166). However, PFOS and PFOA that are likely part of the current firehouse plume were detected in the three eastern wells (PFC-GP-167 through PFC-GP-169) with PFOS up to 552 ng/L and PFOA up to 34 ng/L.

4) *William Floyd Sentinel Well Area*: Four of the new permanent wells and six temporary wells were used to evaluate PFAS concentrations in the on-site section of the source water contributing area for the well field (**Figure 3.5.1-1**). PFOS and PFOA were detected at concentrations less than the 10 ng/L MCL in several permanent and temporary wells located closest to the William Floyd well field. In temporary well PFC-GP-172, PFOS concentrations slightly exceeded the MCL, at 13 ng/L. During February 2022, the PFOS concentration in well 117-01 slightly exceeded the MCL, at 13.4 ng/L. The monitoring results for the William Floyd Sentinel Well Program are described in more detail in **Section 3.2.10**.

5) *OU III Middle Road and South Boundary*: During 2021, three temporary wells were installed in the Middle Road area and two wells were installed in the South Boundary area (**Sections 3.2.2 and 3.2.3**). In the Middle Road area, PFOS exceeded the 10 ng/L MCL in all three temporary wells, with a maximum concentration of 12.1 ng/L in MR-VP-03-2021. PFOA exceeded the 10 ng/L MCL in two of the temporary wells, with a maximum concentration of 78 ng/L in MR-VP-02-2021. In the two profile wells installed at the South Boundary, PFOA exceeded the 10 ng/L MCL in both wells, with a maximum concentration of 13 ng/L in SB-VP-01-2021.

3.5.1.3 PFOS and PFOA Groundwater Monitoring Program Evaluation

The 2021 monitoring data were evaluated using the following general DQO statement.

Is there a continuing source of PFOS/PFOA contamination? If present, has the source been remediated or controlled?

Yes, there are continuing sources of PFOS and PFOA. PFOS and PFOA have been detected in the groundwater downgradient of nine identified firefighting foam release areas, in the STP area, and downgradient of the Current Landfill at concentrations that exceed the 10 ng/L MCLs. The TCRA project is the first step under the CERCLA program to control PFOS/PFOA contamination with the installation of two groundwater remediation systems to address the high concentration plume segments downgradient of the current and former firehouse facilities and the former training area near Building 170. The need for additional source controls and remediation of contaminated groundwater in other on-site and off-site areas will be determined following completion of the planned Remedial Investigation/Feasibility Study (RI/FS), and discussions with the regulatory agencies.

3.5.1.4 PFOS/PFOA Monitoring Recommendations

The following are recommended for the PFOS/PFOA monitoring program for 2022:

- Install temporary wells south of West Princeton Avenue to determine the location of the leading edge of the Building 170 PFAS plume.
- Develop a Work Plan for conducting the OU X RI/FS.
- Conduct startup monitoring for the current and former firehouse groundwater treatment systems.
- Begin routine sampling of the 95 new monitoring wells installed downgradient of the current and former firehouse facilities and the former Building 170 training area.

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3.5.2 1,4-DIOXANE IN GROUNDWATER

The chemical 1,4-dioxane is an emerging contaminant of concern in areas across the United States. It has been broadly used in numerous commercial and personal care products, including as a stabilizer for the solvent 1,1,1-trichloroethane (TCA). At BNL, past releases of TCA have impacted groundwater quality in several on-site and off-site areas. In August 2020, New York State promulgated a drinking water standard (MCL) for 1,4-dioxane of 1.0 µg/L. To date, only trace levels of 1,4-dioxane are periodically detected in samples from BNL's potable water supply wells. Following a request from the NYSDEC to obtain baseline data for the presence or absence of 1,4-dioxane in groundwater, in 2017 BNL began a multiphase characterization effort.

In January 2017, twenty-two on-site and off-site groundwater monitoring wells that have or had detectable levels of TCA were sampled (BNL 2018e). Seventeen of the 22 samples collected had detectable levels of 1,4-dioxane, with a maximum concentration of 18.6 µg/L in OU III Industrial Park monitoring well 000-530. In late 2017 and early 2018, BNL collected additional samples from groundwater treatment system effluent, the Sewage Treatment Plant (STP) effluent, and from monitoring wells downgradient from the Former Landfill, the Current Landfill and the STP. The highest 1,4-dioxane concentration was 9.1 µg/L, detected in off-site monitoring well 000-122 located in the former OU V monitoring program area. 1,4-Dioxane was detected in four of the five treatment system effluent samples, with a maximum concentration of 7.14 µg/L detected in the effluent from the OU III Industrial Park Treatment System. 1,4-Dioxane was not detected in the STP effluent.

In early 2019, samples were collected from 33 permanent wells and 11 temporary wells positioned along the southern boundary (BNL 2019a). The highest 1,4-dioxane concentrations were detected in the OU III Western South Boundary area, with a maximum concentration of 15.2 µg/L in deep Upper Glacial monitoring well 126-18. In the OU III South Boundary area, the maximum 1,4-dioxane concentration was 6.2 µg/L in deep Upper Glacial monitoring well 121-47.

During the 2020 Phase 4 and Time Critical Removal Action (TCRA) characterization projects, samples collected from 360 permanent on-site and off-site monitoring wells, 35 on-site temporary wells, and extraction wells and effluent samples from on-site and off-site treatment systems were tested for 1,4-dioxane (BNL 2021b and BNL 2021c). 1,4-Dioxane was detected in several on-site and off-site areas at concentrations exceeding the 1.0 µg/L MCL. The highest 1,4-dioxane concentration was detected in Western South Boundary monitoring well 119-11 at 23.9 µg/L.

3.5.2.1 1,4-Dioxane Groundwater Monitoring

Well Network

A permanent monitoring program has not been established specifically for tracking 1,4-dioxane. As described below, during 2021 BNL tested for 1,4-dioxane in several of the established monitoring areas using permanent and temporary wells.

Sampling Frequency and Analysis:

During 2021, BNL collected groundwater samples for 1,4-dioxane analyses in four areas: 1) north of the BNL Apartment area; 2) southwestern area of BNL within the on-site portion of the source water contributing area for the SCWA's William Floyd Well Field; 3) the OU III Middle Road and South Boundary areas; and 4) the OU VI EDB area. The groundwater samples were analyzed for 1,4-dioxane by Method 8270D SIM.

3.5.2.2 Monitoring Results

1,4-Dioxane results for the four monitoring areas:

1) *Area north of the BNL Apartment Area:* Eight temporary wells were installed approximately 1,400 feet south of West Princeton Avenue to evaluate the downgradient portions of the Building 170 and current firehouse PFAS plumes (**Section 3.5.1**). Samples from three of the

temporary wells (PFC-GP-163, PFC-GP-165 and PFC-GP-168) were also tested for 1,4-dioxane. Low levels of 1,4-dioxane were detected in PFC-GP163 and PFC-GP-168 at concentrations up to 0.38 µg/L and 0.55 µg/L, respectively.

2) *William Floyd Well Field Sentinel Well Area:* Samples from eight sentinel wells were tested for 1,4-dioxane (**Section 3.2.10**). A trace level of 1,4-dioxane was detected in well 117-06, at an estimated value of 0.1 µg/L.

3) *OU III Middle Road and South Boundary Areas:* Three temporary wells were installed in the Middle Road area and two temporary wells were installed at the South Boundary. In the Middle Road area, 1,4-dioxane was detected in all three temporary wells at concentrations above the 1.0 µg/L MCL, with a maximum concentration of 5.9 µg/L in MR-VP-03-2021 (**Section 3.2.2**). In the South Boundary area, 1,4-dioxane was detected in both temporary wells at concentrations above the 1.0 µg/L MCL, with a maximum concentration of 19 µg/L in SB-VP-01-2021 (**Section 3.2.3**).

4) *OU VI EDB:* 1,4-dioxane was detected in temporary vertical profile well EDB-VP-01-2021 at concentrations up to 0.35 µg/L (**Section 3.4**).

3.5.2.3 1,4-Dioxane Groundwater Monitoring Program Evaluation

The monitoring data were evaluated using the following general DQO statement.

1. Is there a continuing source of 1,4-dioxane contamination? If present, has the source been remediated or controlled?

BNL is still in the early stages of the 1,4-dioxane characterization effort. The 1,4-dioxane detected in groundwater is likely to have originated from the previously identified VOC source areas where the solvent TCA had been released. These source areas have been undergoing various remediation efforts for the past 30 years, and significant progress has been made in reducing or eliminating continued contaminant releases from these areas. 1,4-Dioxane concentrations in groundwater immediately downgradient of many of the former TCA source areas do not exceed the 1.0 µg/L MCL. The need for source controls and/or remediation of 1,4-dioxane contaminated groundwater will be determined following completion of the planned Remedial Investigation/Feasibility Study (RI/FS), and discussions with the regulatory agencies.

3.5.2.4 1,4-Dioxane Monitoring Recommendations

The following are recommended for the 1,4-dioxane monitoring program:

- Develop a Work Plan for conducting the OU X RI/FS.

3.6 SITE BACKGROUND MONITORING

Background water quality has been monitored since 1990. Historically, low levels of VOCs were routinely detected in several background wells that are screened in the deeper portions of the Upper Glacial aquifer. Background monitoring is used to define the quality of groundwater that is completely unaffected by BNL operations.

3.6.1 Groundwater Monitoring

Well Network

The 2021 program included nine wells in the northwestern portion of the BNL property (**Figure 1-2**) hydraulically upgradient of Laboratory operations.

Sampling Frequency and Analysis

The samples are collected annually and analyzed for VOCs (**Table 1-5**).

3.6.2 Monitoring Well Results

The complete groundwater analytical data are provided in **Appendix C**. There was a low level detection of Methyl tert-butyl ether (MTBE) in well 017-03 and 034-03 at concentrations of 0.37 µg/L and 0.82 µg/L, respectively. The AWQS is 10 µg/L. In addition, chloroform was also detected in well 117-01 at an estimated value of 0.31 µg/L.

While radionuclides are no longer analyzed in background wells, historic results are presented for reference purposes. **Table 3.6-1** summarizes the range of radionuclide values detected in background wells from 1996 through 2001.

Table 3.6-1.
Radiological Background Monitoring, 1996 – 2001

Parameter	Activity Range (pCi/L)	Contract-Required Detection Limit (pCi/L)
Cesium-137	<MDA to 7.24	12.0
Gross alpha	<MDA to 2.66	2.0
Gross beta	<MDA to 6.41	4.0
Strontium-90	<MDA to 3.84	0.8
Tritium	<MDA to 835	500.0

Note:
<MDA = Less than minimum detectable activity

3.6.3 Groundwater Monitoring Program Evaluation

The program can be evaluated using the decision rule developed as part of the groundwater DQO process.

1. Were unexpected levels or types of contamination detected?

There were no VOCs detected in site background wells above AWQS during 2021.

3.6.4 Recommendation

The following are recommended for the site background groundwater monitoring program:

- There are no changes proposed to the monitoring program.

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3.7 CURRENT AND FORMER LANDFILL GROUNDWATER MONITORING

Groundwater monitoring data from both the Current and Former Landfills are discussed in detail in the *BNL 2021 Environmental Monitoring Report, Current and Former Landfill Areas* (BNL 2022b). The complete groundwater monitoring results for these programs are included in **Appendix C**.

3.7.1 Current Landfill Summary

Groundwater data shows that in general, contaminant concentrations have been decreasing following the capping of the landfill in 1995. By the end of 2021, the landfill had been capped for 26 years. Groundwater quality has been slowly improving. The trend in the data suggests that the cap is effective in mitigating groundwater contamination. Groundwater monitoring wells for the Current Landfill are shown on **Figure 3.7-1**. The following is a summary of the results from the samples collected during 2021:

- Benzene was detected in downgradient wells 087-11, and 088-110 at concentrations slightly above the AWQS with a maximum concentration of 2.0 µg/L in well 087-11. The other VOCs detected above the AWQS were chloroethane and 1,1-dichloroethane (DCA) during 2021. DCA was detected in monitoring well 088-109 above the standard of 5 µg/L, with a maximum concentration of 6.0 µg/L. During 2021, chloroethane was detected above AWQS in wells 088-109 and 088-110 with concentrations ranging up to 20 µg/L indicating that VOCs continue to emanate from the landfill. These concentrations are naturally attenuating and no landfill related detections at the site boundary are above the drinking water standard **Figure 3.1-1**.
- Concentrations of landfill water chemistry parameters and metals such as ammonia and iron in several downgradient wells were above background values. This suggests that leachate continues to emanate from the landfill into groundwater. Ammonia was detected above the AWQS of 2 mg/L in downgradient wells 087-11, 087-27, and 088-109 at a maximum concentration of 6.5 mg/L.
- During 2021, sodium in the background well, and aluminum, arsenic, iron, manganese, and sodium in several downgradient wells were detected above their respective AWQS.
- Tritium was not detected in any of the wells during 2021. Strontium-90 was detected in well 088-21, but at a concentration of 4.3 pCi/L. This is below the DWS of 8 pCi/L. Strontium-90 and tritium have not exceeded the DWS in the Current Landfill wells since 1998.
- Although low levels of contaminants continue to be detected, the cap has been effective at improving the quality of groundwater downgradient of the landfill.

3.7.1.1 Current Landfill Recommendations

The monitoring well network for the Current Landfill is sufficient. No changes to the network or the sampling frequency are warranted at this time.

3.7.2 Former Landfill Summary

Since January 1997, groundwater quality at the Former Landfill area has been monitored using 14 shallow monitoring wells (three background and 11 downgradient). By the end of 2021, the landfill had been capped for 25 years. With the data presented in *BNL 2020 Environmental Monitoring Report, Current and Former Landfill Areas* (BNL 2021h) and with over two decades of groundwater monitoring data providing evidence that groundwater impact from the Former Landfill area is now essentially nonexistent, therefore groundwater monitoring of the Former Landfill monitoring well network has been discontinued.

3.7.2.1 Former Landfill Recommendations

Continue monthly maintenance and inspections in accordance with the Operations and Maintenance manual as well as continuing the annual soil-gas monitoring.

3.8 g-2 TRITIUM SOURCE AREA AND GROUNDWATER PLUME

In November 1999, tritium was detected in the groundwater near the former g-2 experiment within the Alternating Gradient Synchrotron (AGS) facility, at concentrations above the 20,000 pCi/L DWS. Sodium-22 was also detected in the groundwater, but at concentrations below the 400 pCi/L DWS. An investigation into the source of the contamination revealed that the tritium and sodium-22 originated from activated soil shielding located adjacent to the g-2 target building, where approximately five percent of the beam was inadvertently striking one of the beam line magnets (magnet VQ-12). Rainwater was able to infiltrate the activated soils and leach the tritium and sodium-22 into the groundwater. To prevent additional rainwater infiltration into the activated soil shielding, a concrete cap was constructed over the area in December 1999. The g-2 experiment was decommissioned in April 2001. However, the structures and activated soil shielding associated with the experiment remain in place.

The g-2/BLIP/former UST ROD (BNL 2007a) requires routine inspections and maintenance of the impermeable cap, and groundwater monitoring of the source area to verify the continued effectiveness of the stormwater controls. Monitoring of the source area will continue for as long as the activated soils have the potential to impact groundwater quality. Contingency actions would be developed if tritium levels in groundwater monitoring wells exceed 1,000,000 pCi/L.

3.8.1 g-2 Tritium Source Area and Plume Groundwater Monitoring

Well Network

The g-2 tritium source area is monitored using two upgradient wells (054-65 and 054-66) and five downgradient wells (054-07, 054-126, 054-184, 054-185, and 064-95) approximately 200 feet downgradient of the source area near Building 912A. Several other nearby wells (054-67, 054-68, 054-124, 054-126 and 065-126) are used to monitor the effectiveness of the cap installed over the adjacent former g-2 beam stop, which is another area that contains activated soil shielding. Twelve wells located approximately 600 feet downgradient of the source area near Building 912 are used to verify the attenuation of tritium released from the source area (**Figure 3.8-1**).

Sampling Frequency and Analysis

During 2021, the source area wells were monitored two times, and the samples were analyzed for tritium (**Table 1-6**). The wells monitoring the former beam stop area and those located near Building 912 were sampled once during the year, and the samples were analyzed for tritium. The water samples are preferentially tested for tritium because it is more leachable than sodium-22, migrates at the same rate as groundwater, and is therefore a better indicator of the effectiveness of the cap.

3.8.2 g-2 Tritium Source Area and Plume Monitoring Well Results

The extent of the g-2 tritium plume during the fourth quarter of 2021 is depicted on **Figure 3.8-1**.

Source Area Monitoring Results

The maximum tritium concentration in source area wells was 23,200 pCi/L in well 054-07 during the second quarter. Tritium was also detected in nearby beam stop area well 054-124 at a concentration of 6,390 pCi/L during the fourth quarter. The detection of tritium in this well may be related to a recent shift in groundwater flow directions to the east due to sustained pumpage of water supply wells BNL-10 and BNL-11. **Figure 3.8-2** provides tritium trend charts for wells that monitor the g-2 source area.

Tritium that may be traceable to the g-2 source area was detected in one monitoring well located downgradient of Building 912. The maximum tritium concentration in this area was 423 pCi/L in a sample from well 055-16 collected during the fourth quarter (see **Section 4.1.1**).

3.8.3 g-2 Tritium Source Area and Plume Groundwater Monitoring Program Evaluation

The 2021 monitoring data were evaluated using the following DQO statements.

1. Is there a continuing source of contamination? If present, has the source been remediated or controlled?

Although the activated soil shielding remains a potential threat to groundwater quality, the overall reduction in tritium concentrations observed in the groundwater since 1999 indicates that the cap is effectively preventing rainwater from infiltrating the soil. A comparison of tritium levels in the source area monitoring wells and water-table elevation data suggests that periodic natural fluctuations in the water table continue to release residual tritium from the deep vadose zone. There appears to be good correlation between high tritium concentrations detected in monitoring wells immediately downgradient of the source area and the water-table elevation about one year before the sampling (**Figure 3.8-3** and **Figure 3.8-4**). It is believed that this tritium was mobilized to the deep vadose zone soil close to the water table before the cap was constructed in December 1999. Once the cap was in place, the lack of additional rainwater infiltration kept the tritium in the vadose zone from migrating into the groundwater until a significant rise in water table can mobilized it. Over time, the amount of tritium remaining in the vadose zone near the water table will decrease by means of the natural water table flushing mechanism and by radioactive decay.

2. Were unexpected levels of tritium detected?

No, the observed tritium levels in the source area monitoring wells are consistent with previous surveillance results.

3. Is the plume naturally attenuating as expected?

Yes. With the effectiveness of the source area controls, the plume segment immediately downgradient of the source area is attenuating as expected.

4. Has the groundwater cleanup goal of meeting MCLs been achieved?

No. Tritium concentrations in groundwater downgradient of the g-2 source area continue to periodically exceed the MCL.

3.8.4 g-2 Tritium Source Area and Plume Recommendations

The following are recommended for the g-2 tritium source area and plume groundwater monitoring program for 2022:

- Continue routine inspections of the g-2 cap.
- Continue semiannual monitoring of source area wells near Building 912A, and annual monitoring of wells located downgradient of the former beam stop and Building 912.

3.9 BROOKHAVEN LINAC ISOTOPE PRODUCER (BLIP)

When the Brookhaven Linac Isotope Producer (BLIP) is operating, the Linear Accelerator (Linac) delivers a beam of protons that strike a series of metal targets positioned at the bottom of a 30-foot deep underground tank, referred to as the BLIP target vessel. The targets rest inside a water-filled, 18-inch-diameter shaft that runs the length of the tank, and are cooled by a 300-gallon, closed-loop primary cooling system. During irradiation of the targets, radionuclides are produced in the cooling water and the soil immediately outside the tank by the neutrons created at the target.

In 1998, tritium concentrations of 52,000 pCi/L and sodium-22 up to 151 pCi/L were detected in the groundwater approximately 40 feet downgradient of the BLIP target vessel. The drinking water standard for tritium is 20,000 pCi/L, and the standard for sodium-22 is 400 pCi/L. Due to the activation of the soil shielding surrounding the BLIP target vessel and the detection of tritium and sodium-22 in groundwater, the BLIP facility was designated as sub-AOC 16K under the IAG.

In 1998, BNL made improvements to the stormwater management program at BLIP in an effort to prevent rainwater infiltration into the activated soil below the building. In 2000, BNL undertook additional protective measures by injecting colloidal silica grout (also known as a Viscous Liquid Barrier) into the activated soil. The grout reduces the permeability of the soil, thus further reducing the ability of rainwater to leach tritium and sodium-22 from the activated soils should the primary stormwater controls fail.

In late 2004, BNL constructed a protective cap over the beam line that runs from the Linac to the BLIP facility. The cap was installed because direct soil measurements and beam loss calculations indicated that the tritium and sodium-22 concentrations in soils surrounding this beam line could result in stormwater leachate concentrations that exceed the criteria described in the *Accelerator Safety* SBMS (Standards Based Management System) subject area.[1] During 2015, this cap section was extended in several areas to provide protection of soil shielding that is expected to become activated following planned changes in beam line operations.

A ROD was signed in early 2007 (BNL 2007a). The ROD requires continued routine inspection and maintenance of the impermeable cap, and groundwater monitoring to verify the continued effectiveness of the stormwater controls. Maintenance of the cap and groundwater monitoring will continue for as long as the activated soils have the potential to impact groundwater quality.

3.9.1 BLIP Groundwater Monitoring

Well Network

The monitoring well network for the BLIP facility consists of one upgradient and three downgradient wells (**Figure 3.9-1**).

Sampling Frequency and Analysis

During 2021, the three wells located immediately downgradient of the BLIP facility (064-47, 064-48, 064-67) were monitored twice, and the upgradient well (064-46) was sampled once. The groundwater samples are preferentially analyzed for tritium because it is more leachable than sodium-22, it migrates at the same rate as groundwater, and is the best early indicator of a possible release (**Table 1-6**).

3.9.2 BLIP Monitoring Well Results

Monitoring results indicate that the stormwater controls are effective in preventing the release of tritium from the activated soil surrounding the BLIP target vessel. Since April 2006, tritium levels have remained below the 20,000 pCi/L DWS (**Figure 3.9-1**). During 2021, the maximum tritium

[1] The BNL *Accelerator Safety* SBMS subject area requires stormwater controls where rainwater infiltration into activated soil shielding could result in leachate concentrations that exceed five percent of the drinking water standard for tritium (1,000 pCi/L) or 25 percent of the drinking water standard for sodium-22 (100 pCi/L).

concentration was 1,610 pCi/L in the second quarter sampling of well 064-67. The maximum tritium concentration during the fourth quarter was 806 pCi/L, again in well 064-67.

3.9.3 BLIP Groundwater Monitoring Program Evaluation

The 2021 monitoring data were evaluated using the following DQO statements.

1. Is there a continuing source of contamination? If present, has the source been remediated or controlled?
Yes, however the source is being controlled. Although low levels of tritium continue to be detected in the groundwater downgradient of BLIP, the tritium concentrations have remained below the 20,000 pCi/L DWS since early 2006. The decline in tritium concentrations indicates that the stormwater controls are effectively preventing the leaching of tritium from the activated soils.

2. Were unexpected levels of contamination detected?
No, the observed tritium levels are consistent with previous surveillance results.

3. Has the groundwater cleanup goal of meeting MCLs been achieved?
Yes. However, the activated soil shielding below the BLIP facility needs to be protected from rainwater infiltration. Therefore, the cap needs to be maintained and groundwater surveillance is required to verify the continued effectiveness of the stormwater controls.

3.9.4 BLIP Recommendation

The following is recommended for the BLIP groundwater monitoring program:

- As required by the ROD, BNL will continue to conduct routine inspections of the cap, and to monitor groundwater quality downgradient of the BLIP facility.
- No changes to the groundwater monitoring program are recommended.

4.0 FACILITY MONITORING PROGRAM SUMMARY

During 2021, the Facility Monitoring Program at BNL monitored groundwater quality at eight research and support facilities. New York State operating permits require groundwater monitoring at the Major Petroleum Facility, Waste Management Facility, and the Sewage Treatment Plant; the remaining research and support facilities are monitored in accordance with DOE Orders 458.1 (Radiation Protection of the Public and the Environment) and 436.1 (Departmental Sustainability) or CERCLA Records of Decision. DOE Orders require the Laboratory to establish environmental monitoring programs at facilities that can potentially impact environmental quality, and to demonstrate compliance with DOE requirements and the applicable federal, state, and local laws and regulations. CERCLA Records of Decision define the monitoring requirements and remedial actions for the g-2 tritium source area and plume and the BLIP source area. BNL uses monitoring data to determine whether current engineered and administrative controls effectively protect groundwater quality, determine whether additional corrective actions are needed, and to determine the effectiveness of remedial actions.

During 2021, 89 groundwater monitoring wells were sampled during 117 sampling events for facility surveillance required by state operating permits and DOE Orders. Eleven additional wells were sampled during 21 monitoring events for compliance with CERCLA monitoring requirements for the g-2 Tritium Source Area and Plume and the BLIP facility. **Table 1-6** summarizes the Facility Monitoring Program by project. Complete analytical results from groundwater samples collected in 2021 are provided in **Appendix D**. Monitoring results for the g-2 source area and tritium plume and the BLIP source area are presented in **Sections 3.8, and 3.9**, respectively. Information on groundwater quality at each of the remaining monitored research and support facilities is described below.

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4.1 ALTERNATING GRADIENT SYNCHROTRON (AGS) COMPLEX

The structures that constitute the AGS Complex include the AGS Ring, Linear Accelerator (Linac), BLIP, Building 912, AGS Booster Beam Stop, 914 Transfer Tunnel, former g-2 experimental area, former E-20 Catcher, former U-Line Beam Target, and the J-10 Beam Stop. Activated soil has been created near a number of these areas as the result of secondary particles (primarily neutrons) produced at beam targets and beam stops. A number of radionuclides can be produced by the interaction of secondary particles with the soil that surrounds these experimental areas. Once produced in the soils, some of these radionuclides can be leached from the soils by rainwater, and carried to the groundwater. Of the radionuclides formed in the soil, only tritium (half-life = 12.3 years) and sodium-22 (half-life = 2.6 years) are detected in groundwater. Of these two radionuclides, tritium is more easily leached from activated soils by rainwater, and once tritium enters the water table it migrates at the same rate as groundwater flow (approximately 0.75 feet per day). Sodium-22 does not leach out of the soil as readily as tritium, and migrates at a slower rate in the aquifer. The DWS for tritium is 20,000 pCi/L, and the standard for sodium-22 is 400 pCi/L.

To prevent rainwater from leaching these radionuclides from the soil, impermeable caps have been constructed over the activated soil shielding areas that have the potential to impact groundwater quality. Specifications for evaluating potential impacts to groundwater quality and the need for impermeable caps over beam loss areas are defined in the BNL *Accelerator Safety* subject area.[1] BNL uses 57 groundwater monitoring wells to evaluate the impact of current and historical operations at the AGS beam stop and target areas, and an additional 14 wells to monitor beam loss areas associated with the Relativistic Heavy Ion Collider (RHIC) (discussed in **Section 4.2**). The locations of monitoring wells are shown on **Figure 4.1-1**. The wells are routinely monitored for tritium because it is the best early indicator of a possible release because tritium is more leachable than sodium-22, and it migrates at the same rate as groundwater.

In the late 1990's, BNL detected four tritium plumes that originated from activated soil shielding within the AGS complex: the former g-2 experimental area (**Section 3.8**), the BLIP facility (**Section 3.9**), the former U-Line beam stop (**Section 4.1.8**), and the former E-20 Catcher (**Section 4.1.4**). The subsequent installation of impermeable caps over these soil activation areas resulted in a reduction of tritium levels to less than the 20,000 pCi/L DWS in the BLIP, former U-Line beam stop, and E-20 Catcher areas. Tritium continues to be periodically detected downgradient of the g-2 soil activation area at concentrations that exceed 20,000 pCi/L.

4.1.1 AGS Building 912

Building 912 consists of five interconnected structures that were used to house four experimental beam lines (A, B, C, and D lines). These beam line operations ended in 2002.

Beam losses at the target areas resulted in the activation of the adjacent floor, and probably the soil beneath the floor. The highest levels of soil activation beneath Building 912 are expected at the former C-Line target cave. Stormwater infiltration around the building is controlled by paving and stormwater drainage systems that direct most of the water to recharge basins located north of the AGS complex.

4.1.1.1 AGS Building 912 Groundwater Monitoring

Well Network

Twenty-three shallow Upper Glacial aquifer wells are positioned upgradient and downgradient of Building 912 (**Figure 4.1-1**). Upgradient wells are positioned to monitor potential tritium contamination from sources such as the g-2 area and the former U-Line experimental area. The downgradient wells are

[1] The BNL *Accelerator Safety* SBMS subject area requires stormwater controls where rainwater infiltration into activated soil shielding could result in leachate concentrations that exceed five percent of the drinking water standard for tritium (i.e., 1,000 pCi/L) or 25 percent of the drinking water standard for sodium-22 (i.e., 100 pCi/L).

positioned to monitor the former beam stop and target areas in Building 912. Some of the downgradient wells are also used to track the leading edge of the g-2 tritium plume that has migrated underneath Building 912 (**Section 3.8**).

Sampling Frequency and Analysis

During 2021, the Building 912 wells were sampled one time. The groundwater samples were analyzed for tritium (**Table 1-6**).

4.1.1.2 AGS Building 912 Monitoring Well Results

As in past years, tritium that is traceable to the g-2 source area continues to be detected in some of the wells located downgradient of Building 912 (**Figure 4.1-1**). During 2021, tritium which is likely from the g-2 plume was detected only in well 055-16, at a concentration of 423 pCi/L. Tritium was not detected in the groundwater samples collected from the remainder of the Building 912 area wells.

4.1.1.3 AGS Building 912 Groundwater Monitoring Program Evaluation

The 2021 monitoring data were evaluated using the following Data Quality Objective statement.

1. Is there a continuing source of contamination? If present, has the source been remediated or controlled?

Activated soils are present below the floor slab at Building 912. Other than the trace levels of tritium associated with the g-2 tritium plume, there were no detections of tritium that could be directly linked to activated soil located at Building 912. This indicates that the building and associated stormwater management operations are effectively preventing rainwater infiltration into the activated soil below the experimental hall.

4.1.1.4 AGS Building 912 Recommendations

The following is recommended for the AGS Building 912 groundwater monitoring program:

- For 2022, continue sampling all Building 912 monitoring wells annually.

4.1.2 AGS Booster Beam Stop

The AGS Booster is a circular accelerator that is connected to the northwest portion of the main AGS Ring and to the Linac. The AGS Booster, which has been in operation since 1994, is used to accelerate protons and heavy ions before injecting them into the main AGS ring. In order to dispose of the beam during studies, a beam stop system was originally constructed at the 10 to 11 o'clock portion of the Booster. In 1999, the beam stop was repositioned to the south side (6 o'clock section) of the Booster ring to allow for the construction of the NASA Space Radiation Laboratory (NSRL) tunnel. A geomembrane cap was constructed over the original beam stop region to prevent stormwater infiltration into the activated soil. When the beam stop was repositioned to the 6 o'clock region of the Booster, a coated concrete cap was constructed over the area.

4.1.2.1 AGS Booster Groundwater Monitoring

Well Network

Two shallow Upper Glacial aquifer monitoring wells (064-51 and 064-52) are used to monitor the Booster beam stop area (**Figure 4.1-1**).

Sampling Frequency and Analysis

During 2021, the Booster area monitoring wells were sampled one time, and the samples were analyzed for tritium (**Table 1-6**).

4.1.2.2 AGS Booster Monitoring Well Results

Although low levels of tritium were detected in the Booster area wells during 2001 and 2002 (up to 1,340 pCi/L in well 064-52), tritium has not been detected in these wells since that time at concentrations above the typical 300 pCi/L method detection limit (**Figure 4.1-2**).

4.1.2.3 AGS Booster Groundwater Monitoring Program Evaluation

The groundwater monitoring results were evaluated using the following Data Quality Objective statement.

1. Is there a continuing source of contamination? If present, has the source been remediated or controlled?

Activated soil shielding is present in the areas of the current and former Booster beam stops. The low levels of tritium detected in groundwater during 2001 and 2002 were related to a short-term uncovering of activated soil shielding near the former booster beam stop during the construction of the tunnel leading from the Booster to the NSRL facility. This work, which began in September 1999 and was completed by October 1999, allowed rainwater to infiltrate the low-level activated soil shielding.[2] Because tritium has not been detected in the Booster area monitoring wells since 2002, it is apparent that the caps have been effectively preventing rainwater infiltration into the activated soil shielding.

4.1.2.4 AGS Booster Recommendation

The following is recommended for the AGS Booster groundwater monitoring program:

- For 2022, the monitoring frequency for the Booster area monitoring wells will continue to be annually.

4.1.3 NASA Space Radiation Laboratory (NSRL)

The NSRL is jointly managed by the U.S. Department of Energy and NASA's Johnson Space Center. The NSRL uses beams of heavy ions extracted from Booster accelerator for radiobiology studies. NSRL became operational in 2003. Although the secondary particle interactions with the surrounding soil shielding are expected to result in only a minor level of soil activation, a geomembrane cap was constructed over the entire length of the beam line and the beam stop region to prevent stormwater infiltration into the soil shielding.

4.1.3.1 NSRL Groundwater Monitoring

Well Network

This facility is monitored by shallow Upper Glacial aquifer monitoring wells 054-08, 054-62 and 054-191 (**Figure 4.1-1**).

Sampling Frequency and Analysis

During 2021, the NSRL monitoring wells were sampled one time, and the samples were analyzed for tritium (**Table 1-6**).

4.1.3.2 NSRL Monitoring Well Results

During 2021, tritium was not detected in the NSRL monitoring wells.

[2] Before construction of the NSRL tunnel commenced, soil samples were collected by drilling through the tunnel wall near the former booster beam stop to verify that the tritium and sodium-22 levels were within acceptable limits for worker safety and environmental protection.

4.1.3.3 NSRL Groundwater Monitoring Program Evaluation

The groundwater monitoring results were evaluated using the following Data Quality Objective statement.

1. Is there a continuing source of contamination? If present, has the source been remediated or controlled?

Activated soil shielding at the NSRL is being protected by an impermeable cap. Based on monitoring conducted to date, NSRL beam line operations have not impacted groundwater quality in the area.

4.1.3.4 NSRL Recommendation

The following is recommended for the NSRL groundwater monitoring program:

- For 2022, the monitoring frequency for the NSRL wells will continue to be annually.

4.1.4 Former AGS E-20 Catcher

The E-20 Catcher was located at the 5 o'clock portion of the AGS ring, and was in operation from 1984 to 1999 (**Figure 4.1-1**). The E-20 Catcher was used to pick up or "scrape" protons that moved out of acceptable pathways.

Following the installation of monitoring wells in late 1999 and early 2000, tritium and sodium-22 were detected at levels greater than their applicable DWS, with concentrations up to 40,400 pCi/L and 704 pCi/L, respectively. In April 2000, a temporary impermeable cap was installed over the E-20 Catcher area, and a permanent cap was constructed by October 2000. Tritium and sodium-22 concentrations in groundwater dropped to below the DWS soon after the cap was installed.

4.1.4.1 Former AGS E-20 Catcher Groundwater Monitoring

Well Network

To verify the continued effectiveness of the impermeable cap over the former E-20 Catcher, the area is monitored by shallow Upper Glacial aquifer wells 064-55, 064-56, and 064-80 (**Figure 4.1-1**).

Sampling Frequency and Analysis

During 2021, the former E-20 Catcher wells were monitored one time, and the samples were analyzed for tritium (**Table 1-6**). Since 2002, groundwater samples from this area have only been analyzed for tritium.

4.1.4.2 Former AGS E-20 Catcher Monitoring Well Results

Following the installation of the cap in 2000, tritium and sodium-22 concentrations decreased to levels below applicable DWS. During 2021, tritium was not detected in any of the wells (**Figure 4.1-3**).

4.1.4.3 Former AGS E-20 Catcher Groundwater Monitoring Program Evaluation

The 2021 monitoring data were evaluated using the following Data Quality Objective statement.

1. Is there a continuing source of contamination? If present, has the source been remediated or controlled?

Activated soil shielding at the former E-20 Catcher is being protected by an impermeable cap. The reduction in tritium concentrations since the impermeable cap was constructed in 2000 indicates that the cap has been effective in preventing rainwater infiltration into the activated soil that surrounds this portion of the AGS tunnel.

4.1.4.4 Former AGS E-20 Catcher Recommendation

The following is recommended for the AGS E-20 Catcher groundwater monitoring program:

- For 2022, the monitoring frequency for the former E-20 Catcher wells will continue to be annually.

4.1.5 AGS Building 914

Building 914 houses the beam transfer line between the AGS Ring and the Booster. Due to beam loss near the facility's extraction (kicker) magnet, the extraction area of Building 914 is heavily shielded with iron. Because the extraction area is housed in a large building, most soil activation is expected to be below the floor of the building, where it is protected from rainwater infiltration.

4.1.5.1 AGS Building 914 Groundwater Monitoring

Well Network

Groundwater quality downgradient of the AGS Building 914 transfer line area is monitored by shallow Upper Glacial aquifer wells 064-03, 064-53, and 064-54 (**Figure 4.1-1**).

Sampling Frequency and Analysis

During 2021, the AGS Building 914 area wells were monitored one time, and samples were analyzed for tritium (**Table 1-6**).

4.1.5.2 AGS Building 914 Monitoring Well Results

Tritium was not detected in the samples collected during 2021. Tritium has not been detected in the Building 914 groundwater monitoring wells since 2008 (**Figure 4.1-4**).

4.1.5.3 AGS Building 914 Groundwater Monitoring Program Evaluation

The 2021 monitoring data were evaluated using the following Data Quality Objective statement.

1. Is there a continuing source of contamination? If present, has the source been remediated or controlled?

The lack of detectable levels of tritium since 2008 indicates that the building structure and associated stormwater controls are effectively preventing rainwater infiltration into activated soil below the building. Continued surveillance of groundwater quality in the Building 914 area is required.

4.1.5.4 AGS Building 914 Recommendation

The following is recommended for the AGS Building 914 groundwater monitoring program:

- For 2022, the monitoring frequency for the AGS Building 914 area wells will continue to be annually.

4.1.6 Former g-2 Beam Stop

The g-2 experiment operated from April 1997 until April 2001. The g-2 Beam Stop is composed of iron and is covered by soil shielding. To prevent rainwater from infiltrating the soil surrounding the beam stop, BNL installed a gunite cap over the stop area before the start of beam line operations.

In November 1999, tritium and sodium-22 were detected in groundwater monitoring wells approximately 200 feet downgradient of the g-2 beam stop area (see **Section 3.8**). An investigation into the source of the contamination revealed that the tritium originated from activated soil shielding adjacent to the g-2 beam stop. This section of the beam line was not a designed beam loss area, and therefore was not protected by the gunite cap installed over the beam stop. In December 1999, an impermeable cap was installed over the activated soil shielding, and joined to the beam stop cap. The monitoring program for the g-2 tritium source area and plume are described in **Section 3.8**.

4.1.6.1 Former g-2 Beam Stop Groundwater Monitoring

Well Network

Groundwater quality downgradient of the former g-2 beam stop is monitored using wells 054-67, 054-124, 054-125, and 054-126 (**Figure 4.1-1**). These wells are cross gradient of the g-2 tritium source area monitoring wells described in **Section 3.8**.

Sampling Frequency and Analysis

During 2021, former g-2 Beam Stop wells 054-67 and 054-125 were monitored once, and the samples were analyzed for tritium. Wells 054-124 and 054-126 were sampled twice for tritium under the g-2 tritium plume source area program (**Table 1-6**).

4.1.6.2 Former g-2 Beam Stop Monitoring Well Results

During 2021, tritium was detected in well 054-124 at 6,390 pCi/L.

4.1.6.3 Former g-2 Beam Stop Groundwater Monitoring Program Evaluation

The 2021 monitoring data were evaluated using the following Data Quality Objective statement.

1. Is there a continuing source of contamination? If present, has the source been remediated or controlled?

Overall monitoring results for the past 24 years indicate that the cap over the former beam stop is effectively preventing rainwater from infiltrating the activated soil shielding. The tritium detected in well 054-124 at a concentration of 6,390 pCi/L is likely to have originated from the g-2 source area and reflects recent changes in groundwater flow directions due to increased use of water supply well 10 located to the east of the g-2 area.

4.1.6.4 Former g-2 Beam Stop Recommendation

The following is recommended for the former g-2 beam stop groundwater monitoring program:

- During 2022, former g-2 Beam Stop area wells 054-67 and 054-125 will continue to be monitored on an annual basis, whereas wells 054-124 and 054-126 will continue to be monitored semiannually under the g-2 tritium plume source area program.

4.1.7 AGS J-10 Beam Stop

In 1998, BNL established a beam stop at the J-10 (12 o'clock) section of the AGS Ring, replacing the E-20 Catcher as the preferred repository for any beam that might be lost in the AGS Ring (**Figure 4.1-1**). The J-10 beam stop area of the AGS Ring is covered by layers of soil-crete (a sand and concrete mixture), which reduce the ability of rainwater to infiltrate the potentially activated soil shielding. A gunite cap was constructed over a small section of the J-10 region that did not have a soil-concrete cover before beam stop operations began.

4.1.7.1 AGS J-10 Beam Stop Groundwater Monitoring

Well Network

The monitoring well network for the J-10 beam stop consists of downgradient wells 054-63 and 054-64 (**Figure 4.1-1**).

Sampling Frequency and Analysis

During 2021, the J-10 beam stop wells were monitored one time and the samples were analyzed for tritium (**Table 1-6**).

4.1.7.2 AGS J-10 Beam Stop Monitoring Well Results

During 2021, tritium was not detected in the J-10 area wells. (**Figure 4.1-5**).

4.1.7.3 AGS J-10 Beam Stop Monitoring Program Evaluation

The 2021 monitoring data were evaluated using the following Data Quality Objective statement.

1. Is there a continuing source of contamination? If present, has the source been remediated or controlled?

Groundwater monitoring results indicate that the engineered controls in place at J-10 are preventing significant rainwater infiltration into the activated soil shielding. Continued groundwater monitoring is required to verify the long-term effectiveness of the controls.

4.1.7.4 AGS J-10 Beam Stop Recommendation

The following is recommended for the AGS J-10 Beam Stop groundwater monitoring program:

- During 2022, the J-10 Beam Stop area wells will continue to be sampled on an annual basis.

4.1.8 Former AGS U-Line Beam Target and Stop Areas

The U-Line beam target area was in operation from 1974 through 1986. The entire assembly was in a ground-level tunnel covered with an earthen berm. Although the U-Line beam target has not been in operation since 1986, the associated tunnel, shielding, and overlying soil remain in place.

In late 1999, BNL installed monitoring wells downgradient of the former U-Line target area to evaluate whether residual activated soil shielding was impacting groundwater quality. Low levels of tritium and sodium-22 were detected, but at concentrations well below the applicable DWS. In early 2000, temporary wells were installed downgradient of the former U-Line beam stop, which is approximately 200 feet north of the target area. Tritium was detected at concentrations up to 71,600 pCi/L. Sodium-22 was not detected in any of the samples. During 2000, an impermeable cap was installed over the former U-Line beam stop area to prevent rainwater infiltration and the continued leaching of radionuclides out of the soil shielding.

4.1.8.1 Former AGS U-Line Groundwater Monitoring

Well Network

The former U-Line area is monitored by one upgradient well (054-127), three downgradient wells that monitor the former U-Line target area (054-66, 054-129, and 054-130), and three wells that monitor downgradient of the former U-Line beam stop area (054-128, 054-168, and 054-169) (**Figure 4.1-1**).

Sampling Frequency and Analysis

During 2021, the former U-Line area wells were monitored one time, and the samples were analyzed for tritium (**Table 1-6**).

4.1.8.2 Former AGS U-Line Groundwater Monitoring Well Results

Former U-Line Target Area

During 2021, tritium was detected in the former U-Line Target area well 054-129 at a concentration of 1,260 pCi/L (**Figure 4.1-6**).

Former U-Line Beam Stop Area

Tritium was detected at a concentration of 1,180 pCi/L in the former U-Line Beam Stop area well 054-168 (**Figure 4.1-7**).

4.1.8.3 Former AGS U-Line Groundwater Monitoring Program Evaluation

The 2021 monitoring data were evaluated using the following Data Quality Objective statement.

1. Is there a continuing source of contamination? If present, has the source been remediated or controlled?

The significant decrease in tritium concentrations in groundwater since 2000 indicates that the impermeable cap installed over the former U-Line Beam Stop has been effective in stopping rainwater infiltration into the residual activated soil.

4.1.8.4 Former AGS U-Line Recommendation

The following is recommended for the former AGS U-Line groundwater monitoring program:

- For 2022, the former U-Line area wells will continue to be monitored for tritium on an annual basis.

4.2 RELATIVISTIC HEAVY ION COLLIDER (RHIC)

Beam line interactions at the Relativistic Heavy Ion Collider (RHIC) Collimators and Beam Stops produce secondary particles that interact with soil surrounding the 8 o'clock and 10 o'clock portions of the RHIC tunnel and the W-Line Stop (**Figure 4.2-1**). These interactions can result in the production of tritium and sodium-22 in the nearby soil shielding, which can be leached out of the soil by rainwater. Although the level of soil activation is expected to be minor, before RHIC operations began in 2000 BNL installed impermeable caps over these beam loss areas to prevent impacts to groundwater quality.

4.2.1 RHIC Groundwater Monitoring

Well Network

Thirteen shallow wells are used to verify that the impermeable caps at the RHIC beam stops and collimators are effective in protecting groundwater quality. Six of the monitoring wells are located in the 10 o'clock beam stop area, six wells are in the collimator area, and one well is downgradient of the W-Line Beam Stop (**Figure 4.2-1**). As part of BNL's Environmental Surveillance program, surface water samples are also collected semiannually from the Peconic River downstream of the beam stop area at sample location HV (sample location 026-03). These monitoring results are used to verify that potentially contaminated groundwater is not entering the Peconic River stream bed as base flow during high water-table conditions.

Sampling Frequency and Analysis

During 2021, groundwater samples were collected from the RHIC monitoring wells on a semiannual schedule, and the samples were analyzed for tritium (**Table 1-6**). Routine analysis for sodium-22 was discontinued starting in 2002 because tritium is the best indicator of possible cap failure (i.e., tritium is more leachable than sodium-22, and it migrates at the same rate as groundwater). Annual surface water samples collected at location HV were analyzed for tritium and by gamma spectroscopy.

4.2.2 RHIC Monitoring Well Results

During the first quarter of 2021, tritium was detected in W-Beam Stop area well 044-29 at a concentration of 893 pCi/L. Tritium was not detected in this well during the third quarter of 2021. Tritium was not detected in any of the other RHIC monitoring wells. Furthermore, neither tritium or sodium-22 were detected in the surface water sample collected from downstream location HV (026-03).

4.2.3 RHIC Groundwater Monitoring Program Evaluation

The 2021 monitoring data were evaluated using the following Data Quality Objective statement.

1. Has the source of potential contamination been controlled?

Groundwater and surface water monitoring data continue to demonstrate that the impermeable caps installed over the RHIC beam stop and collimator areas are effectively preventing rainwater infiltration into the activated soil shielding.

4.2.4 RHIC Recommendation

The following is recommended for the RHIC groundwater monitoring program:

- During 2022, groundwater samples will continue to be collected on a semiannual basis. Surface water samples will also continue to be collected as part of the Environmental Surveillance program.

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4.3 BROOKHAVEN MEDICAL RESEARCH REACTOR (BMRR)

The Brookhaven Medical Research Reactor (BMRR) was a 3-megawatt light water reactor used for biomedical research. Research operations at the BMRR ended in December 2000. All fuel was removed in 2003 and the primary cooling water system was drained.

When it was operating, the BMRR primary cooling water system contained 2,550 gallons of water that contained approximately 5 curies (Ci) of tritium. Unlike the HFBR, the BMRR did not have a spent fuel storage canal or pressurized imbedded piping systems that contained radioactive liquids. Historically, fuel elements that required storage were either stored within the reactor vessel, or they were transferred to the HFBR spent fuel canal. The BMRR primary cooling water system piping is fully exposed in the containment structure, and was accessible for routine visual inspections while it was operating.

In 1997, tritium was detected in groundwater downgradient of the BMRR. The maximum tritium concentration observed during 1997 was 11,800 pCi/L, almost one-half of the 20,000 pCi/L DWS. The highest observed tritium concentration since the start of groundwater monitoring was 17,100 pCi/L in October 1999. The tritium detected in groundwater is believed to have originated from the historical discharge of small amounts of BMRR primary cooling water to a basement floor drain and sump system that may have leaked. Although the last discharge of primary cooling water to the floor drain system occurred in 1987, the floor drains continued to be used for secondary (non-radioactive) cooling water until 1997. The infiltration of this water may have promoted the movement of residual tritium from the soil surrounding the floor drain piping system to the groundwater. The floor drains were permanently sealed in 1998.

4.3.1 BMRR Groundwater Monitoring

Well Network

The monitoring well network for the BMRR facility consists of one upgradient and three downgradient wells (**Figure 4.3-1**).

Sampling Frequency and Analysis

The BMRR wells are sampled once every two years. No samples were collected during 2021 (**Table 1-6**).

4.3.2 BMRR Monitoring Well Results

Tritium was not detected in the BMRR monitoring wells during the 2020 sample period. Monitoring conducted since 1997 has shown that tritium concentrations in the BMRR wells have always been below the 20,000 pCi/L DWS (**Figure 4.3-2**). Previous analyses for gamma, gross alpha, and gross beta did not indicate the presence of any other reactor-related radionuclides.

4.3.3 BMRR Groundwater Monitoring Program Evaluation

Monitoring data were evaluated using the following Data Quality Objective statement.

1. Is there a continuing source of contamination? If present, has the source been remediated or controlled?

Tritium concentrations in groundwater downgradient of the BMRR have never exceeded the 20,000 pCi/L DWS. Tritium concentrations were <5,000 pCi/L from September 2000 through 2010, <600 pCi/L during the 2012, 2014 and 2016 sample periods, and tritium was not detected during the 2018 and 2020 sample periods. Groundwater monitoring results indicate that the BMRR structure is effectively preventing rainwater infiltration into the underlying soils, or that the amount of residual tritium in the vadose zone has been significantly reduced.

4.3.4 BMRR Recommendation

The following is recommended for the BMRR groundwater monitoring program:

- The monitoring frequency for the BMRR wells will continue to be once every two years, with the next set of samples being collected in 2022.

4.4 SEWAGE TREATMENT PLANT (STP)

The STP processes sanitary wastewater from BNL research and support facilities. Until October 2014, treated effluent from the STP was discharged to the Peconic River under a NYSDEC SPDES permit (NY-0005835). Treated wastewater from the STP is now released to nearby groundwater recharge basins (SPDES Outfall 001) (**Figure 4.4-1**).

On average, 0.5 million gallons per day (MGD) of wastewater are processed during the summer and 0.3 MGD of water are processed during the rest of the year. Before discharge into the recharge basins, the sanitary waste stream is treated by: 1) primary clarification to remove settleable solids and floatable materials; 2) aerobic oxidation for secondary removal of the biological matter and nitrification of ammonia; 3) secondary clarification; and 4) filtration for final effluent polishing. Oxygen levels are regulated during the treatment process to remove nitrogen biologically, using nitrate-bound oxygen for respiration. As required by the NYS SPDES permit, monitoring wells are used to evaluate groundwater quality near the recharge basins.

Two emergency hold-up ponds are located east of the former sand filter beds. The hold-up ponds are used to store sanitary waste in the event of mechanical problems at the plant or if the influent contains contaminants in concentrations exceeding BNL administrative limits and/or SPDES permit effluent release criteria. The hold-up ponds have a combined holding capacity of nearly six million gallons of water and provide BNL with the ability to divert all sanitary system effluent for approximately one week. The hold-up ponds are equipped with fabric-reinforced plastic liners that are heat-welded along all seams. In 2001, improvements were made with the addition of new primary liners and a leak detection system. The older liners now serve as secondary containment.

4.4.1 STP Groundwater Monitoring

Well Network

In addition to the comprehensive influent and effluent monitoring program at the STP, the groundwater monitoring program is designed to provide a secondary means of verifying that STP operations are not impacting groundwater quality. One upgradient well (039-87) and six downgradient wells (039-88, 039-89, 039-115, 048-08, 048-09 and 048-10) are used to monitor groundwater quality in the recharge basin area (**Figure 4.4-1**). Monitoring results from three wells (039-88, 039-89, and 039-90) are also used to evaluate groundwater quality in the holding pond area, when necessary.

Sampling Frequency and Analysis

In accordance with the SPDES permit, the STP recharge basin area monitoring wells are sampled annually (**Table 1-6**). Samples were collected in November 2021. As required by the permit, the samples are analyzed for the following metals: copper, iron, lead, nickel, silver, zinc and mercury.

Furthermore, due to periodic exceedances of the SPDES permit discharge limit for the corrosion inhibitor tolyltriazole (TTA), the STP recharge basin monitoring wells were sampled for this chemical in July 2020 (BNL 2021e). This was followed by the installation of three temporary wells downgradient of the STP recharge basins during October and November 2021 (**Figure 4.4-1**).

4.4.2 STP Monitoring Well Results

All metals concentrations tracked under the SPDES permit were below the applicable AWQS. As in previous years, sodium was detected at concentrations above the 20 mg/L AWQS in the STP recharge basin area wells. During 2021, sodium levels exceeded 20 mg/L in four wells, with maximum concentration of 116 mg/L in well 039-115. Tolyltriazole concentrations exceeded the AWQS of 0.05 mg/L in all three temporary wells installed downgradient of the recharge basin area, with a maximum concentration of 1.53 mg/L in a sample collected from well temporary well TTA-GP-05 (**Table 4.4-1**).

4.4.3 STP Groundwater Monitoring Program Evaluation

The 2021 monitoring data were evaluated using the following Data Quality Objective statement.

1. Are STP operations impacting groundwater quality?

In addition to the continued detection of sodium at concentrations above the 20 mg/L AWQS, monitoring results for 2021 indicate that tolyltriazole is also impacting groundwater quality downgradient of the STP recharge basins.

4.4.4 STP Recommendation

For 2022, the following is recommended for the STP groundwater monitoring program:

- In accordance with the SPDES permit, the STP groundwater monitoring wells will be sampled annually, and the samples will be analyzed for the metals specified in the permit.
- Consider conducting additional monitoring for tolyltriazole downgradient of the STP.

4.5 MOTOR POOL AREA

The Motor Pool (Building 423) consists of a five-bay automotive repair shop, which includes office and storage spaces (**Figure 4.5-1**). The facility has been used continuously since 1947.

Potential environmental concerns at the Motor Pool include 1) the use of USTs to store gasoline, diesel fuel, and waste oil, 2) hydraulic fluids used for lift stations, and 3) the use of solvents for parts cleaning. In August 1989, the gasoline and waste oil USTs, pump islands, and associated piping were upgraded to conform to Suffolk County Article 12 requirements for secondary containment, leak detection devices, and overfill alarms. The present tank inventory includes two 8,000-gallon USTs used to store unleaded gasoline, one 260-gallon above ground storage tank used for waste oil, and one 3,000-gallon UST for No. 2 fuel oil. The Motor Pool facility has five vehicle-lift stations. The hydraulic fluid reservoirs for the lifts are located above ground.

4.5.1 Motor Pool Area Groundwater Monitoring

Well Network

The groundwater monitoring program for the Motor Pool's UST area is used to confirm that the current engineered and institutional controls are effective in preventing contamination of the aquifer. Shallow Upper Glacial aquifer wells 102-05 and 102-06 are used to monitor for potential contaminant releases from the UST area (**Figure 4.5-1**). As needed, groundwater quality downgradient of Building 423 can also be monitored using shallow wells 102-10, 102-11, 102-12, and 102-13.

Sampling Frequency and Analysis

During 2021, the two UST area wells were monitored one time, and the samples were analyzed for VOCs (**Table 1-6**). The wells were also checked for the presence of floating petroleum hydrocarbons. The remaining Building 423 monitoring wells were not sampled.

4.5.2 Motor Pool Monitoring Well Results

Underground Storage Tank Area

During 2021, no VOCs were detected in the monitoring wells. As in previous years, no floating product was detected in the wells.

4.5.3 Motor Pool Groundwater Monitoring Program Evaluation

The 2021 monitoring data were evaluated using the following Data Quality Objective statement.

1. Is there a continuing source of contamination? If present, has the source been remediated or controlled?

During 2021, there were no reported gasoline or motor oil losses or spills from the USTs or from Building 423 that could affect groundwater quality. Furthermore, all waste oils and used solvents generated from current operations are being properly stored and recycled. The gasoline USTs have electronic leak detection systems, and there is a daily product reconciliation (i.e., an accounting of the volume of gasoline stored in USTs and volume of gasoline dispensed).

4.5.4 Motor Pool Recommendations

The following are recommendations for the Motor Pool area monitoring program for 2022:

- The sampling frequency for the UST area wells 102-05 and 102-06 will continue to be annually.

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4.6 ON-SITE SERVICE STATION

Building 630 was a commercial automobile service station, privately operated under a contract with BNL. The station was built in 1966 and was used for automobile repair and gasoline sales until January 2018. Potential environmental concerns at the Service Station included the use of USTs for the storage of gasoline and waste oil, hydraulic fluids used for lift stations, and the use of solvents for parts cleaning. In August 1989, the USTs, pump islands, and associated piping were upgraded to conform to Suffolk County Article 12 requirements for secondary containment, leak detection devices, and overfill alarms. The tank inventory included three 8,000-gallon USTs for storing unleaded gasoline and one 500-gallon UST used for waste oil. The facility had three hydraulic vehicle-lift stations. In early 2018, the underground storage tanks were emptied of their contents, and hydraulic oils were draining from the lift stations. In September 2018, the underground storage tanks were excavated and removed from the site for proper disposal. During the removal of the underground storage tanks, there were no reported gasoline or motor oil losses or spills that could affect groundwater quality. Furthermore, no contaminants were detected in end-point soil samples at concentrations above 6 NYCRR Part 375 cleanup guidelines.

4.6.1 Service Station Groundwater Monitoring

Well Network

Groundwater quality in the service station area was monitoring using four shallow Upper Glacial wells. The monitoring program was used to confirm that the engineered and institutional controls in place are effective in preventing contamination of the aquifer and to evaluate continued impacts from historical spills (**Figure 4.6-1**).

Sampling Frequency and Analysis

No groundwater samples were collected during 2021.

4.6.2 Service Station Monitoring Well Results

Although groundwater water quality at the Service Station had been impacted by a variety of VOCs that were related to historical vehicle maintenance and refueling operations, monitoring conducted during 2015 through 2017 indicated a significant drop in VOC concentrations. During 2017, the highest VOC concentration was detected in well 085-17, with tetrachloroethylene at 3.7 µg/L, which was below the NYS AWQS of 5 µg/L.

4.6.3 Service Station Groundwater Monitoring Program Evaluation

Monitoring data collected to date were evaluated using the following Data Quality Objective statement.

1. Is there a continuing source of contamination? If present, has the source been remediated or controlled?

Based upon the last set of monitoring data collected in 2017, VOC concentrations for individual compounds have declined to less than applicable AWQS. During the removal of the underground storage tanks, there were no reported gasoline or motor oil losses or spills that could affect groundwater quality. Furthermore, no contaminants were detected in end-point soil samples at concentrations above 6 NYCRR Part 375 cleanup guidelines.

4.6.4 Service Station Groundwater Monitoring Program Recommendation

Because the Service Station facility has been decommissioned, and groundwater monitoring results indicated that VOC concentrations declined to less than the NYS AWQS, the monitoring program has been discontinued. The monitoring wells will be retained for possible future use.

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4.7 MAJOR PETROLEUM FACILITY (MPF)

The MPF is the storage area for fuel oil used at the Central Steam Facility (CSF). The fuel oil is held in a network of seven above ground storage tanks, which have a combined capacity of up to 1.7 million gallons of No. 6 fuel oil and 60,000 gallons of No. 2 fuel oil. The tanks are connected to the CSF by above ground pipelines that have secondary containment and leak detection devices. The fuel storage tanks are positioned in bermed containment areas that have a capacity to hold >110 percent of the volume of the largest tank located there. The bermed areas have bentonite clay liners consisting of either Environmat™ (bentonite clay sandwiched between geotextile material) or bentonite clay mixed into the native soil to form an impervious soil/clay layer. Fuel-unloading operations occur in a centralized building that has secondary containment features. The MPF is operated under NYSDEC Permit #1-1700 and, as required by law, a Spill Prevention Control and Countermeasures (SPCC) Plan and a Facility Response Plan have been developed for the facility. Groundwater quality near the MPF has been impacted by several oil and solvent spills and PFAS: 1) the 1977 fuel oil/solvent spill east of the MPF that was remediated under the FFA (OU IV); 2) a historical fuel/solvent spill discovered in 2013 near MPF storage tank #3; 3) historical solvent spills near the CSF; 4) solvent spills that occurred in the Building 650 area; and 5) firefighter training with PFAS containing foam occurred near several of the storage tanks.

4.7.1 MPF Groundwater Monitoring

Well Network

Eight shallow Upper Glacial aquifer wells are used to confirm that the engineered and institutional controls in place are effective in preventing contamination of the aquifer (**Figure 4.7-1**).

Sampling Frequency and Analysis

Groundwater contaminants from the fuel oil products stored at the MPF can travel both as free product and in dissolved form in groundwater. Based upon these factors, the NYSDEC Special License Conditions for the MPF requires semiannual monitoring for VOCs and SVOCs and monthly monitoring for floating petroleum (**Table 1-6**).

4.7.2 MPF Monitoring Well Results

During 2021, tetrachloroethene (at a maximum concentration of 11 µg/L), trichloroethene (0.98J µg/L) and chloroform (0.32J µg/L) continue to be detected in upgradient well 076-25 (**Figure 4.7-1**). The tetrachloroethene concentration in upgradient well 076-25 was above the AWQS of 5 µg/L. In the downgradient wells, tetrachloroethene was detected in well 076-380 at 1.7J µg/L. The trichloroethene concentrations were less than the 5 µg/L AWQS. VOCs detected in the groundwater at the MPF are believed to originate from historic solvent spills that occurred near the Central Steam Facility and at an adjacent upgradient facility (Building 650). As in previous monitoring periods, no floating petroleum was detected in the MPF monitoring wells. Monitoring conducted in 2020 indicated that Per- and Polyfluoroalkyl Substances (PFAS) PFOS and PFOA are present in the groundwater downgradient of the MPF at concentrations >10 ng/L DWS (BNL 2021).

4.7.3 MPF Groundwater Monitoring Program Evaluation

The 2021 monitoring data were evaluated using the following Data Quality Objective statement.

1. Are the potential sources of contamination being controlled?

Groundwater monitoring at the MPF continues to show that fuel storage and distribution operations are not impacting groundwater quality. VOCs that are periodically detected in the groundwater are likely to have originated from historical solvent spills near the Central Steam Facility and near the Building 650 area to the north. Several historical spill sites near the CSF were identified during the 1990s, and

the contaminated soils were excavated and disposed of in accordance with regulatory requirements. The historical use of firefighting foam in the MPF area has also impacted groundwater quality. Long-term impacts from PFAS use at the MPF will be evaluated during the planned RI/FS.

4.7.4 MPF Recommendation

For 2022, monitoring will continue as required by the NYS operating permit, with semiannual monitoring for VOCs and SVOCs, and monthly testing for floating product.

4.8 WASTE MANAGEMENT FACILITY (WMF)

The WMF is designed to safely handle, repackage, and temporarily store BNL-derived wastes prior to shipment to off-site disposal or treatment facilities. The WMF is a state-of-the-art facility, with administrative and engineered controls that meet all applicable federal, state, and local environmental protection requirements. The WMF consists of three buildings: the Operations Building, Reclamation Building (for radioactive waste), and the RCRA Building.

Groundwater monitoring is a requirement of the RCRA Part B permit issued for WMF operations. The groundwater monitoring program for the WMF is designed to supplement the engineered and institutional controls by providing additional means of detecting potential contaminant releases from the facility. Because of the close proximity of the WMF to BNL potable supply wells 11 and 12, it is imperative that the engineered and institutional controls implemented at the WMF are effective in ensuring that waste handling operations do not degrade the quality of the soil and groundwater in this area.

4.8.1 WMF Groundwater Monitoring

Well Network

During 2021, groundwater quality at the WMF was monitored using eight shallow Upper Glacial aquifer wells. Two wells (055-03 and 055-10) were used to monitor background water quality, and six wells were used to monitored groundwater quality near the two main waste handling and storage facilities. Wells 056-21, 066-220 and 066-221 are located near the RCRA Building, and wells 056-22, 066-222 and 066-223 are located near the Reclamation Building. Periodically adjustments are made to the list of downgradient wells that are monitored due to transient changes in groundwater flow directions caused by the operations of the nearby supply wells. BNL discontinued sampling of well 066-224 following the 2012 closure of the former Mixed Waste Building. Locations of the monitoring wells are shown on **Figure 4.8-1**.

Sampling Frequency and Analysis

During 2021, the WMF wells were sampled in February and September. Groundwater samples were analyzed twice for VOCs, tritium, gamma spectroscopy, gross alpha, and gross beta, and one time for strontium-90, metals and anions (e.g., chlorides, sulfates, and nitrates) (**Table 1-6**).

4.8.2 WMF Monitoring Well Results

Radiological Analyses

Gross alpha and beta levels in samples from both upgradient and downgradient monitoring wells were consistent with background concentrations. During 2021, sodium-22 was detected in well 056-21 at 6.48 pCi/L which is well below the applicable drinking water standard of 400 pCi/L. Based upon documented waste management operations, sodium-22 is not associated with the WMF.

Low levels of strontium-90 (Sr-90) continued to be detected in several downgradient monitoring wells, with a maximum concentration of 1.76 pCi/L in well 056-22, which is approximately 22% of the 8 pCi/L DWS. The past detection of Sr-90 in several of the WMF monitoring wells is likely to be historical leakage of wastewater from the main sanitary line that ran through the current WMF area before it was re-routed south of the facility. During construction of the WMF, portions of the old sanitary line were abandoned in place. Low levels of Sr-90 were also detected in pre-operation (baseline) samples collected in May 1997 in both upgradient and downgradient wells at concentrations up to 5.4 pCi/L. The only operation at the WMF that could potentially contribute Sr-90 to the environment is the BGRR/WCF groundwater treatment system located in Building 855. However, the pipeline in the WMF area is double lined, and is monitored by a leak detector. There are no indications that this piping system has leaked.

Non-Radiological Analyses

All anions (chlorides, sulfates, and nitrates) and most metals concentrations were below applicable ambient NYS AWQS or DWS. As in previous years, sodium was detected at concentrations above the 20 mg/L AWQS. Sodium was detected at concentrations above the standard in both upgradient wells at a maximum of 50 mg/L in well 055-10, and in two downgradient wells (056-22 and 066-221) at concentrations up to 35 mg/L. The elevated sodium concentrations are likely the result of road salting operations. Although trace levels of chloroform (up to 0.73 µg/L) were detected in both upgradient wells and one downgradient well, the concentrations were below the 7 µg/L AWQS.

4.8.3 WMF Groundwater Monitoring Program Evaluation

The 2021 monitoring data were evaluated using the following Data Quality Objective statement.

1. Are potential sources of contamination within the WMF being controlled?

Groundwater monitoring results for 2021 continued to show that WMF operations are not affecting groundwater quality. Furthermore, there were no outdoor or indoor spills at the facility that could have affected soil or groundwater quality.

4.8.4 WMF Recommendation

The following are recommended for 2022:

- Continue monitoring the wells at a semiannual frequency as required by the RCRA Part B Permit.

4.9 NATIONAL SYNCHROTRON LIGHT SOURCE II (NSLS-II)

The NSLS-II is an electron accelerator that began full-time operations in 2014. High-energy particle interactions in water, air, and soil can produce radioactivity from spallation reactions or neutron capture in nitrogen, oxygen, or other materials. In high-energy proton accelerators, such as BNL's AGS, BLIP and RHIC, these interactions can produce significant activation of the soil shielding. However, electron accelerators such as the NSLS-II have significantly reduced potential for environmental impacts and can produce only about one to five percent of the induced activity of a proton accelerator. As required by the BNL SBMS *Accelerator Safety* subject area, analyses have been conducted to estimate the rate of formation of tritium and sodium-22 in the surrounding soils during the operation of the NSLS-II's Linac, Booster, and Storage Ring. The results of these analyses indicate that interactions of neutrons with the soils below the tunnel floor and surrounding soil shielding (berm) have the potential to create very low levels of tritium and sodium-22 in the soil. However, because the soil beneath the concrete floor will not be exposed to rainfall, the potential leaching of radioactive isotopes from the soil to the water table at these locations will be minimal. There is also the potential to create very low levels of tritium in the water used to cool the magnets and other accelerator components.

4.9.1 NSLS-II Groundwater Monitoring

Well Network

Four monitoring wells are located downgradient of the facility's Linac, Booster and Storage Ring area where beam line operations may result in low level activation of the surrounding soil shielding (**Figure 4.9-1**). Two nearby MPF monitoring wells (076-18 and 076-19) are used as upgradient/background wells for the NSLS-II facility.

Sampling Frequency and Analysis

During 2021, the four NSLS-II monitoring wells and the two MPF wells were sampled one time, and the samples were analyzed for tritium (**Table 1-6**).

4.9.2 NSLS-II Monitoring Well Results

As in past years, tritium was not detected in the groundwater samples collected during 2021.

4.9.3 NSLS-II Groundwater Monitoring Program Evaluation

The 2021 monitoring data were evaluated using the following Data Quality Objective statement.

1. Are the engineered and operational controls effective at preventing or reducing the leaching of radionuclides from activated soils to the groundwater?

Monitoring results for 2021 indicate that NSLS-II operations are not impacting groundwater quality.

4.9.4 NSLS-II Recommendations

For 2022, the four NSLS-II and two MPF (background) monitoring wells will continue to be monitored annually for tritium.

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4.10 Recharge Basin HN

Recharge basins are used for the discharge of "clean" wastewaters that are suitable for direct replenishment of the aquifer. These discharges include once-through cooling water, stormwater, and cooling tower blowdown, and are regulated under State Pollutant Discharge Elimination System (SPDES) permits. One of the recharge basins known as basin HN, is located at the six o'clock area of the Relativistic Heavy Ion Collider (RHIC) facility. Basin HN receives once-through cooling water from the Alternating Gradient Synchrotron (AGS) and RHIC facilities, as well as cooling tower blowdown and stormwater runoff. Due to exceedances of the SPDES permit discharge limit for the corrosion inhibitor tolyltriazole (TTA), in late 2021 and early 2022 BNL conducted a limited characterization effort to determine whether TTA is impacting groundwater quality downgradient of basin HN and the Sewage Treatment Plant (see **Section 4.4**).

4.10.1 Basin HN Groundwater Monitoring

Well Network

A permanent groundwater monitoring program for basin HN has not been established. During October-November 2021 BNL installed three temporary wells approximately 800 feet downgradient of basin HN to evaluate potential impacts to groundwater quality (**Figure 4.10-1**). This was followed by the December 2021 and January 2022 sampling five permanent wells located between 2,000 and 2,500 feet downgradient of the basin (wells 055-01, 055-06, 055-10, 056-01 and 056-03).

Sampling Frequency and Analysis

The three temporary wells and five permanent wells were sampled for TTA. Furthermore, pre- and post-granular activated carbon (GAC) filter samples from supply wells BNL-10, BNL-11, and BNL-12 were also tested for TTA.

4.10.2 Basin HN Area Monitoring Results

Tolyltriazole concentrations exceeded the AWQS of 0.05 mg/L in all three temporary wells installed downgradient of basin HN, with a maximum concentration of 0.67 mg/L in a sample from temporary well TTA-GP-02 (**Table 4.10-1**). Tolyltriazole concentrations also exceeded the AWQS in two of the five permanent wells, with a maximum concentration of 0.362 mg/L in a sample collected from well 055-10 (**Table 4.10-2**). Well 055-10 is located approximately 400 feet west of water supply well BNL-11 and is also used as an upgradient well for the Waste Management Facility monitoring program. All three supply wells located downgradient of the basin HN currently have operating GAC filters. In February and May 2022, pre- and post-GAC filter samples were collected at the three supply wells. Tolyltriazole was not detected in any of the samples (MDL = 0.05 mg/L).

4.10.3 Basin HN Area Groundwater Monitoring Program Evaluation

The 2021 and early 2022 monitoring data were evaluated using the following Data Quality Objective statement.

1. Are Basin HN operations impacting groundwater quality?

Monitoring results for 2021 and early 2022 indicate that tolyltriazole is impacting groundwater quality downgradient of basin HN.

4.10.4 Recommendation

The following is recommended for 2022:

- Continue to monitor pre- and post-GAC filter samples from supply wells BNL-10, BNL-11, and BNL-12 for TTA
- Consider conducting additional monitoring for TTA in groundwater downgradient of basin HN.

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5.0 SUMMARY OF RECOMMENDATIONS

This section is provided as a quick reference to recommendations for monitoring and remediation program changes described in **Sections 3** and **4**. **Table 5-1** summarizes the changes to the monitoring well sampling programs.

5.1 OU I South Boundary Treatment System

- Maintain the VOC post-closure groundwater monitoring program of an annual sample collection from post-closure wells: 107-40, 107-41, 115-13, 115-16, and 115-51. Maintain quarterly sampling of Current Landfill sentinel well 098-99.
- Install temporary wells as needed to fill monitoring data gaps and characterize extent of the Sr-90 plume.

5.2 Building 96 Treatment System

- RTW-1 TVOC concentrations have remained below the 50 µg/L system capture goal since 2015 and decreased to 3 µg/L in December 2021. This well will be placed in a pulsed pumping mode in May 2022 and operated every other month. RTW-1 and area wells will be monitored for any rebound of concentrations over the system capture goal.
- As per a recommendation in the 2021 CERCLA Five-Year Review Report, continue to closely monitor TVOC concentrations in the plume source area and evaluate/implement a liquid carbon with zero-valent iron in-situ treatment for the immediate source area.
- Implement the following monitoring program changes:
    - Reduce the monitoring frequency for well 095-318 from quarterly to annually due to the low VOC concentrations observed in this well since 2015 and the effectiveness of RTW-1 in capturing the plume.
    - Reduce the sampling frequency for well 085-293 from quarterly to annually. TVOC concentrations have remained below 5 µg/L since 2013.
    - Reduce the sampling frequency for well 095-85 from quarterly to annually. TVOC concentrations have remained below 5 µg/L since 2014. The higher VOC concentrations in this well cluster are now being observed in 095-84 which is screened at a shallower depth.
- Maintain treatment wells RTW-2, RTW-3, and RTW-4 in standby mode, and restart the wells if extraction or monitoring well data indicate that TVOC concentrations exceed 50 µg/L

5.3 Middle Road Treatment System

- Maintain extraction wells RW-1, RW-4, RW-5 and RW-6 in standby mode. Restart the well(s) if extraction or monitoring well data indicate that TVOC concentrations exceed the 50 µg/L capture goal.
- Continue operation of RW-2, RW-3 and RW-7.
- In order to help meet the OU III ROD cleanup goal, perform groundwater modeling simulations to evaluate the best locations, extraction rates, and number of extraction wells for a system modification design.

5.4 OU III South Boundary Treatment System

- Maintain wells EW-3, EW-4, EW-5, EW-6, EW-7, EW-8, and EW-12 in standby mode. The system's extraction wells will continue to be sampled on a quarterly basis, with the exception of EW-12. The wells will be restarted if extraction or monitoring well data indicate TVOC concentrations exceed the 50 µg/L capture goal.
- Continue to operate well EW-17 on a full-time basis.
- In order to meet the OU III ROD cleanup goal:
    - Perform groundwater modeling simulations to help evaluate the best location, extraction rates, and number of extraction wells to optimize the system and achieve cleanup goals.

5.5 Western South Boundary Treatment System

- Continue full-time operation of extraction well WSB-1 based on elevated concentrations in well 126-14. If TVOC concentrations levels drop under 20 µg/L in this monitoring well, begin pulsed pumping well WSB-1.
- Based on the low TVOC concentrations below the capture goal of 20 µg/L, maintain extraction well WSB-2 in standby mode. If TVOC concentrations greater than 20 µg/L are observed in WSB-2 or the adjacent monitoring wells, extraction well WSB-2 may be put into full time operation.
- Continue operation of the four new extraction wells. With the operation of these wells the groundwater cleanup goal of meeting MCLs by 2030 are expected to be met.
- Continue the current monitoring frequency for the Western South Boundary monitoring wells as shown in Table 1-5.

5.6 Industrial Park Treatment System

- Maintain the seven UVB wells in standby. If TVOC concentrations exceed the 50 µg/L capture goal in these UVB wells or associated monitoring wells, they may be restarted.
- Maintain IP-EW-8 and IP-EW-9 in standby and continue to monitor for rebound of VOCs. If TVOC concentrations approach the capture goal of 50 µg/L in the vicinity of the extraction wells the system will be evaluated for restart.

5.7 North Street Treatment System

- NS-1 and NS-2 will remain shut down until the PFAS and 1,4 dioxane characterization is completed. After the completion of this characterization, a determination of the future use of these wells will be determined.
- Continue monitoring the seven wells on an annual monitoring schedule until the results for individual VOCs are consistently below MCLs. The remaining 11 monitoring wells will be retained until the completion of the PFAS and 1,4-dioxane characterization at the BNL site.

5.8 North Street East Treatment System

- Continue full time operation of the EDB treatment system and maintain monthly sampling of extraction wells NSE-EDB-EW-3 and NSE-EDB-EW-4.
- Maintain the quarterly sampling frequency for the 12 EDB monitoring wells using Method 504, except for upgradient perimeter well 115-42 which is sampled semi-annually. Maintain annual VOC sampling using Method 8260 Low Level for all wells except for 115-42 and 000-138.

5.9 LIPA/Airport Treatment System

- Continue full time operation of wells RTW-1A, RTW-4A and RW-6A. Keep wells RTW-2A, RTW-3A and RTW-5A in standby mode. If concentrations above the capture goal of 10 µg/L TVOC are observed in any of the extraction wells or the monitoring wells adjacent to wells that are not operating, the well(s) will be put back into full-time operation.
- Maintain LIPA wells EW-1L, EW-2L, EW-3L and EW-4L in standby mode. These extraction wells may be restarted if TVOC concentrations rebound above the 50 µg/L capture goal in either the plume core monitoring wells or the extraction wells. Based upon the low VOC concentrations for the past several years in the monitoring and extraction wells for the LIPA System, submit a petition for closure of the LIPA system. All of the monitoring wells for the LIPA system were below MCL's in 2021 for individual VOC's.
- No changes to the current monitoring schedule are recommended at this time for the Airport System. Increase the sampling frequency for 17 LIPA monitoring wells from semi-annually to quarterly to support the decision for a petition for closure in 2022.
- Discontinue sampling Magothy well 000-460 as it has been below MCL's since 2015.

5.10 Magothy Monitoring

- Continue the current monitoring frequency for the Magothy monitoring program.
- Continue pumping the Magothy extraction wells at Middle Road, South Boundary (EW-17 only) and the Airport. The two IP extraction wells were placed in standby in July 2019 and continue to be monitored for rebound of VOCs. The North Street, North Street East, OU III South Boundary EW-8 and LIPA and Airport RTW-3A Magothy extraction wells are currently in standby as they have reached the OU III capture goals identified for shutdown of these wells.
- Remove wells 109-12 and 109-13 from this program since they were previously used to monitor impacts to the former William Floyd Magothy aquifer supply well.
- The wells no longer sampled are being kept for potential future use for PFAS and 1,4-dioxane as part of OU X.

5.11 William Floyd Wellfield Sentinel Monitoring

- Starting in the first quarter of 2022, the joint BNL-SCDHS monitoring program will be modified to consist of six wells, 109-03 (existing), and the five new wells 117-01, 117-02, 117-04, 117-05, and 117-06. They will be sampled on a quarterly basis for VOCs, Sr-90, Tritium, Gamma spec, 1,4-dioxane and PFAS.
- Remove wells 109-04, 109-12 and 109-13 from the program since these were used to monitor impacts to the former SCWA former Magothy aquifer supply well.

5.12 BGRR/WCF Strontium-90 Treatment System

- Continue operating wells SR-1 and SR-2 in full time mode. Maintain wells SR-4, SR-5, SR-6, and SR-7 in standby mode.
- Place extraction well SR-3 in standby mode following return to low Sr-90 concentrations in this well and source area monitoring well 075-701 in 2021.
- Place extraction well SR-8 in standby mode as Sr-90 concentrations in this well have remained below the DWS since 2019.

- Place extraction well SR-9 in pulsed pumping mode based on Sr-90 concentrations remaining below DWS since June 2020.
- Maintain a source area monitoring frequency of monthly for BGRR source area wells 075-701 and 075-664.
- Reduce the sampling frequency of source area monitoring wells 065-325 and 065-405 from quarterly to semi-annually based on the Sr-90 concentration decrease in these wells in 2021.
- Install remainder of temporary wells along east-west transects south of the HFBR and at Temple Place.
- Complete the temporary well plume characterization along east-west transects immediately south of the HFBR and at Temple Place.
- Sample newly constructed PFAS extraction well FF-RW-A for Sr-90 based on the location of the WCF Sr-90 plume immediately to the north.
- Obtain samples from existing monitoring wells 075-415, 075-417, 075-419, 085-171, 085-285, 085-286, 085-287, 085-01, and 085-290 for Sr-90 analysis. This data will help to evaluate the presence of Sr-90 in the vicinity of extraction well FF-RW-A.
- Obtain samples from new former firehouse TCRA monitoring wells FFH-MW-01, FFH-MW-02, and FFH-MW-03. This data will help to evaluate the presence of Sr-90 in the vicinity of extraction well FF-RW-A.

5.13 Chemical/Animal Holes Strontium-90 Treatment System

- Maintain the system in standby mode and maintain quarterly sampling of the extraction wells. If significant rebound in either the extraction wells or monitoring wells is identified, these extraction wells may be restarted.
- Maintain the annual monitoring well sampling frequency (standby phase), except for source area wells 097-313, 097-314, 097-315, which will remain at a semi-annual.
- If Sr-90 concentrations in the monitoring and extraction wells do not show any significant rebound, then a Petition for Closure of the treatment system may be prepared.

5.14 HFBR Tritium Pump and Recharge System

- Continue to monitor the source area with the ten wells located immediately downgradient of the HFBR. Maintain the quarterly sampling frequency.
- Maintain the monitoring and extraction wells until a determination is made on their utilization related to PFAS and 1,4-dioxane.

5.15 Building 650 (Sump Outfall) Strontium-90 Monitoring

- No changes to the current monitoring program are warranted at this time.

5.16 Operable Unit VI EDB Treatment System

- Maintain full time operation of the treatment system and continue quarterly sampling of the extraction wells.
- Based on the data collected from the deeper vertical profile wells, the new monitoring wells and the capture and cleanup timeframe assessment, the following is recommended:

- Update the Regional Groundwater Flow Model to reflect the current hydrogeologic conditions, then evaluate extraction/recharge scenarios to modify the current treatment system so that capture and cleanup timeframe objectives of meeting DWS by 2030 are achieved.
- Following the modeling, prepare a system design modification for submittal to the regulators.

5.17 Site Background Monitoring

There are no changes proposed to the monitoring program.

5.18 Current Landfill Groundwater Monitoring

No changes to the monitoring program are warranted at this time.

5.19 Former Landfill Groundwater Monitoring

No changes to the monitoring program are warranted at this time.

5.20 g-2 Tritium Source Area and Groundwater Plume

- Continue routine inspections of the g-2 cap.
- Continue semiannual monitoring of source area wells near Building 912A, and annual monitoring of wells located downgradient of the former beam stop and Building 912.

5.21 Brookhaven Linac Isotope Producer (BLIP) Facility

- As required by the ROD, BNL will continue to conduct routine inspections of the cap, and to monitor groundwater quality downgradient of the BLIP facility.
- No changes to the groundwater monitoring program are recommended.

5.22 PFOS and PFOA in Groundwater

- Install temporary wells south of West Princeton Avenue to determine the location of the leading edge of the Building 170 PFAS plume.
- Develop a Work Plan for conducting the OU X RI/FS.
- Conduct startup monitoring for the current and former firehouse groundwater treatment systems.
- Begin routine sampling of the 95 new monitoring wells installed downgradient of the current and former firehouse facilities and the former Building 170 training area.

5.23 1,4-Dioxane in Groundwater

Develop Work Plan for conducting the OU X RI/FS.

5.24 Alternating Gradient Synchrotron (AGS) Complex

No changes to the monitoring program are warranted at this time.

5.25 Relativistic Heavy Ion Collider (RHIC) Facility

Groundwater samples will continue to be collected on a semiannual basis. Surface water samples will also continue to be collected as part of the Environmental Surveillance program.

5.26 Brookhaven Medical Research Reactor (BMRR) Facility

The monitoring frequency for the wells will continue to be once every two years, with the next set of samples being collected in 2022.

5.27 Sewage Treatment Plant (STP) Facility

In accordance with the SPDES permit, the STP groundwater monitoring wells will be sampled annually, and the samples will be analyzed for the metals specified in the permit. Continue conducting additional monitoring for tolyltriazole.

5.28 Motor Pool Area

The sampling frequency for the UST area wells 102-05 and 102-06 will continue to be annually.

5.29 On-Site Service Station

Because the Service Station facility has been decommissioned, and recent groundwater monitoring results indicated that VOC concentrations declined to less than the AWQS, the monitoring program has been discontinued. The monitoring wells will be retained for possible future use.

5.30 Major Petroleum Facility (MPF) Area

Monitoring will continue as required by the NYS operating permit, with semiannual monitoring for VOCs and SVOCs, and monthly testing for floating product.

5.31 Waste Management Facility (WMF)

Continue monitoring the wells at a semiannual frequency as required by the RCRA Part B Permit

5.32 National Synchrotron Light Source II (NSLS-II)

The four NSLS-II and two MPF (background) monitoring wells will continue to be monitored annually for tritium.

5.33 Recharge Basin HN

Continue to monitor pre- and post-GAC filter samples from supply wells BNL-10, BNL-11 and BNL-12 for TTA. Consider conducting additional monitoring for TTA in groundwater downgradient of Basin HN.

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APPENDIX A

SITEWIDE GROUNDWATER ELEVATION MEASUREMENTS

Sitewide Groundwater Elevation Measurements

2021 Sitewide Groundwater Monitoring Report
Environmental Protection Division
Brookhaven National Laboratory

BNL Well Id.	M.P. Elevation (ft. above m.s.l.)	Depth To Water (ft. below M.P.)	Map Aquifer	Date	Water Table Elev.
000-100	103.35	73.87	SG	10/15/2021	29.48
000-106	117.03	86.81	SG	10/15/2021	30.22
000-109	68.71	37.23	SG	10/15/2021	31.48
000-111	51.67	NA	SG	10/15/2021	NA
000-113	74.35	41.86	SG	10/15/2021	32.49
000-137	60.94	27.80	SG	10/15/2021	33.14
000-147	42.51	9.10	SG	10/15/2021	33.41
000-148	68.32	NA	SG	10/15/2021	NA
000-37	45.32	8.64	SG	10/15/2021	36.68
000-99	99.62	71.64	SG	10/15/2021	27.98
007-03	57.63	17.49	SG	10/18/2021	40.14
013-01	71.16	29.53	SD	10/18/2021	41.63
017-01	65.14	18.27	SG	10/13/2021	46.87
018-01	55.97	10.02	SG	10/13/2021	45.95
021-01	62.73	22.12	SG	10/14/2021	40.61
022-01	60.71	21.34	SG	10/18/2021	39.37
025-02	76.63	29.66	SG	10/13/2021	46.97
025-06	57.80	11.43	SG	10/13/2021	46.37
029-01	49.93	6.23	SG	10/14/2021	43.70
030-01	54.58	14.60	SG	10/14/2021	39.98
034-05	91.94	45.82	SG	10/15/2021	46.12
037-01	68.41	25.25	SG	10/14/2021	43.16
037-02	74.58	32.66	SG	10/14/2021	41.92
038-01	56.70	12.68	SG	10/14/2021	44.02
038-02	59.98	14.96	SG	10/14/2021	45.02
038-05	61.10	21.27	SG	10/18/2021	39.83
039-06	49.47	6.42	SG	10/14/2021	43.05
039-07	58.67	18.96	SG	10/14/2021	39.71
039-08	60.89	21.12	SG	10/14/2021	39.77
039-11	44.67	2.43	SG	10/14/2021	42.24
039-89	50.59	11.44	SG	10/14/2021	39.15
040-04	50.03	11.76	SG	10/14/2021	38.27
040-05	50.39	11.78	SG	10/14/2021	38.61
042-01	75.51	29.37	SG	10/13/2021	46.14
044-13	84.47	38.85	SG	10/13/2021	45.62
046-02	88.27	46.61	SG	10/14/2021	41.66
047-01	63.16	16.97	SG	10/18/2021	46.19
048-02	55.28	16.42	SG	10/14/2021	38.86
048-08	57.57	17.78	SG	10/18/2021	39.79
048-09	55.29	16.00	SG	10/14/2021	39.29
048-10	51.65	12.70	SG	10/14/2021	38.95
049-02	52.18	13.44	SG	10/14/2021	38.74
049-04	49.62	11.69	SG	10/14/2021	37.93
053-03	73.45	28.56	SG	10/18/2021	44.89
053-05	75.60	30.71	SG	10/15/2021	44.89
054-07	72.02	28.41	SG	10/14/2021	43.61
054-09	69.81	25.20	SG	10/13/2021	44.61
054-10	76.26	31.62	SG	10/13/2021	44.64
054-128	71.67	28.23	SG	10/14/2021	43.44
054-64	94.22	50.56	SG	10/14/2021	43.66
055-03	89.08	47.53	SG	10/13/2021	41.55

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BNL Well Id.	M.P. Elevation (ft. above m.s.l.)	Depth To Water (ft. below M.P.)	Map Aquifer	Date	Water Table Elev.
055-04	90.26	48.08	SG	10/14/2021	42.18
055-05	84.28	41.77	SG	10/13/2021	42.51
055-30	71.54	28.48	SG	10/14/2021	43.06
056-04	82.29	41.25	SG	10/14/2021	41.04
057-01	53.04	12.69	SG	10/14/2021	40.35
060-01	44.76	8.34	SG	10/14/2021	36.42
061-07	40.67	4.76	SG	10/15/2021	35.91
063-02	71.78	27.87	SG	10/13/2021	43.91
063-04	70.87	26.68	SG	10/13/2021	44.19
063-06	76.49	31.86	SG	10/13/2021	44.63
064-01	86.24	43.59	SG	10/18/2021	42.65
064-55	72.82	NM	SG	10/15/2021	NM
064-67	99.49	NM	SG	10/15/2021	NM
065-01	90.72	49.06	SG	10/14/2021	41.66
065-124	67.93	25.18	SG	10/15/2021	42.75
065-162	90.14	47.99	SG	10/14/2021	42.15
065-167	109.28	66.75	SG	10/15/2021	42.53
065-173	85.42	42.80	SG	10/14/2021	42.62
065-38	105.89	64.18	SG	10/14/2021	41.71
065-42	94.68	53.37	SG	10/14/2021	41.31
066-07	90.30	49.10	SG	10/14/2021	41.20
066-08	89.72	48.33	SG	10/14/2021	41.39
066-83	86.94	46.04	SG	10/14/2021	40.90
069-10	55.29	18.36	SG	10/14/2021	36.93
070-01	59.96	23.56	SG	10/14/2021	36.40
072-01	83.09	40.02	SG	10/18/2021	43.07
072-03	70.19	26.64	SG	10/13/2021	43.55
072-04	69.96	26.47	SG	10/13/2021	43.49
073-01	77.75	33.97	SG	10/14/2021	43.78
075-01	88.71	47.29	SG	10/14/2021	41.42
075-188	82.84	41.23	SG	10/14/2021	41.61
075-198	76.60	35.54	SG	10/15/2021	41.06
075-202	79.29	38.00	SG	10/15/2021	41.29
075-288	87.96	46.88	SG	10/14/2021	41.08
075-291	83.41	42.47	SG	10/14/2021	40.94
075-418	77.44	36.78	SG	10/14/2021	40.66
076-10	79.48	39.00	SG	10/14/2021	40.48
076-122	78.03	37.39	SG	10/14/2021	40.64
076-13	80.95	39.99	SG	10/14/2021	40.96
076-16	82.50	41.79	SG	10/14/2021	40.71
076-183	79.75	39.48	SG	10/14/2021	40.27
076-19	77.83	37.20	SG	10/14/2021	40.63
076-24	77.53	36.70	SG	10/13/2021	40.83
076-25	80.48	39.49	SG	10/14/2021	40.99
076-29	70.49	29.64	SG	10/15/2021	40.85
076-173	85.46	44.92	SG	10/15/2021	40.54
076-258	82.44	41.67	SG	10/15/2021	40.77
076-373	82.77	41.64	SG	10/14/2021	41.13
076-380	75.90	35.10	SG	10/14/2021	40.80
077-02	74.39	34.74	SG	10/15/2021	39.65
080-02	51.88	16.52	SG	10/15/2021	35.36

Sitewide Groundwater Elevation Measurements

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BNL Well Id.	M.P. Elevation (ft. above m.s.l.)	Depth To Water (ft. below M.P.)	Map Aquifer	Date	Water Table Elev.
082-01	84.21	41.34	SG	10/15/2021	42.87
083-01	90.47	44.71	SG	10/18/2021	45.76
083-02	94.73	52.50	MG	10/18/2021	42.23
083-03	85.50	42.85	SG	10/14/2021	42.65
083-05	109.78	68.31	SG	10/14/2021	41.47
083-06	88.40	45.98	SG	10/15/2021	42.42
084-12	103.52	62.51	SG	10/15/2021	41.01
085-235	79.71	39.35	SG	10/14/2021	40.36
085-287	72.45	31.76	SG	10/14/2021	40.69
085-289	72.61	32.14	SG	10/15/2021	40.47
085-379	64.11	23.62	SG	10/15/2021	40.49
085-67	70.52	30.28	SG	10/14/2021	40.24
085-76	68.21	28.38	SG	10/14/2021	39.83
086-123	74.38	34.57	SG	10/13/2021	39.81
086-42	79.25	40.23	SG	10/14/2021	39.02
087-09	67.70	28.93	SG	10/14/2021	38.77
087-22	87.37	49.10	SG	10/14/2021	38.27
087-23	72.46	34.91	SG	10/14/2021	37.55
088-109	51.83	13.82	SG	10/14/2021	38.01
089-14	49.81	13.80	SG	10/14/2021	36.01
090-02	53.31	18.64	SG	10/14/2021	34.67
090-10	45.61	10.33	SG	10/14/2021	35.28
092-01	84.61	42.91	SG	10/15/2021	41.70
092-02	90.78	49.09	SG	10/15/2021	41.69
093-02	110.87	70.61	SG	10/15/2021	40.26
093-04	89.87	48.87	SG	10/15/2021	41.00
093-05	81.13	39.55	SG	10/18/2021	41.58
094-01	97.26	56.81	SG	10/14/2021	40.45
094-11	74.53	34.22	SG	10/18/2021	40.31
095-67	86.61	NM	SG	10/15/2021	NM
095-68	83.50	42.41	SG	10/18/2021	41.09
095-171	63.02	22.83	SG	10/14/2021	40.19
096-52	68.00	29.56	SG	10/14/2021	38.44
097-14	60.10	23.05	SG	10/14/2021	37.05
097-276	82.96	45.63	SG	10/14/2021	37.33
098-104	54.94	NM	SG	10/15/2021	NM
098-42	52.22	NM	SG	10/15/2021	NM
099-01	51.05	14.94	SG	10/14/2021	36.11
100-10	46.81	12.04	SG	10/18/2021	34.77
101-01	91.08	50.68	SG	10/13/2021	40.40
101-09	103.87	64.81	SG	10/13/2021	39.06
101-10	86.61	46.93	SG	10/13/2021	39.68
102-01	85.61	46.03	SG	10/13/2021	39.58
102-12	93.28	53.54	SG	10/13/2021	39.74
102-25	80.53	41.62	SG	10/13/2021	38.91
103-01	82.46	43.89	SG	10/13/2021	38.57
103-02	91.24	49.51	SG	10/13/2021	41.73
103-10	102.53	62.77	SG	10/13/2021	39.76
104-01	66.08	28.05	SG	10/13/2021	38.03
104-26	84.37	42.40	SG	10/15/2021	41.97
105-02	70.31	32.26	SG	10/13/2021	38.05

Sitewide Groundwater Elevation Measurements

2021 Sitewide Groundwater Monitoring Report
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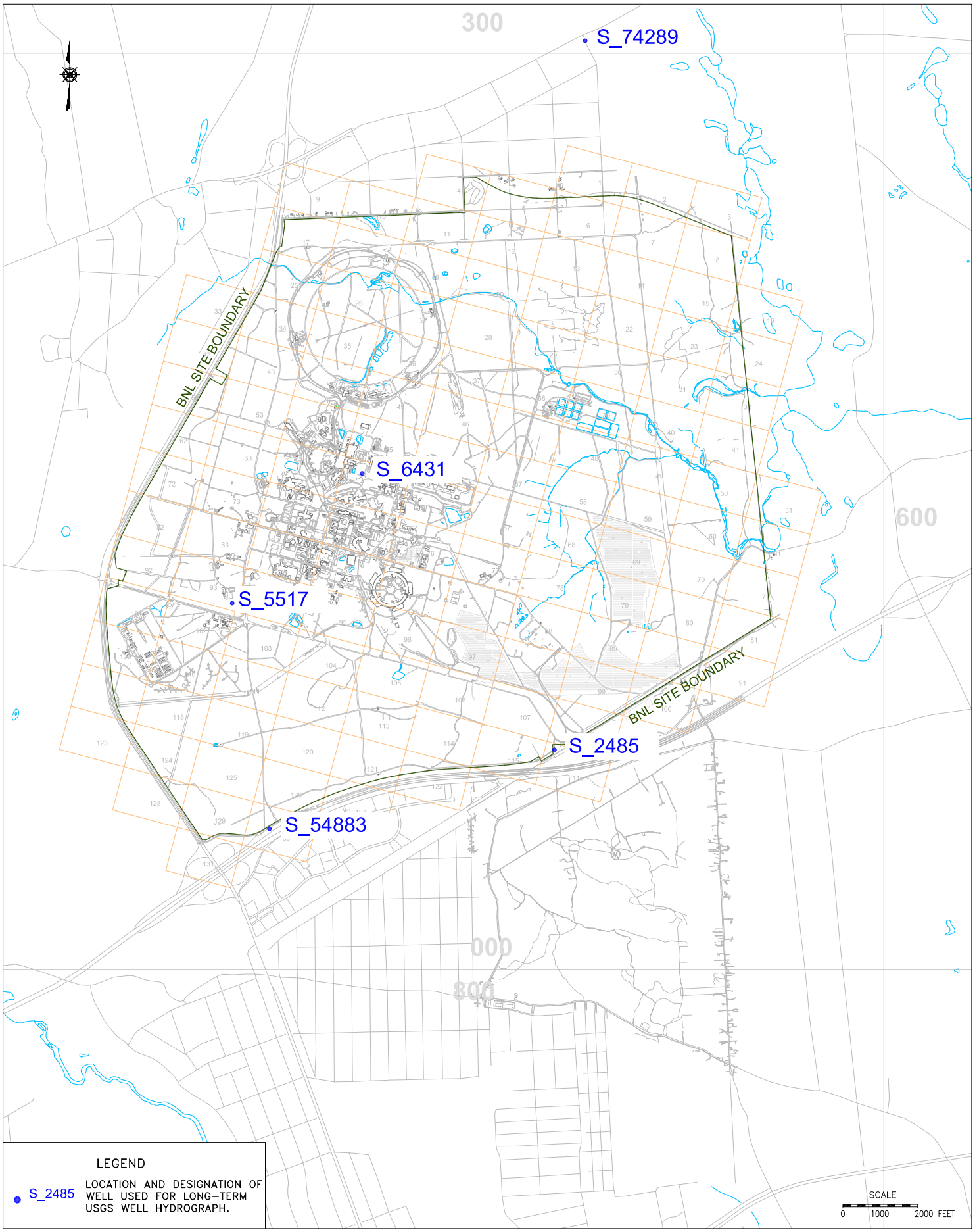
BNL Well Id.	M.P. Elevation (ft. above m.s.l.)	Depth To Water (ft. below M.P.)	Map Aquifer	Date	Water Table Elev.
105-05	60.85	23.75	SG	10/13/2021	37.10
106-16	72.73	36.36	SG	10/13/2021	36.37
106-21	68.52	33.11	SG	10/13/2021	35.41
107-14	69.62	34.38	SG	10/14/2021	35.24
108-08	65.18	30.80	SG	10/18/2021	34.38
108-15	59.98	25.34	SG	10/18/2021	34.64
109-03	114.80	78.53	SG	10/13/2021	36.27
109-29	124.78	87.49	SG	10/13/2021	37.29
110-26	91.60	53.03	SG	10/13/2021	38.57
110-27	96.19	59.04	SG	10/13/2021	37.15
111-01	75.68	39.02	SG	10/13/2021	36.66
113-10	72.32	36.59	SG	10/13/2021	35.73
114-02	64.12	29.86	SG	10/13/2021	34.26
115-32	67.17	33.12	SG	10/13/2021	34.05
115-41	56.30	22.35	SG	10/15/2021	33.95
116-14	68.59	34.40	SG	10/15/2021	34.19
117-01	116.14	81.14	SG	10/13/2021	35.00
117-02	112.30	78.20	SG	10/13/2021	34.10
117-04	112.56	78.32	MG	10/13/2021	34.24
117-05	111.29	77.39	MG	10/13/2021	33.90
117-06	111.73	77.21	MG	10/13/2021	34.52
117-07	105.12	70.14	SG	10/13/2021	34.98
118-01	84.86	48.73	SG	10/13/2021	36.13
118-04	113.03	76.20	SG	10/13/2021	36.83
119-01	81.85	46.89	SG	10/13/2021	34.96
119-03	82.70	46.77	SG	10/13/2021	35.93
121-06	69.00	35.01	SG	10/14/2021	33.99
122-01	61.15	27.70	SG	10/18/2021	33.45
124-01	99.26	64.85	SG	10/13/2021	34.41
124-04	117.05	82.22	SG	10/13/2021	34.83
126-01	83.61	50.53	SG	10/13/2021	33.08
600-18	47.61	13.73	SG	10/15/2021	33.88
600-19	43.27	10.84	SG	10/15/2021	32.43
600-25	43.63	12.15	SG	10/15/2021	31.48
800-26	45.54	20.46	SG	10/15/2021	25.08
800-29	55.61	38.24	SG	10/15/2021	17.37
800-39	80.25	57.06	SG	10/15/2021	23.19
800-42	78.86	54.67	SG	10/15/2021	24.19
800-51	86.90	61.77	SG	10/15/2021	25.13

NA=Not Available, NM=Not Measured

APPENDIX B
LONG-TERM WELL HYDROGRAPHS



Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

TITLE:

LOCATIONS OF BNL AND USGS HYDROGRAPH WELLS

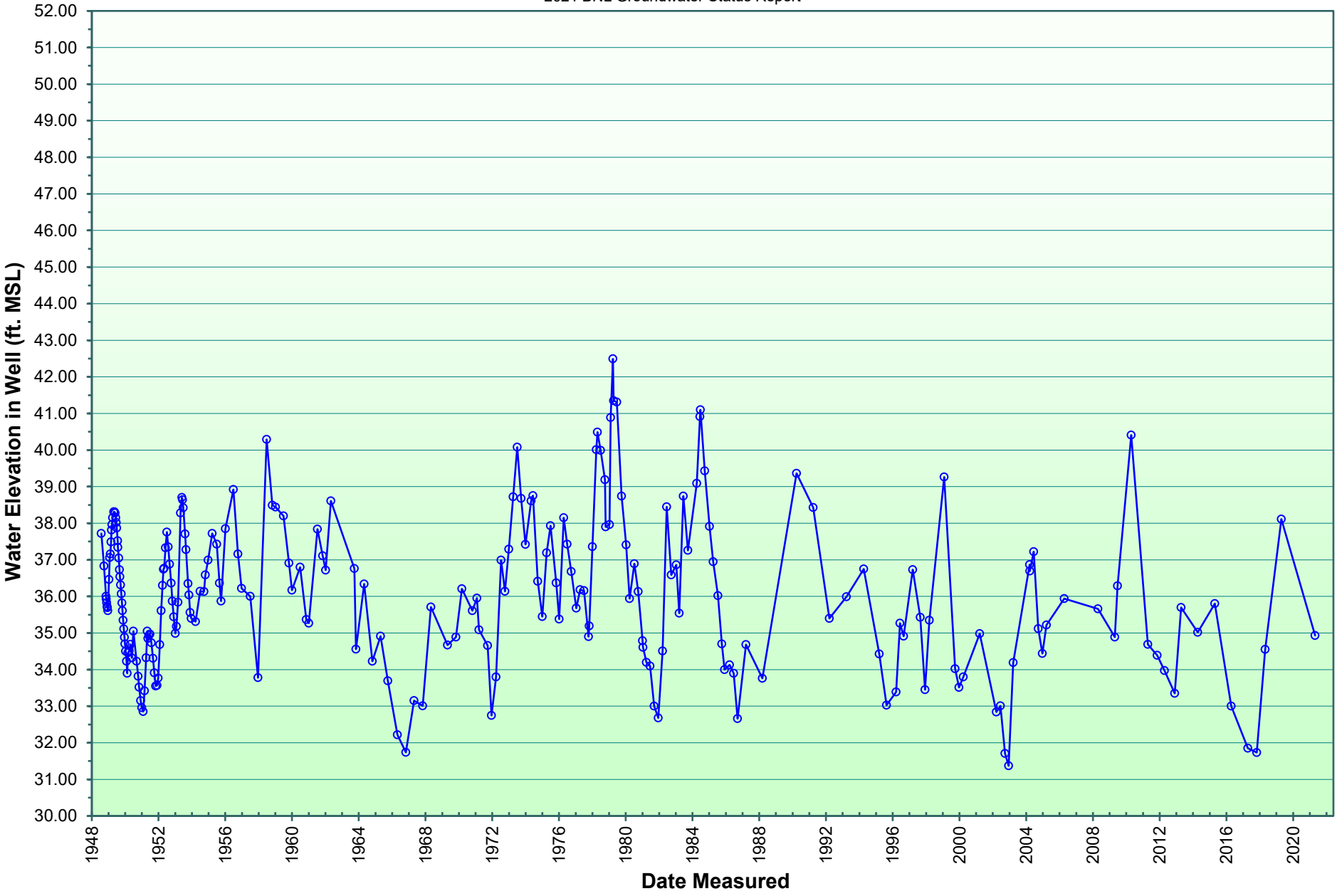
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	03/07/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: B–1

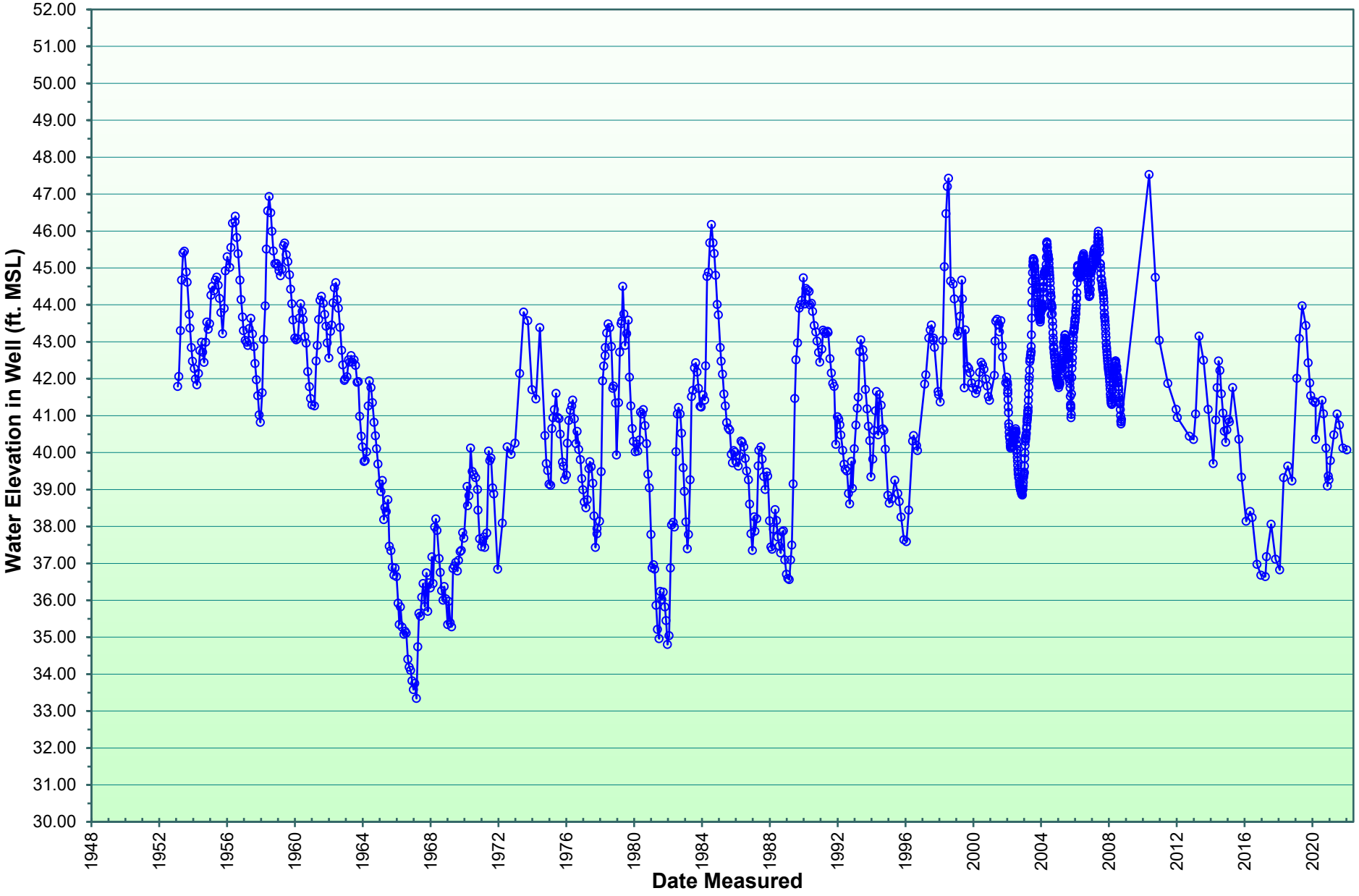
Long Term Hydrograph
for USGS Well No. S 2485. 1 (116-14) (Well Depth 75ft BLS)

2021 BNL Groundwater Status Report



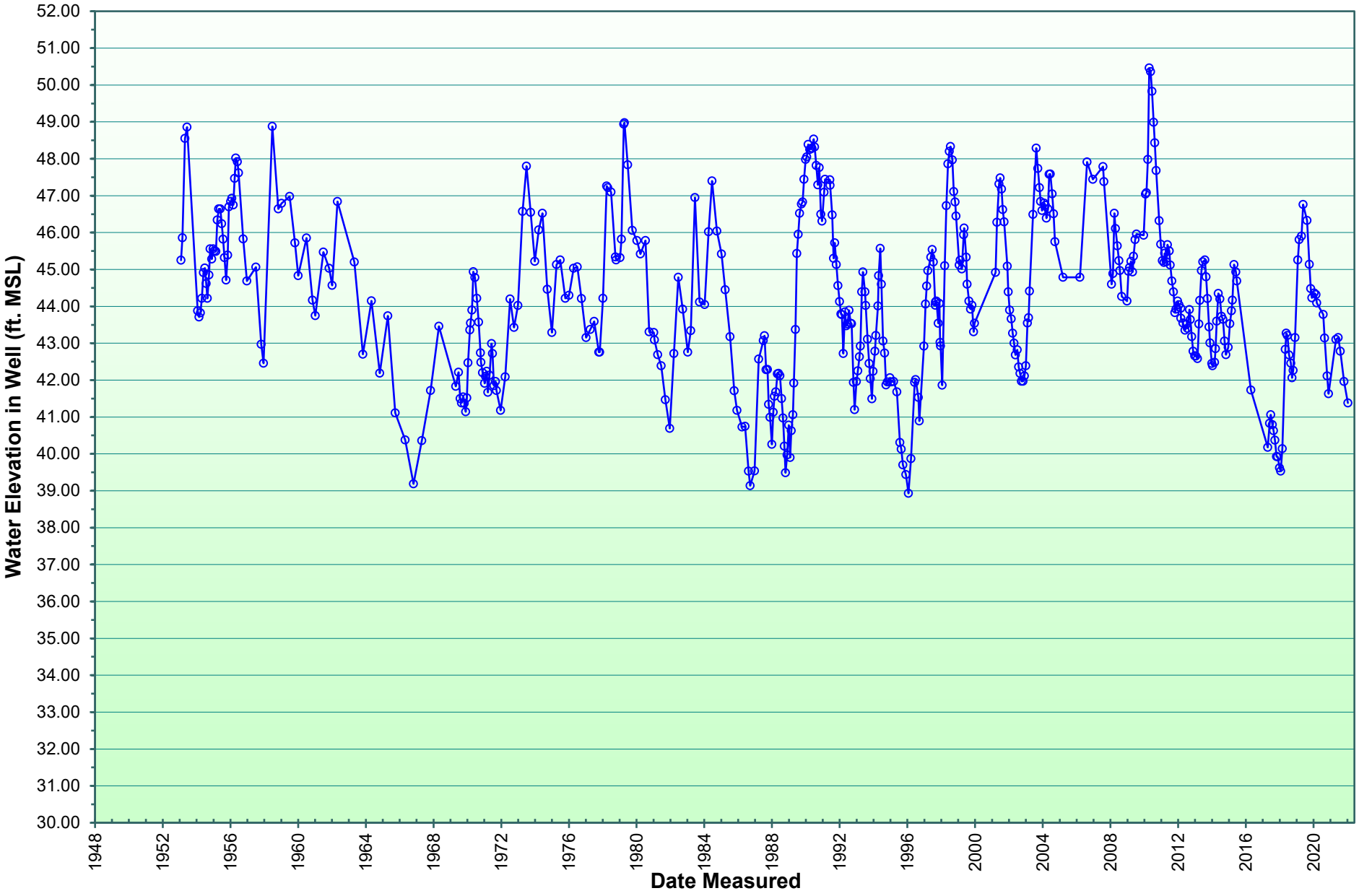
Long Term Hydrograph
for USGS Well No. S 5517. 1 (093-03) (Well Depth 91ft BLS)

2021 BNL Groundwater Status Report



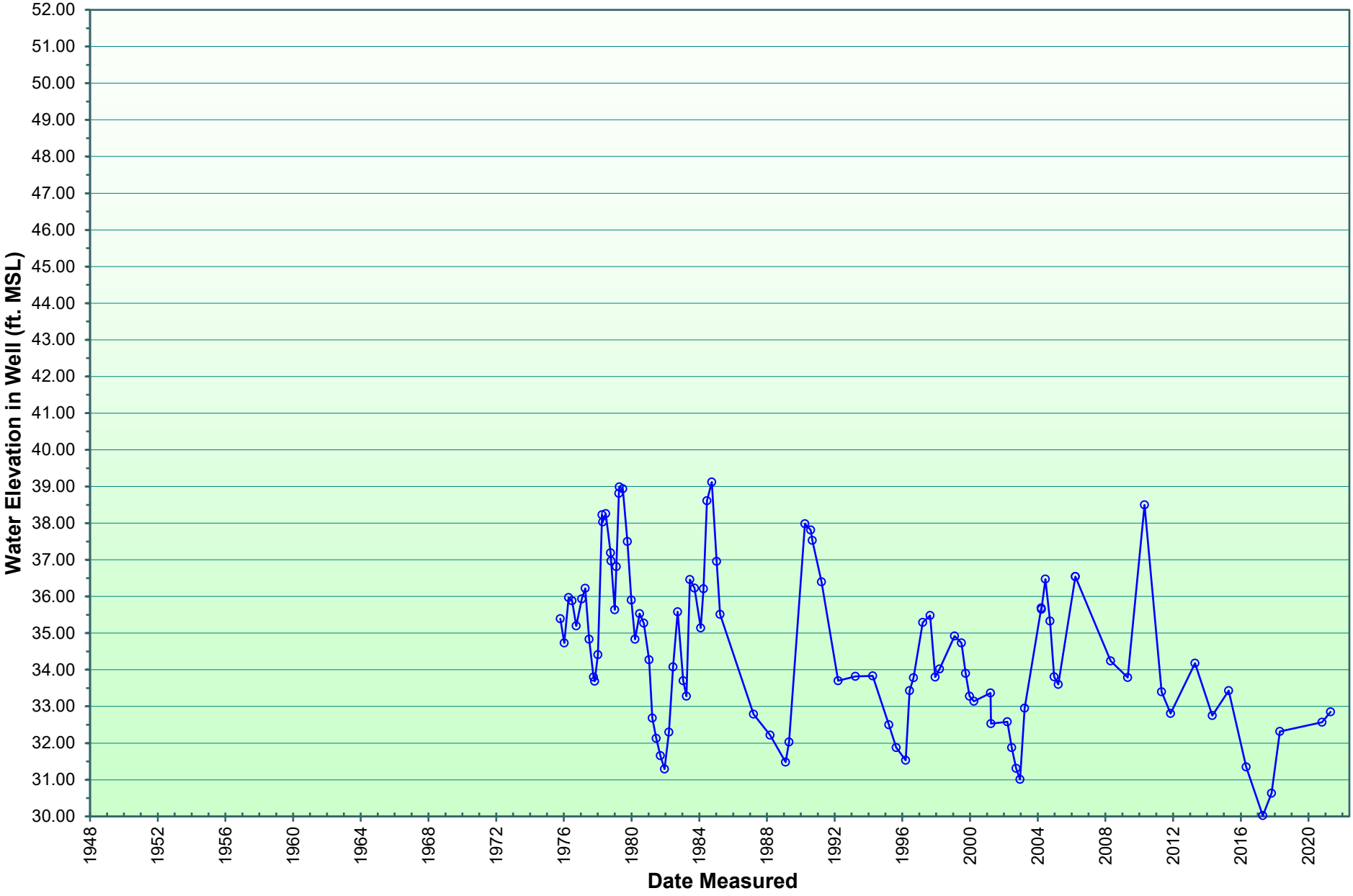
Long Term Hydrograph
for USGS Well No. S 6431. 1 (065-14) (Well Depth 125ft BLS)

2021 BNL Groundwater Status Report



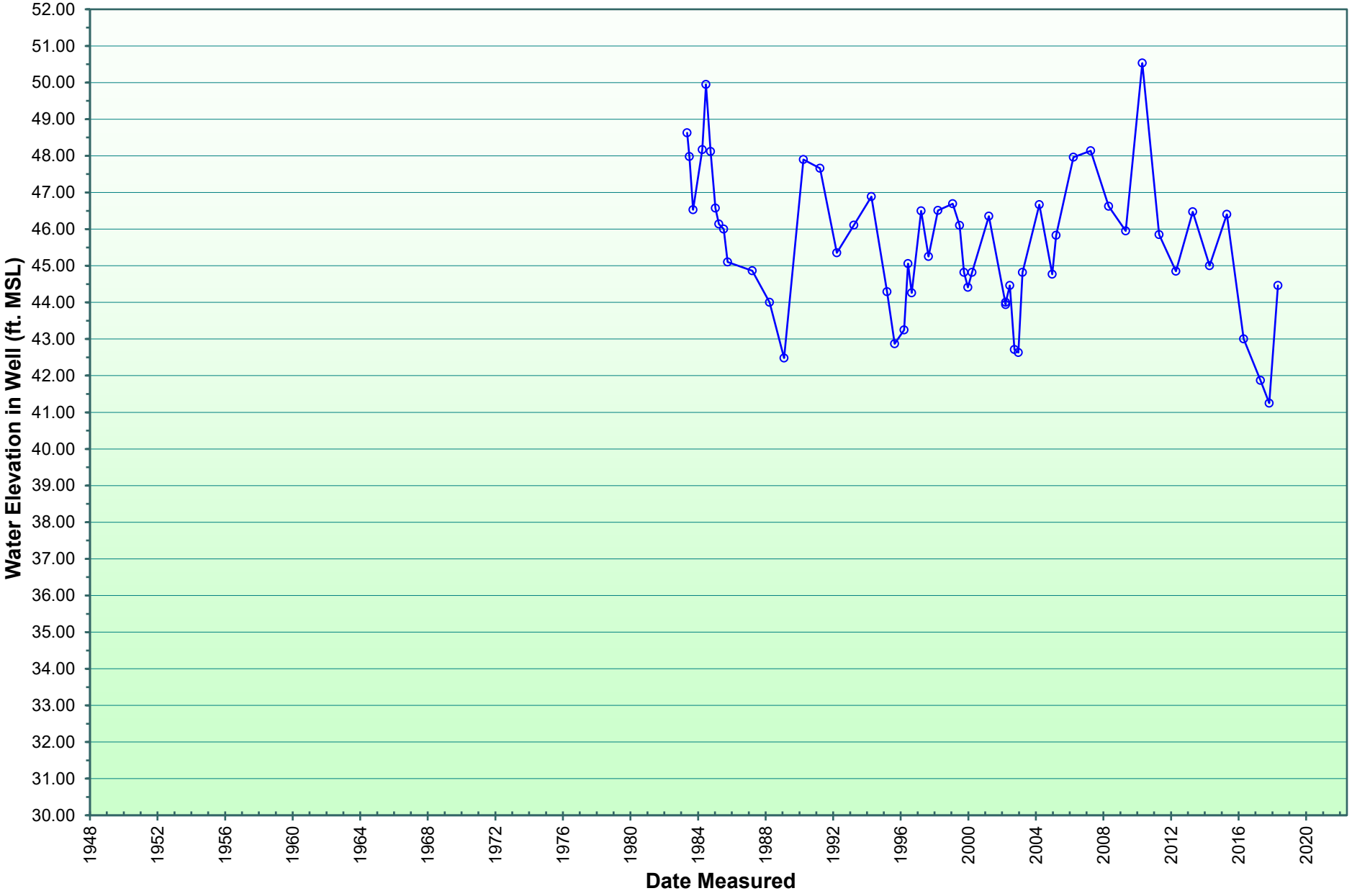
Long Term Hydrograph
for USGS Well No. S 54883. 1 (130-06) (Well Depth 66ft BLS)

2021 BNL Groundwater Status Report



Long Term Hydrograph
for USGS Well No. S 74289. 1 (300-08) (Well Depth 44ft BLS)

2021 BNL Groundwater Status Report



APPENDIX C

2021 CERCLA Groundwater Results

OU I (South Boundary)

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU I (South Boundary)

	107-40 Depth : 145.00 08/04/2021 pCi/l				115-13 Depth : 145.00 08/12/2021 pCi/l				115-16 Depth : 130.00 08/12/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	6.47	U	24.5	14.7	6.27	U	24.2	14.5	-7.26	U	24.6	14.8
Beryllium-7	-3.43	U DL	62.3	50.7	9.14	U	59.8	49	-6.86	U DL	69.1	56.9
Cesium-134	-0.696	U DL	15.5	2.3	1.51	U DL	16.7	1.55	5.85	U DL	14	10
Cesium-137	2.04	U	7.18	5.89	-0.176	U	9.13	7.67	-5.09	U	10.3	9.06
Co-60	0.259	U	10.8	0.457	2.19	U	5.63	3.86	-2.72	U	10.2	9.35
Cobalt-57	-1.01	U DL	6.98	4.14	-2.48	U DL	8.43	5.07	-1.14	U DL	6.77	4.02
Europium-152	38.1	U DL	106	39.8	42.9	U DL	106	61.8	10.9	U DL	110	15.5
Europium-154	7.35	U DL	88	11.1	12.1	U DL	82	17.9	8.87	U DL	82	22.8
Europium-155	8.69	U	30.4	18.3	5.32	U	35.1	17.8	-10.2	U	32.8	19.7
Manganese-54	0.511	U DL	12.1	6.92	0.133	U DL	10.9	6.18	2.18	U DL	6.16	3.65
Sodium-22	-5.42	U DL	13.5	8.11	1.21	U DL	12.4	6.97	-3.77	U DL	12.4	7.3
Strontium-90												
Zinc-65	0.067	U DL	26.4	15	1.78	U DL	26.3	15	0	U DL	24.9	3.63

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU I (South Boundary)

	115-51 Depth : 140.00 03/15/2021 pCi/l				115-51 Depth : 140.00 08/04/2021 pCi/l							
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error				
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	0.0419	U	0.228	0.131	0.243	U	0.263	0.171				
Zinc-65												

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU I (South Boundary)

Analyte	107-40 Depth : 145.00 08/04/2021 ug/L		107-41 Depth : 133.00 08/04/2021 ug/L		115-13 Depth : 145.00 08/12/2021 ug/L		115-16 Depth : 130.00 08/12/2021 ug/L		115-51 Depth : 140.00 08/04/2021 ug/L			
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1-Dichloroethane	**1.5**		0.5	U	0.5	U	**1.5**		0.5	U		
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Benzene, 1,3,5-trimethyl-	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		
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Chloroethane	**0.69**		0.5	U	0.5	U	**1.4**		0.5	U		
Chloroform	0.5	U	0.5	U	**1.4**		0.5	U	0.5	U		
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
m/p xylene	1	U	1	U	1	U	1	U	1	U		
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Tetrachloroethylene	0.5	U	0.5	U	0.17	J	0.5	U	0.5	U		
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Trichloroethylene	0.5	U	0.5	U	0.23	J	0.5	U	0.5	U		
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U		
8260 TVOC	2.19		0		1.8		2.9		0			

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU I (South Boundary)

Analyte	107-40 Depth : 145.00 08/04/2021 ug/L		107-41 Depth : 133.00 08/04/2021 ug/L		115-13 Depth : 145.00 08/12/2021 ug/L		115-16 Depth : 130.00 08/12/2021 ug/L		115-51 Depth : 140.00 08/04/2021 ug/L			
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		

OU III (Building 96)

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	085-293 Depth : 50.00 01/05/2021 ug/L		085-293 Depth : 50.00 04/16/2021 ug/L		085-293 Depth : 50.00 07/13/2021 ug/L		085-293 Depth : 50.00 10/18/2021 ug/L		085-335 Depth : 35.00 01/05/2021 ug/L		085-335 Depth : 35.00 04/16/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.19	J
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.59	U	0.5	U	0.5	U	0.59	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.73**		**0.8**		**1.1**		**0.52**		0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.63	U	0.5	U	0.5	U	0.63	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.66	U	0.5	U	0.5	U	0.66	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.57	U	0.5	U	0.5	U	0.57	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.99	U	0.5	U	0.5	U	0.99	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.16	J	0.5	U	0.5	U	**21**		**17**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	0.5	U	1.5	U	1.5	U	0.5	U	0.5	U
524.2 TVOC	0.73		0.96						21		17.19	
8260 TVOC					1.1		0.52					

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	085-335 Depth : 35.00 07/13/2021 ug/L		085-335 Depth : 35.00 10/18/2021 ug/L		085-347 Depth : 22.50 04/16/2021 ug/L		085-347 Depth : 22.50 10/07/2021 ug/L		085-348 Depth : 34.50 01/08/2021 ug/L		085-348 Depth : 34.50 04/16/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.19	J	0.18	J	0.5	U	0.21	J	0.18	J	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	0.5	U	0.59	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.19	J	0.27	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	**0.55**		0.47	J
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.63	U	0.5	U	0.63	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.66	U	0.5	U	0.66	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.57	U	0.5	U	0.57	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.99	U	0.5	U	0.99	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**28**		**17**		**5.8**		**10**		**30**		**17**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.11	J	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	0.5	U	1.5	U	0.5	U	0.5	U
524.2 TVOC					5.8				31.03		17.74	
8260 TVOC	28.19		17.18				10.21					

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	085-348 Depth : 34.50 07/12/2021 ug/L		085-348 Depth : 34.50 10/07/2021 ug/L		085-349 Depth : 22.50 04/16/2021 ug/L		085-349 Depth : 22.50 07/13/2021 ug/L		085-349 Depth : 23.00 10/06/2021 ug/L		085-350 Depth : 34.50 01/05/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.16	J	0.19	J
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.34	J	0.23	J	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.38	J	**0.6**		0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.66	U	0.5	U	0.5	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**19**		**24**		**4**		**2.9**		**13**		**3.9**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U	0.5	U
524.2 TVOC					4						4.09	
8260 TVOC	19.72		24.83				2.9		13.16			

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	085-350 Depth : 34.50 04/16/2021 ug/L		085-350 Depth : 34.50 07/13/2021 ug/L		085-350 Depth : 34.50 10/06/2021 ug/L		085-351 Depth : 22.50 01/08/2021 ug/L		085-351 Depth : 22.00 04/15/2021 ug/L		085-351 Depth : 22.50 07/13/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.19	J	0.18	J	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.59	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.35	J	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.63	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.66	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.57	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.99	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**8**		**9.9**		**7.6**		**3.6**		**3.3**		**6.5**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	0.5	U	0.5	U	1.5	U
524.2 TVOC	8.19						3.6		3.3			
8260 TVOC			10.08		7.95						6.5	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	085-351 Depth : 23.00 10/06/2021 ug/L		085-352 Depth : 34.50 01/05/2021 ug/L		085-352 Depth : 34.50 04/15/2021 ug/L		085-352 Depth : 34.50 07/13/2021 ug/L		085-352 Depth : 34.50 10/06/2021 ug/L		085-354 Depth : 22.50 04/16/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.24	J	0.18	J	0.5	U	0.33	J	0.24	J
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.59	U	0.59	U	0.5	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.12	J	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.63	U	0.63	U	0.5	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.66	U	0.66	U	0.5	U	0.5	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.57	U	0.57	U	0.5	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.99	U	0.99	U	0.5	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**9.2**		**22**		**9**		**17**		**25**		**7.9**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	0.5	U	0.5	U	1.5	U	1.5	U	0.5	U
524.2 TVOC			22.36		9.18						8.14	
8260 TVOC	9.2						17		25.33			

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	085-354 Depth : 22.50 07/09/2021 ug/L		085-354 Depth : 24.00 10/11/2021 ug/L		085-378 Depth : 23.50 04/16/2021 ug/L		085-378 Depth : 20.00 07/13/2021 ug/L		085-379 Depth : 17.00 01/08/2021 ug/L		085-379 Depth : 26.00 04/20/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.39	J	0.32	J
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	0.5	U	0.59	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.23	J	0.16	J
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.63	U	0.5	U	0.63	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.66	U	0.5	U	0.66	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.57	U	0.5	U	0.57	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.99	U	0.5	U	0.99	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**7.1**		**6.2**		0.5	U	0.5	U	**58**	D	**53**	D
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.39	J	0.35	J
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	0.5	U	1.5	U	0.5	U	0.5	U
524.2 TVOC					0				59.01		53.83	
8260 TVOC	7.1		6.2				0					

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	085-379 Depth : 17.00 07/13/2021 ug/L		085-379 Depth : 17.00 10/07/2021 ug/L		085-386 Depth : 47.50 04/20/2021 ug/L		085-386 Depth : 47.50 10/11/2021 ug/L		095-159 Depth : 50.00 01/06/2021 ug/L		095-159 Depth : 50.00 02/17/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.35	J	0.5	U	0.5	U	0.28	J	0.25	J
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	0.5	U	0.59	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.21	J	0.22	J	0.15	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.63	U	0.5	U	0.63	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.66	U	0.5	U	0.66	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.57	U	0.5	U	0.57	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.99	U	0.5	U	0.99	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**21**		**87**	D	0.5	U	0.5	U	**7.6**		**7.8**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.22	J	0.5	U	0.5	U	0.19	J	0.17	J
Trichlorofluoromethane	0.5	U	0.5	U	**0.58**		**0.94**		**1.9**		0.45	J
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	0.5	U	1.5	U	0.5	U	0.5	U
524.2 TVOC					0.58				10.19		8.82	
8260 TVOC	21		87.57				1.15					

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	095-159 Depth : 50.00 03/09/2021 ug/L		095-159 Depth : 50.00 04/14/2021 ug/L		095-159 Depth : 50.00 05/12/2021 ug/L		095-159 Depth : 50.00 06/08/2021 ug/L		095-159 Depth : 50.00 08/25/2021 ug/L		095-159 Depth : 50.00 09/03/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.19	J	0.5	U	0.5	U	0.5	U	0.18	J	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.59	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.63	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.66	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.57	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.99	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**5.4**		**5.3**		**6.9**		**4.8**		**6.2**		**6.4**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.12	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.27	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	0.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	5.98		5.3		6.9		4.8					
8260 TVOC									6.38		6.4	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	095-159 Depth : 50.00 10/06/2021 ug/L		095-162 Depth : 50.00 01/05/2021 ug/L		095-162 Depth : 50.00 04/14/2021 ug/L		095-162 Depth : 50.00 07/13/2021 ug/L		095-162 Depth : 50.00 10/04/2021 ug/L		095-163 Depth : 50.00 01/07/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.59	U	0.59	U	0.5	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.16	J	**0.68**		**0.6**		**0.75**		**0.85**		0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.63	U	0.63	U	0.5	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.66	U	0.66	U	0.5	U	0.5	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.57	U	0.57	U	0.5	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.27	J	0.5	U	0.5	U	0.5	U	0.25	J
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.99	U	0.99	U	0.5	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**5.8**		0.5	U	0.5	U	0.5	U	0.5	U	**0.59**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	0.5	U	0.5	U	1.5	U	1.5	U	0.5	U
524.2 TVOC			0.95		0.6						0.84	
8260 TVOC	5.96						0.75		0.85			

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	095-163 Depth : 50.00 04/15/2021 ug/L		095-163 Depth : 50.00 07/08/2021 ug/L		095-163 Depth : 50.00 10/05/2021 ug/L		095-165 Depth : 50.00 01/07/2021 ug/L		095-165 Depth : 50.00 04/15/2021 ug/L		095-165 Depth : 50.00 07/08/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.59	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.24	J	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.63	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.66	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.57	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.99	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.47	J	**0.79**		**2.5**		0.44	J	**0.85**		**1.9**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	**0.58**		0.38	J	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	0.5	U	0.5	U	1.5	U
524.2 TVOC	0.47						0.44		0.85			
8260 TVOC			1.61		2.88						1.9	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	095-165 Depth : 50.00 10/05/2021 ug/L		095-166 Depth : 50.00 01/06/2021 ug/L		095-166 Depth : 50.00 04/15/2021 ug/L		095-166 Depth : 50.00 07/07/2021 ug/L		095-166 Depth : 50.00 10/05/2021 ug/L		095-168 Depth : 50.00 01/06/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.59	U	0.59	U	0.5	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.43	J	**1**		**1.6**		**0.65**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.63	U	0.63	U	0.5	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.66	U	0.66	U	0.5	U	0.5	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.57	U	0.57	U	0.5	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.99	U	0.99	U	0.5	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**6.8**		0.17	J	0.21	J	0.33	J	0.24	J	0.39	J
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.17	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	0.5	U	0.5	U	1.5	U	1.5	U	0.5	U
524.2 TVOC			0.17		0.64						1.04	
8260 TVOC	6.97						1.33		1.84			

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	095-168 Depth : 50.00 04/14/2021 ug/L		095-168 Depth : 50.00 07/07/2021 ug/L		095-168 Depth : 50.00 10/05/2021 ug/L		095-169 Depth : 50.00 01/06/2021 ug/L		095-169 Depth : 50.00 04/14/2021 ug/L		095-169 Depth : 50.00 07/07/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.59	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1.9**		**2.4**		**1.9**		**1.8**		**1.2**		**1.1**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.63	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.66	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.57	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.18	J	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.99	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.34	J	0.38	J	0.25	J	0.38	J	0.22	J	0.27	J
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	0.5	U	0.5	U	1.5	U
524.2 TVOC	2.24						2.36		1.42			
8260 TVOC			2.78		2.15						1.37	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	095-169 Depth : 50.00 10/05/2021 ug/L		095-170 Depth : 50.00 01/06/2021 ug/L		095-170 Depth : 50.00 04/14/2021 ug/L		095-170 Depth : 50.00 07/06/2021 ug/L		095-170 Depth : 50.00 10/05/2021 ug/L		095-172 Depth : 50.00 01/06/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.59	U	0.59	U	0.5	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.14	J	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.17	J	**1.4**		**1.5**		0.5	U	**0.61**		**2.5**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.63	U	0.63	U	0.5	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.42	J	0.5	U
Dichlorodifluoromethane	0.5	U	0.66	U	0.66	U	0.5	U	0.5	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.57	U	0.57	U	0.5	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.99	U	0.99	U	0.5	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.28	J	0.14	J	0.5	U	0.5	U	0.5	U	0.2	J
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	0.5	U	0.5	U	1.5	U	1.5	U	0.5	U
524.2 TVOC			1.54		1.5						2.7	
8260 TVOC	0.45						0		1.17			

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	095-172 Depth : 50.00 04/14/2021 ug/L		095-172 Depth : 50.00 07/08/2021 ug/L		095-172 Depth : 50.00 10/05/2021 ug/L		095-294 Depth : 30.00 04/20/2021 ug/L		095-294 Depth : 30.00 10/12/2021 ug/L		095-305 Depth : 22.50 01/11/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.59	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1.5**		**1.3**		**0.61**		0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.63	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.66	U	0.5	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.57	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.99	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.14	J	0.5	U	0.5	U	**3.4**		**10**		**4.8**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	0.5	U	1.5	U	0.5	U
524.2 TVOC	1.64						3.4				4.8	
8260 TVOC			1.3		0.61				10			

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	095-305 Depth : 22.50 04/19/2021 ug/L		095-305 Depth : 22.50 07/12/2021 ug/L		095-305 Depth : 22.50 10/07/2021 ug/L		095-306 Depth : 34.50 01/11/2021 ug/L		095-306 Depth : 34.50 04/19/2021 ug/L		095-306 Depth : 34.50 07/12/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.59	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.24	J	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.63	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.66	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.57	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.99	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**2.9**		**1.8**		**2.6**		**31**		**15**		**22**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	0.5	U	0.5	U	1.5	U
524.2 TVOC	2.9						31.24		15			
8260 TVOC			1.8		2.6						22	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	095-306 Depth : 34.50 10/07/2021 ug/L		095-307 Depth : 32.50 04/19/2021 ug/L		095-307 Depth : 32.50 10/08/2021 ug/L		095-308 Depth : 37.50 04/19/2021 ug/L		095-308 Depth : 37.50 10/11/2021 ug/L		095-312 Depth : 50.00 01/07/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.59	U	0.5	U	0.59	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.45	J
cis-1,2-Dichloroethylene	0.37	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.63	U	0.5	U	0.63	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.66	U	0.5	U	0.66	U	0.5	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.57	U	0.5	U	0.57	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.99	U	0.5	U	0.99	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**30**		**1.7**		**2.9**		**2.8**		**3.6**		0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**0.8**	
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	0.5	U	1.5	U	0.5	U	1.5	U	0.5	U
524.2 TVOC			1.7				2.8				1.25	
8260 TVOC	30.37				2.9				3.6			

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	095-312 Depth : 50.00 04/15/2021 ug/L		095-312 Depth : 50.00 07/08/2021 ug/L		095-312 Depth : 50.00 10/05/2021 ug/L		095-313 Depth : 52.70 04/19/2021 ug/L		095-313 Depth : 52.50 10/07/2021 ug/L		095-318 Depth : 65.00 01/11/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.59	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.74**		**0.63**		**0.74**		0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.63	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.66	U	0.5	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.57	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.99	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	**3.4**		**3.9**		**0.65**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	0.5	U	1.5	U	0.5	U
524.2 TVOC	0.74						3.4				0.65	
8260 TVOC			0.63		0.74				3.9			

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	095-318 Depth : 65.00 04/21/2021 ug/L		095-318 Depth : 65.00 07/12/2021 ug/L		095-318 Depth : 65.00 10/11/2021 ug/L		095-325 Depth : 45.00 01/08/2021 ug/L		095-325 Depth : 45.00 04/19/2021 ug/L		095-325 Depth : 45.00 07/13/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.59	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.094	J	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	**0.51**		**1.4**		0.32	J	0.48	J	**0.6**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.28	J	0.31	J	0.36	J
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.63	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.66	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.57	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.99	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**0.62**		**1**		0.47	J	**16**		**10**		**16**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	0.5	U	0.5	U	1.5	U
524.2 TVOC	0.62						16.6		10.884			
8260 TVOC			1.51		1.87						16.96	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Building 96)

Analyte	095-325 Depth : 45.00 10/07/2021 ug/L		095-84 Depth : 25.00 01/05/2021 ug/L		095-84 Depth : 35.00 04/14/2021 ug/L		095-84 Depth : 35.00 07/08/2021 ug/L		095-84 Depth : 25.00 07/13/2021 ug/L		095-84 Depth : 25.00 10/06/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.59	U	0.59	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.53**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.63	U	0.63	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.66	U	0.66	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.57	U	0.57	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.99	U	0.99	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**16**		**32**		**29**		**43**		**47**		**68**	D
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	0.5	U	0.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC			32		29							
8260 TVOC	16.53						43		47		68	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	095-85 Depth : 95.00 01/05/2021 ug/L		095-85 Depth : 95.00 04/15/2021 ug/L		095-85 Depth : 95.00 07/08/2021 ug/L		095-85 Depth : 95.00 10/06/2021 ug/L					
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U				
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U				
1,2,3-Trichlorobenzene	0.59	U	0.59	U	0.5	U	0.5	U				
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
Benzene	0.5	U	0.5	U	0.5	U	0.5	U				
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U				
Benzene, 1,3,5-trimethyl-	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	0.5	U	0.5	U	0.5	U	0.5	U				
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U				
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U				
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U				
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U				
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
Chloroform	0.45	J	**0.63**		**0.66**		0.47	J				
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U				
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U				
Cymene	0.5	U	0.5	U	0.5	U	0.5	U				
DBCP	0.63	U	0.63	U	0.5	U	0.5	U				
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U				
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U				
Dichlorodifluoromethane	0.66	U	0.66	U	0.5	U	0.5	U				
EDB	0.5	U	0.5	U	0.5	U	0.5	U				
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U				
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
m/p xylene	1	U	1	U	1	U	1	U				
Methyl bromide	0.57	U	0.57	U	0.5	U	0.5	U				
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U				
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U				
Methylene chloride	0.99	U	0.99	U	0.5	U	0.5	U				
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U				
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U				
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U				
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
Styrene	0.5	U	0.5	U	0.5	U	0.5	U				
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U				
Toluene	0.5	U	0.5	U	0.5	U	0.5	U				
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U				
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U				
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.16	J				
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U				
Xylene (total)	0.5	U	0.5	U	1.5	U	1.5	U				
524.2 TVOC	0.45		0.63									
8260 TVOC					0.66		0.63					

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	085-293 Depth : 50.00 01/05/2021 ug/L		085-293 Depth : 50.00 04/16/2021 ug/L		085-293 Depth : 50.00 07/13/2021 ug/L		085-293 Depth : 50.00 10/18/2021 ug/L		085-335 Depth : 35.00 01/05/2021 ug/L		085-335 Depth : 35.00 04/16/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.55	U	0.5	U	0.5	U	0.55	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.67	U	0.5	U	0.5	U	0.67	U	0.67	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	085-335 Depth : 35.00 07/13/2021 ug/L		085-335 Depth : 35.00 10/18/2021 ug/L		085-347 Depth : 22.50 04/16/2021 ug/L		085-347 Depth : 22.50 10/07/2021 ug/L		085-348 Depth : 34.50 01/08/2021 ug/L		085-348 Depth : 34.50 04/16/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.55	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.67	U	0.67	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	085-348 Depth : 34.50 07/12/2021 ug/L		085-348 Depth : 34.50 10/07/2021 ug/L		085-349 Depth : 22.50 04/16/2021 ug/L		085-349 Depth : 22.50 07/13/2021 ug/L		085-349 Depth : 23.00 10/06/2021 ug/L		085-350 Depth : 34.50 01/05/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U	0.67	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	085-350 Depth : 34.50 04/16/2021 ug/L		085-350 Depth : 34.50 07/13/2021 ug/L		085-350 Depth : 34.50 10/06/2021 ug/L		085-351 Depth : 22.50 01/08/2021 ug/L		085-351 Depth : 22.00 04/15/2021 ug/L		085-351 Depth : 22.50 07/13/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.55	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.67	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	085-351 Depth : 23.00 10/06/2021 ug/L		085-352 Depth : 34.50 01/05/2021 ug/L		085-352 Depth : 34.50 04/15/2021 ug/L		085-352 Depth : 34.50 07/13/2021 ug/L		085-352 Depth : 34.50 10/06/2021 ug/L		085-354 Depth : 22.50 04/16/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.55	U	0.55	U	0.5	U	0.5	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.67	U	0.67	U	0.5	U	0.5	U	0.67	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	085-354 Depth : 22.50 07/09/2021 ug/L		085-354 Depth : 24.00 10/11/2021 ug/L		085-378 Depth : 23.50 04/16/2021 ug/L		085-378 Depth : 20.00 07/13/2021 ug/L		085-379 Depth : 17.00 01/08/2021 ug/L		085-379 Depth : 26.00 04/20/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.55	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.67	U	0.67	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	085-379 Depth : 17.00 07/13/2021 ug/L		085-379 Depth : 17.00 10/07/2021 ug/L		085-386 Depth : 47.50 04/20/2021 ug/L		085-386 Depth : 47.50 10/11/2021 ug/L		095-159 Depth : 50.00 01/06/2021 ug/L		095-159 Depth : 50.00 02/17/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.55	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.67	U	0.67	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	095-159 Depth : 50.00 03/09/2021 ug/L		095-159 Depth : 50.00 04/14/2021 ug/L		095-159 Depth : 50.00 05/12/2021 ug/L		095-159 Depth : 50.00 06/08/2021 ug/L		095-159 Depth : 50.00 08/25/2021 ug/L		095-159 Depth : 50.00 09/03/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.55	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.67	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	095-159 Depth : 50.00 10/06/2021 ug/L		095-162 Depth : 50.00 01/05/2021 ug/L		095-162 Depth : 50.00 04/14/2021 ug/L		095-162 Depth : 50.00 07/13/2021 ug/L		095-162 Depth : 50.00 10/04/2021 ug/L		095-163 Depth : 50.00 01/07/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.55	U	0.55	U	0.5	U	0.5	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.67	U	0.67	U	0.5	U	0.5	U	0.67	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	095-163 Depth : 50.00 04/15/2021 ug/L		095-163 Depth : 50.00 07/08/2021 ug/L		095-163 Depth : 50.00 10/05/2021 ug/L		095-165 Depth : 50.00 01/07/2021 ug/L		095-165 Depth : 50.00 04/15/2021 ug/L		095-165 Depth : 50.00 07/08/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.55	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.67	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	095-165 Depth : 50.00 10/05/2021 ug/L		095-166 Depth : 50.00 01/06/2021 ug/L		095-166 Depth : 50.00 04/15/2021 ug/L		095-166 Depth : 50.00 07/07/2021 ug/L		095-166 Depth : 50.00 10/05/2021 ug/L		095-168 Depth : 50.00 01/06/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.55	U	0.55	U	0.5	U	0.5	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.67	U	0.67	U	0.5	U	0.5	U	0.67	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	095-168 Depth : 50.00 04/14/2021 ug/L		095-168 Depth : 50.00 07/07/2021 ug/L		095-168 Depth : 50.00 10/05/2021 ug/L		095-169 Depth : 50.00 01/06/2021 ug/L		095-169 Depth : 50.00 04/14/2021 ug/L		095-169 Depth : 50.00 07/07/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.55	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.67	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	095-169 Depth : 50.00 10/05/2021 ug/L		095-170 Depth : 50.00 01/06/2021 ug/L		095-170 Depth : 50.00 04/14/2021 ug/L		095-170 Depth : 50.00 07/06/2021 ug/L		095-170 Depth : 50.00 10/05/2021 ug/L		095-172 Depth : 50.00 01/06/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.55	U	0.55	U	0.5	U	0.5	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.67	U	0.67	U	0.5	U	0.5	U	0.67	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	095-172 Depth : 50.00 04/14/2021 ug/L		095-172 Depth : 50.00 07/08/2021 ug/L		095-172 Depth : 50.00 10/05/2021 ug/L		095-294 Depth : 30.00 04/20/2021 ug/L		095-294 Depth : 30.00 10/12/2021 ug/L		095-305 Depth : 22.50 01/11/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.55	U	0.5	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.67	U	0.5	U	0.67	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	095-305 Depth : 22.50 04/19/2021 ug/L		095-305 Depth : 22.50 07/12/2021 ug/L		095-305 Depth : 22.50 10/07/2021 ug/L		095-306 Depth : 34.50 01/11/2021 ug/L		095-306 Depth : 34.50 04/19/2021 ug/L		095-306 Depth : 34.50 07/12/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.55	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.67	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	095-306 Depth : 34.50 10/07/2021 ug/L		095-307 Depth : 32.50 04/19/2021 ug/L		095-307 Depth : 32.50 10/08/2021 ug/L		095-308 Depth : 37.50 04/19/2021 ug/L		095-308 Depth : 37.50 10/11/2021 ug/L		095-312 Depth : 50.00 01/07/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.55	U	0.5	U	0.55	U	0.5	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.67	U	0.5	U	0.67	U	0.5	U	0.67	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	095-312 Depth : 50.00 04/15/2021 ug/L		095-312 Depth : 50.00 07/08/2021 ug/L		095-312 Depth : 50.00 10/05/2021 ug/L		095-313 Depth : 52.70 04/19/2021 ug/L		095-313 Depth : 52.50 10/07/2021 ug/L		095-318 Depth : 65.00 01/11/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.55	U	0.5	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.67	U	0.5	U	0.67	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	095-318 Depth : 65.00 04/21/2021 ug/L		095-318 Depth : 65.00 07/12/2021 ug/L		095-318 Depth : 65.00 10/11/2021 ug/L		095-325 Depth : 45.00 01/08/2021 ug/L		095-325 Depth : 45.00 04/19/2021 ug/L		095-325 Depth : 45.00 07/13/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.55	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.67	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	095-325 Depth : 45.00 10/07/2021 ug/L		095-84 Depth : 25.00 01/05/2021 ug/L		095-84 Depth : 35.00 04/14/2021 ug/L		095-84 Depth : 35.00 07/08/2021 ug/L		095-84 Depth : 25.00 07/13/2021 ug/L		095-84 Depth : 25.00 10/06/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.55	U	0.55	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.67	U	0.67	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Building 96)

Analyte	095-85 Depth : 95.00 01/05/2021 ug/L		095-85 Depth : 95.00 04/15/2021 ug/L		095-85 Depth : 95.00 07/08/2021 ug/L		095-85 Depth : 95.00 10/06/2021 ug/L					
1,2,4-Trichlorobenzene	0.55	U	0.55	U	0.5	U	0.5	U				
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U				
Naphthalene	0.67	U	0.67	U	0.5	U	0.5	U				

Building 452 Freon-11
Analytical Results

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: B452

Analyte	085-382 Depth : 37.50 04/20/2021 ug/L		085-382 Depth : 37.50 10/11/2021 ug/L		085-383 Depth : 37.50 04/20/2021 ug/L		085-383 Depth : 37.50 10/08/2021 ug/L		085-386 Depth : 47.50 04/20/2021 ug/L		085-386 Depth : 47.50 10/11/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.59	U	0.5	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.21	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.63	U	0.5	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.66	U	0.5	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.57	U	0.5	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.99	U	0.5	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	**0.71**		**1.1**		0.5	U	0.28	J	**0.58**		**0.94**	
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	0.5	U	1.5	U	0.5	U	1.5	U
524.2 TVOC	0.71				0				0.58			
8260 TVOC			1.1				0.28				1.15	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: B452

Analyte	095-313 Depth : 52.70 04/19/2021 ug/L		095-313 Depth : 52.50 10/07/2021 ug/L									
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U								
1,1,1-Trichloroethane	0.5	U	0.5	U								
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U								
1,1,2-Trichloroethane	0.5	U	0.5	U								
1,1-Dichloroethane	0.5	U	0.5	U								
1,1-Dichloroethylene	0.5	U	0.5	U								
1,1-Dichloropropene	0.5	U	0.5	U								
1,2,3-Trichlorobenzene	0.59	U	0.5	U								
1,2,3-Trichloropropane	0.5	U	0.5	U								
1,2-Dichloroethane	0.5	U	0.5	U								
1,2-Dichloropropane	0.5	U	0.5	U								
1,3-Dichloropropane	0.5	U	0.5	U								
2,2-Dichloropropane	0.5	U	0.5	U								
Benzene	0.5	U	0.5	U								
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U								
Benzene, 1,3,5-trimethyl-	0.5	U	0.5	U								
Benzene, 1-methylethyl-	0.5	U	0.5	U								
Bromobenzene	0.5	U	0.5	U								
Bromodichloromethane	0.5	U	0.5	U								
Bromoform	0.5	U	0.5	U								
Carbon tetrachloride	0.5	U	0.5	U								
Chlorobenzene	0.5	U	0.5	U								
Chlorobromomethane	0.5	U	0.5	U								
Chloroethane	0.5	U	0.5	U								
Chloroform	0.5	U	0.5	U								
cis-1,2-Dichloroethylene	0.5	U	0.5	U								
cis-1,3-Dichloropropene	0.5	U	0.5	U								
Cymene	0.5	U	0.5	U								
DBCP	0.63	U	0.5	U								
Dibromochloromethane	0.5	U	0.5	U								
Dibromomethane	0.5	U	0.5	U								
Dichlorodifluoromethane	0.66	U	0.5	U								
EDB	0.5	U	0.5	U								
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U								
Ethylbenzene	0.5	U	0.5	U								
m-Dichlorobenzene	0.5	U	0.5	U								
m/p xylene	1	U	1	U								
Methyl bromide	0.57	U	0.5	U								
Methyl chloride	0.5	U	0.5	U								
Methyl tert-butyl ether	0.5	U	0.5	U								
Methylene chloride	0.99	U	0.5	U								
n-Butylbenzene	0.5	U	0.5	U								
n-Propylbenzene	0.5	U	0.5	U								
o-Chlorotoluene	0.5	U	0.5	U								
o-Dichlorobenzene	0.5	U	0.5	U								
o-Xylene	0.5	U	0.5	U								
p-Chlorotoluene	0.5	U	0.5	U								
p-Dichlorobenzene	0.5	U	0.5	U								
sec-Butylbenzene	0.5	U	0.5	U								
Styrene	0.5	U	0.5	U								
tert-Butylbenzene	0.5	U	0.5	U								
Tetrachloroethylene	**3.4**		**3.9**									
Toluene	0.5	U	0.5	U								
trans-1,3-Dichloropropene	0.5	U	0.5	U								
Trichloroethylene	0.5	U	0.5	U								
Trichlorofluoromethane	0.5	U	0.5	U								
Vinyl chloride	0.5	U	0.5	U								
Xylene (total)	0.5	U	1.5	U								
524.2 TVOC	3.4											
8260 TVOC			3.9									

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: B452

Analyte	085-382 Depth : 37.50 04/20/2021 ug/L		085-382 Depth : 37.50 10/11/2021 ug/L		085-383 Depth : 37.50 04/20/2021 ug/L		085-383 Depth : 37.50 10/08/2021 ug/L		085-386 Depth : 47.50 04/20/2021 ug/L		085-386 Depth : 47.50 10/11/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.55	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.67	U	0.5	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: B452

Analyte	095-313 Depth : 52.70 04/19/2021 ug/L		095-313 Depth : 52.50 10/07/2021 ug/L									
1,2,4-Trichlorobenzene	0.55	U	0.5	U								
Hexachlorobutadiene	0.5	U	0.5	U								
Naphthalene	0.67	U	0.5	U								

OU III (Middle Road)

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Middle Rd)

Analyte	095-322 Depth : 180.00 01/21/2021 ug/L		095-322 Depth : 180.00 04/28/2021 ug/L		095-322 Depth : 180.00 07/26/2021 ug/L		095-322 Depth : 180.00 11/04/2021 ug/L		095-323 Depth : 205.00 01/21/2021 ug/L		095-323 Depth : 205.00 04/28/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**4.2**		**3.6**		**3.9**		**3.4**		**2.5**		**2**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	**1.4**		**1.2**	
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	**0.82**		**0.69**		**0.68**		**0.65**		0.15	J	0.5	U
1,1-Dichloroethylene	**6.8**		**6**		**6.4**		**6**		**1.6**		**1.1**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.72**		0.5	U	**0.67**		**0.7**		0.48	J	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.5	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**17**		**18**		**18**		**17**		**10**		**9.6**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**9.3**		**8.5**		**8.4**		**7.5**		**4.9**		**4.3**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.18	J	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U
524.2 TVOC	38.84		36.79						21.03		18.2	
8260 TVOC					38.05		35.43					

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	095-323 Depth : 205.00 07/26/2021 ug/L		095-323 Depth : 205.00 11/04/2021 ug/L		095-92 Depth : 121.00 04/21/2021 ug/L		095-92 Depth : 121.00 11/04/2021 ug/L		104-11 Depth : 190.00 04/15/2021 ug/L		104-11 Depth : 190.00 11/01/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**2.3**		**2**		0.5	U	0.5	U	0.36	J	0.25	J
1,1,2,2-Tetrachloroethane	**1.2**		**1.3**		0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.16	J	0.5	U
1,1-Dichloroethylene	**1.2**		**1.1**		0.5	U	0.5	U	**0.55**		0.29	J
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	0.5	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5		**0.56**		**0.55**		0.45	J	**0.51**		**0.58**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.63	U	0.5	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.66	U	0.5	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.57	U	0.5	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.38	J	0.5	U
Methylene chloride	0.5	U	0.5	U	0.99	U	0.5	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**11**		**10**		0.5	U	0.5	U	0.21	J	0.34	J
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**4.6**		**4.1**		0.5	U	0.5	U	0.21	J	0.18	J
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	0.5	U	1.5	U	0.5	U	1.5	U
524.2 TVOC					0.55				2.38			
8260 TVOC	20.8		19.06				0.45				1.64	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Middle Rd)

Analyte	104-36 Depth : 135.00 04/15/2021 ug/L		104-36 Depth : 136.00 11/01/2021 ug/L		104-37 Depth : 209.00 01/13/2021 ug/L		104-37 Depth : 209.00 05/04/2021 ug/L		104-37 Depth : 180.00 05/05/2021 ug/L		104-37 Depth : 209.00 05/06/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	**2.4**		**2.3**		**2.2**		**2.4**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	**1.1**		**1.2**		**1.4**		**1.3**	
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	**2.9**		**2.7**		**2.8**		**1.6**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	**3**		**3.1**		**5.5**		**3.2**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.31	J	0.32	J	**1.1**		0.32	J	**0.51**		0.36	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.66	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.38	J	0.4	J	0.37	J
Methylene chloride	0.99	U	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.18	J	0.5	U	**61**	D	**87**	D	**85**	D	**81**	D
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.12	J	0.5	U	**4.2**		**4.5**		**5.4**		**4.7**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	0.61				75.7		101.5		103.21		94.93	
8260 TVOC			0.32									

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	104-37 Depth : 209.00 07/23/2021 ug/L		104-37 Depth : 209.00 11/01/2021 ug/L		104-38 Depth : 205.00 04/15/2021 ug/L		104-38 Depth : 205.00 11/01/2021 ug/L		105-23 Depth : 180.00 01/13/2021 ug/L		105-23 Depth : 180.00 04/21/2021 ug/L	
1,1,1,2-Tetrachloroethane	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**2.1**	D	**2.2**		**1**		**1.2**		0.24	J	0.3	J
1,1,2,2-Tetrachloroethane	1.4	J D	**1.3**		0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	**2.6**	D	**3.6**		**0.53**		**0.85**		0.5	U	0.23	J
1,1-Dichloropropene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	2	U D	0.5	U	0.59	U	0.5	U	0.59	U	0.59	U
1,2,3-Trichloropropane	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1-methylethyl-	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromobenzene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**5.5**	D	**3.5**		0.5	U	0.5	U	**0.57**		**0.52**	
Chlorobenzene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	1.3	J D	**0.86**		**0.73**		**0.75**		**0.65**		**0.59**	
cis-1,2-Dichloroethylene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	2	U D	0.5	U	0.63	U	0.5	U	0.63	U	0.63	U
Dibromochloromethane	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	2	U D	0.5	U	0.66	U	0.5	U	0.66	U	0.66	U
EDB	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	4	U D	1	U	1	U	1	U	1	U	1	U
Methyl bromide	2	U D	0.5	U	0.57	U	0.5	U	0.57	U	0.57	U
Methyl chloride	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	2	U D	0.5	U	0.99	U	0.5	U	0.99	U	0.99	U
n-Butylbenzene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**100**	D	**85**	D	**0.87**		**1.2**		**12**		**12**	
Toluene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**5**	D	**4.3**		0.44	J	0.47	J	0.29	J	0.32	J
Trichlorofluoromethane	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	6	U D	1.5	U	0.5	U	1.5	U	0.5	U	0.5	U
524.2 TVOC					3.57				13.75		13.96	
8260 TVOC	117.9		100.76				4.47					

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Middle Rd)

Analyte	105-23 Depth : 180.00 07/28/2021 ug/L		105-23 Depth : 180.00 10/29/2021 ug/L		105-25 Depth : 150.00 05/14/2021 ug/L		105-25 Depth : 147.50 11/01/2021 ug/L		105-42 Depth : 147.50 04/21/2021 ug/L		105-42 Depth : 147.50 10/29/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**0.72**		**0.77**		0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.23	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	**1.5**		**0.86**		0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**0.51**		0.48	J	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.55**		0.45	J	0.5	U	0.49	J	**0.6**		**0.73**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.66	U	0.24	J
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**16**		**21**		0.5	U	0.36	J	**0.55**		**0.75**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.35	J	0.45	J	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.23	J
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U
524.2 TVOC					0				1.15			
8260 TVOC	19.86		24.01				0.85				1.95	

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Brookhaven National Laboratory
Project: OU III (Middle Rd)

Analyte	105-44 Depth : 155.00 04/29/2021 ug/L		105-44 Depth : 152.50 11/03/2021 ug/L		105-53 Depth : 175.00 04/26/2021 ug/L		105-53 Depth : 175.00 11/01/2021 ug/L		105-66 Depth : 184.00 01/14/2021 ug/L		105-66 Depth : 184.00 04/26/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	**1.7**		**1.3**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	**0.68**		0.48	J
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.2	J	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	**1.2**		**0.89**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.46	J	0.5	U	0.5	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	**7.3**		**5.9**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.24	J	0.5	U	0.39	J	**0.83**		0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	**0.91**		0.43	J
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**1.8**		**1.4**		**0.64**		0.44	J	**160**	D	**170**	D
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	**6.1**		**5**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U
524.2 TVOC	1.8				0.64				178.92		184	
8260 TVOC			2.1				0.83					

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Brookhaven National Laboratory
Project: OU III (Middle Rd)

Analyte	105-66 Depth : 184.00 07/23/2021 ug/L		105-66 Depth : 184.00 11/01/2021 ug/L		105-67 Depth : 185.00 01/15/2021 ug/L		105-67 Depth : 185.00 04/26/2021 ug/L		105-67 Depth : 185.00 07/23/2021 ug/L		105-67 Depth : 185.00 11/01/2021 ug/L	
1,1,1,2-Tetrachloroethane	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
1,1,1-Trichloroethane	5	U D	**1.3**		**3.9**		**3.8**		**4.5**	D	**3.9**	
1,1,2,2-Tetrachloroethane	5	U D	**0.57**		**0.87**		**0.57**		0.75	J D	**0.81**	
1,1,2-Trichloroethane	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
1,1-Dichloroethane	5	U D	0.23	J	0.21	J	0.5	U	2	U D	0.29	J
1,1-Dichloroethylene	5	U D	**1**		**2.7**		**2.9**		**3.5**	D	**4.2**	
1,1-Dichloropropene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
1,2,3-Trichlorobenzene	5	U D	0.5	U	0.59	U	0.5	U	2	U D	0.5	U
1,2,3-Trichloropropane	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
1,2-Dichloroethane	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
1,2-Dichloropropane	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
1,3-Dichloropropane	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Benzene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Benzene, 1,2,4-trimethyl	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Benzene, 1,3,5-trimethyl-	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Benzene, 1-methylethyl-	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Bromobenzene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Bromodichloromethane	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Bromoform	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Carbon tetrachloride	5	U D	**7.4**		0.36	J	0.5	U	2	U D	0.3	J
Chlorobenzene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Chlorobromomethane	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Chloroethane	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Chloroform	5	U D	**0.94**		**0.85**		0.5	U	0.84	J D	**0.64**	
cis-1,2-Dichloroethylene	5	U D	0.5	U	0.27	J	0.5	U	2	U D	0.5	U
cis-1,3-Dichloropropene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Cymene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
DBCP	5	U D	0.5	U	0.63	U	0.5	U	2	U D	0.5	U
Dibromochloromethane	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Dibromomethane	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Dichlorodifluoromethane	5	U D	0.5	U	0.66	U	0.5	U	2	U D	0.5	U
EDB	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Ethene, 1,2-dichloro-, (E)-	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Ethylbenzene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
m-Dichlorobenzene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
m/p xylene	10	U D	1	U	1	U	1	U	4	U D	1	U
Methyl bromide	5	U D	0.5	U	0.57	U	0.5	U	2	U D	0.5	U
Methyl chloride	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Methyl tert-butyl ether	5	U D	0.21	J	0.28	J	0.5	U	2	U D	0.39	J
Methylene chloride	5	U D	0.5	U	0.99	U	0.5	U	2	U D	0.5	U
n-Butylbenzene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
n-Propylbenzene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
o-Chlorotoluene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
o-Dichlorobenzene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
o-Xylene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
p-Chlorotoluene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
p-Dichlorobenzene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
sec-Butylbenzene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Styrene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
tert-Butylbenzene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Tetrachloroethylene	**210**	D	**170**	D	**92**	D	**76**	D	**110**	D	**89**	D
Toluene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
trans-1,3-Dichloropropene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Trichloroethylene	**5.7**	D	**4.9**		**1.7**		**1.4**		1.2	J D	**1.4**	
Trichlorofluoromethane	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Vinyl chloride	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Xylene (total)	15	U D	1.5	U	0.5	U	1.5	U	6	U D	1.5	U
524.2 TVOC					103.14		84.67					
8260 TVOC	215.7		186.55						120.79		100.93	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Middle Rd)

Analyte	105-68 Depth : 205.00 01/13/2021 ug/L		105-68 Depth : 205.00 04/22/2021 ug/L		105-68 Depth : 205.00 07/26/2021 ug/L		105-68 Depth : 205.00 11/01/2021 ug/L		105-69 Depth : 237.00 08/06/2021 ug/L		105-69 Depth : 167.00 08/09/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**1.6**		**1.1**		5	U D	**0.89**		0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	**4.2**		**3.8**		5	U D	**3.3**		0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	**1.2**		**0.74**		5	U D	**0.82**		0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.59	U	5	U D	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
1,4-Dioxane									**5.6**	E	0.14	J
2,2-Dichloropropane	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Benzene, 1-methylethyl-	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Bromobenzene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**17**		**12**		**13**	D	**11**		0.5	U	**3.73**	
Chlorobenzene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Chloroform	**0.96**		**1**		5	U D	**1.1**		0.5	U	**2.26**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.63	U	5	U D	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.66	U	5	U D	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	10	U D	1	U	0.5	U	0.5	U
Methyl bromide	0.57	U	0.57	U	5	U D	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.37	J	0.28	J	5	U D	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.99	U	5	U D	0.5	U	1.49	U	1.06	U
n-Butylbenzene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**190**	D	**120**	D	**200**	D	**180**	D	0.5	U	**24**	
Toluene	0.5	U	0.5	U	5	U D	0.5	U	**4.62**		0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Trichloroethylene	**17**		**12**		**12**	D	**12**		0.5	U	0.38	J
Trichlorofluoromethane	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	0.5	U	15	U D	1.5	U				
524.2 TVOC	232.33		150.92									
8260 TVOC					225		209.11		4.62		30.37	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	105-69 Depth : 177.00 08/09/2021 ug/L		105-69 Depth : 187.00 08/09/2021 ug/L		105-69 Depth : 197.00 08/09/2021 ug/L		105-69 Depth : 207.00 08/09/2021 ug/L		105-69 Depth : 217.00 08/09/2021 ug/L		105-69 Depth : 227.00 08/09/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**4.28**		**1.12**		**3.87**		**0.98**	J	**1.64**		**0.51**	J
1,1,2,2-Tetrachloroethane	0.41	J	**1**		**2.31**		**3.07**		**6.02**		**5.32**	
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane	**1.1**		**0.69**		**0.92**		**1.5**		**1.3**		**4**	
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**46.2**		**15.5**		**8.59**		**2.63**		**5.53**		0.37	J
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1.91**		**2.4**		**2.12**		**1.05**		**1.56**		0.31	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	**5.11**		**4.97**		**4.41**		1.36	U	1.43	U	1.11	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**136**	E	**101**	E	**111**	E	**34.5**		**80.3**		**14.5**	
Toluene	0.5	U	0.5	U	0.5	U	0.21	J	**0.57**	J	0.36	J
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**1.54**		**2.76**		**9.25**		**5.75**		**9.75**		**2.93**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)												
524.2 TVOC												
8260 TVOC	349.09		230.15		251.53		48.19		105.37		24.3	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Middle Rd)

Analyte	105-69 Depth : 97.00 08/10/2021 ug/L		105-69 Depth : 107.00 08/10/2021 ug/L		105-69 Depth : 117.00 08/10/2021 ug/L		105-69 Depth : 127.00 08/10/2021 ug/L		105-69 Depth : 137.00 08/10/2021 ug/L		105-69 Depth : 147.00 08/10/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane	**0.24**		**0.27**						**0.28**		**0.32**	
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**0.75**	J
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	**0.67**	J	**0.77**	J	**0.79**	J	**1.09**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.97	U	1.09	U	1.01	U	0.98	U	1.12	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**6.34**		**1.69**		**2.16**		**1.91**		**1.72**		**5.11**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)												
524.2 TVOC												
8260 TVOC	6.34		1.69		2.83		2.68		2.51		6.95	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Middle Rd)

Analyte	105-69 Depth : 157.00 08/10/2021 ug/L		105-70 Depth : 217.00 08/03/2021 ug/L		105-70 Depth : 227.00 08/03/2021 ug/L		105-70 Depth : 237.00 08/03/2021 ug/L		105-70 Depth : 147.00 08/04/2021 ug/L		105-70 Depth : 157.00 08/04/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane	0.18	J	**6.3**	E	**6.5**	E	**4.9**		**0.65**		**0.47**	
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**1.83**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1.46**		0.5	U	0.5	U	0.5	U	**0.59**	J	**0.84**	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	1.3	U	**1.78**	J	**1.9**	J	**1.61**	J	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**9.03**		0.5	U	0.5	U	0.5	U	**1.41**		**6.41**	
Toluene	0.5	U	**0.59**	J	0.39	J	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)												
524.2 TVOC												
8260 TVOC	12.32		2.37		2.29		1.61		2		7.25	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Middle Rd)

Analyte	105-70 Depth : 167.00 08/04/2021 ug/L		105-70 Depth : 177.00 08/04/2021 ug/L		105-70 Depth : 187.00 08/04/2021 ug/L		105-70 Depth : 197.00 08/04/2021 ug/L		105-70 Depth : 207.00 08/04/2021 ug/L		105-70 Depth : 97.00 08/05/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	**0.85**	J	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	**2.7**		0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane	**0.39**		**0.52**		**1.1**		**1.6**		**5.4**	E	**1.4**	
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	**1.73**		**7.3**		**0.86**	J	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1.03**		**1.03**		**1.28**		**0.83**	J	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	**1.53**	J	**1.7**	J	**1.77**	J	**1.61**	J	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**24.3**		**15.5**		**58**		**59.3**		0.5	U	**0.78**	J
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	J	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.41	J	0.5	U	**3.14**		**14**		0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)												
524.2 TVOC												
8260 TVOC	25.74		19.79		71.42		80.31		2.11		0.78	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Middle Rd)

Analyte	105-70 Depth : 107.00 08/05/2021 ug/L		105-70 Depth : 117.00 08/05/2021 ug/L		105-70 Depth : 127.00 08/05/2021 ug/L		105-70 Depth : 137.00 08/05/2021 ug/L		105-71 Depth : 157.00 07/29/2021 ug/L		105-71 Depth : 217.00 07/29/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane	0.2	U	0.2	U	**0.3**		**0.36**				0.21	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.37	J	0.46	J	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	1.71	U	1.87	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.45	J	0.41	J	**0.98**	J	0.5	U	**11.5**		0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)												
524.2 TVOC												
8260 TVOC	0.45		0.41		1.35		0.46		11.5		0	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Middle Rd)

Analyte	105-71 Depth : 227.00 07/29/2021 ug/L		105-71 Depth : 237.00 07/29/2021 ug/L		105-71 Depth : 157.00 07/30/2021 ug/L		105-71 Depth : 167.00 07/30/2021 ug/L		105-71 Depth : 177.00 07/30/2021 ug/L		105-71 Depth : 187.00 07/30/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U			**1.2**		**1.93**		**1.9**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U			**0.52**	J	**1.07**		**1.26**	
1,1-Dichloroethylene	0.5	U	0.5	U			0.5	U	**1.93**		**1.1**	
1,1-Dichloropropene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
1,4-Dioxane	**0.8**	B	**1.1**	B	**0.52**	B	**2.3**	B	**3**	B	**4.8**	B
2,2-Dichloropropane	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U			**0.64**	J	**1.36**		**1.04**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
m/p xylene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Methyl bromide	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U			0.5	U	**0.71**	J	**0.97**	J
Methylene chloride	1.56	U	2	U			1.34	U	1.5	U	1.59	U
n-Butylbenzene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U			**10.4**		**3.8**		**1.32**	
Toluene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U			0.5	J	**0.94**	J	**1.06**	
Trichlorofluoromethane	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Xylene (total)												
524.2 TVOC												
8260 TVOC	0		0				13.26		11.74		8.65	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	105-71 Depth : 197.00 07/30/2021 ug/L		105-71 Depth : 207.00 07/30/2021 ug/L		105-71 Depth : 97.00 08/02/2021 ug/L		105-71 Depth : 107.00 08/02/2021 ug/L		105-71 Depth : 117.00 08/02/2021 ug/L		105-71 Depth : 127.00 08/02/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane	**5.9**	E B	0.59	J B	**0.22**	U	**0.39**	U	0.19	U	0.2	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.9**	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	1.69	U	1.57	U	1.3	U	1.82	U	1.41	U	1.47	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	**0.95**	J	**1.18**		**0.63**	J	0.39	J
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)												
524.2 TVOC												
8260 TVOC	0.9		0		0.95		1.18		0.63		0.39	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	105-71 Depth : 137.00 08/02/2021 ug/L		105-71 Depth : 147.00 08/02/2021 ug/L		106-56 Depth : 165.00 04/28/2021 ug/L		106-56 Depth : 165.00 11/02/2021 ug/L		106-58 Depth : 205.00 04/28/2021 ug/L		106-62 Depth : 72.00 04/27/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.21	J
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane	0.25	U	0.22	U								
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	1.1	U	**1.3**		0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	0.5	U	0.5	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	1.5	U	1.51	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**0.85**	J	**1.68**		0.5	U	0.5	U	**1.1**		0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)					1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC					0				1.1		0.21	
8260 TVOC	0.85		1.68				1.3					

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	106-62 Depth : 72.00 11/04/2021 ug/L		113-07 Depth : 99.00 11/01/2021 ug/L		113-08 Depth : 142.00 04/29/2021 ug/L		113-08 Depth : 142.00 11/01/2021 ug/L		113-09 Depth : 222.00 04/29/2021 ug/L		113-09 Depth : 222.00 11/03/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	**1.2**		1.7	J D
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.35	J	2	U D
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	**1**		1.8	J D
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Benzene, 1,3,5-trimethyl-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Benzene, 1-methylethyl-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.48	J	2	U D
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Chloroform	**0.88**		0.5	U	0.5	U	0.5	U	0.5	U	1.6	J D
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
m/p xylene	1	U	1	U	1	U	1	U	1	U	4	U D
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Tetrachloroethylene	0.5	U	**1.2**		**1.1**		**3.7**		**52**	D	**68**	D
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.72	J D
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	**3.9**		**4.4**	D
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	6	U D
524.2 TVOC					1.1				58.93			
8260 TVOC	0.88		1.2				3.7				78.22	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	113-11 Depth : 201.00 01/15/2021 ug/L		113-11 Depth : 201.00 04/29/2021 ug/L		113-11 Depth : 201.00 07/27/2021 ug/L		113-11 Depth : 201.00 11/02/2021 ug/L		113-17 Depth : 172.00 01/14/2021 ug/L		113-17 Depth : 177.00 04/22/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.5	U	0.59	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.18	J	0.19	J
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.48	J	0.5	U	0.4	J	0.43	J	**0.88**		**1.1**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.5	U	0.63	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.5	U	0.66	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.5	U	0.57	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.5	U	0.99	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**3.2**		**2.2**		**4.9**		**3.7**		**12**		**13**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.22	J	0.5	U	0.5	U	0.5	U	0.34	J	0.5	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	1.5	U	0.5	U	0.5	U
524.2 TVOC	3.9		2.2						13.4		14.79	
8260 TVOC					5.3		4.13					

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Middle Rd)

Analyte	113-17 Depth : 177.00 07/27/2021 ug/L		113-17 Depth : 177.00 11/02/2021 ug/L		113-18 Depth : 152.00 11/02/2021 ug/L		113-19 Depth : 230.00 01/14/2021 ug/L		113-19 Depth : 230.00 04/22/2021 ug/L		113-19 Depth : 230.00 07/27/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	**10**		**10**		**9.8**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	**1**		**1**		**0.88**	
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	**5.8**		**4.9**		**5.3**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.59	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.11	J	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.34	J	0.31	J	0.5	U	**7.2**		**6.4**		**7.1**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1.4**		**1.4**		**0.51**		**0.97**		**0.96**		**0.85**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.46	J	0.47	J	0.41	J
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.63	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.66	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.57	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.99	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**15**		**13**		0.5	U	0.5	U	0.17	J	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.3	J	0.5	U	0.5	U	**4.9**		**4.2**		**4.7**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	0.5	U	0.5	U	1.5	U
524.2 TVOC							30.44		28.1			
8260 TVOC	17.04		14.71		0.51						29.04	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	113-19 Depth : 230.00 11/02/2021 ug/L		113-22 Depth : 240.00 04/27/2021 ug/L		113-22 Depth : 240.00 11/01/2021 ug/L		113-29 Depth : 190.00 01/13/2021 ug/L		113-29 Depth : 190.00 04/22/2021 ug/L		113-29 Depth : 190.00 07/23/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**9.8**		0.38	J	**0.55**		0.21	J	0.5	U	0.38	J
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	**1**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	**5.6**		0.5	U	0.5	U	0.5	U	0.5	U	0.25	J
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.59	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**7**		**7.1**		**11**		0.21	J	0.5	U	**0.95**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.88**		0.5	U	**0.91**		0.34	J	0.5		0.45	J
cis-1,2-Dichloroethylene	0.46	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.63	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.66	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.57	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.24	J	0.23	J
Methylene chloride	0.5	U	0.5	U	0.5	U	0.99	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	**2.3**		**2**		**6.2**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.32	J
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**4.6**		0.5	U	0.32	J	0.14	J	0.13	J	0.23	J
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	0.5	U	0.5	U	1.5	U
524.2 TVOC			7.48				3.2		2.87			
8260 TVOC	29.34				12.78						9.01	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	113-29 Depth : 190.00 11/01/2021 ug/L		113-30 Depth : 190.00 01/13/2021 ug/L		113-30 Depth : 140.00 04/27/2021 ug/L		113-30 Depth : 190.00 07/23/2021 ug/L		113-30 Depth : 190.00 11/01/2021 ug/L		113-31 Depth : 190.00 01/13/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.29	J	0.5	U	0.5	U	0.4	J	0.5	U	**1.3**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.21	J	0.5	U	0.5	U	0.23	J	0.5	U	**0.51**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	**0.55**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.19	J	**5.8**		**4.5**		**6.7**		**3.6**		0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.42	J	**2.1**		1.1	U	**1.9**		**1.1**		0.21	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.66	U	0.5	U	0.5	U	0.5	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	0.19	J	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**2.2**		**9.9**		**9.5**		**41**		**7.9**		0.5	U
Toluene	**0.9**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	**0.55**		0.5	U	**0.57**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.19	J	0.5	U	1.5	U	1.5	U	1.5	U	0.5	U
524.2 TVOC			17.8		14						2.59	
8260 TVOC	5.14						50.78		12.6			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	113-31 Depth : 190.00 04/28/2021 ug/L		113-31 Depth : 190.00 07/26/2021 ug/L		113-31 Depth : 190.00 11/02/2021 ug/L		114-12 Depth : 155.00 01/15/2021 ug/L		114-12 Depth : 155.00 04/22/2021 ug/L		114-12 Depth : 155.00 07/26/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**1.5**		**1.6**		**1.3**		0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.43	J	**0.54**		0.46	J	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.59	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.21	J	0.2	J	**0.73**		**0.72**		**0.99**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.63	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.66	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.57	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.99	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.21	J	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**0.51**		**0.58**		**0.6**		0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	0.5	U	0.5	U	1.5	U
524.2 TVOC	2.44						0.73		0.93			
8260 TVOC			2.93		2.56						0.99	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Middle Rd)

Analyte	114-12 Depth : 155.00 11/03/2021 ug/L		121-45 Depth : 199.50 01/15/2021 ug/L		121-45 Depth : 199.00 04/21/2021 ug/L		121-45 Depth : 199.50 07/27/2021 ug/L		121-45 Depth : 199.50 11/04/2021 ug/L		121-53 Depth : 229.00 01/21/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.32	J	0.3	J	0.5	U	0.25	J	**1.6**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**1**	
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**2.5**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.59	U	0.59	U	0.5	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.23	J	0.18	J	0.21	J	0.19	J	**8**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.47	J	0.42	J	0.39	J	0.41	J	0.41	J	**2.8**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.63	U	0.63	U	0.5	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.66	U	0.66	U	0.5	U	0.5	U	0.59	J
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.57	U	0.57	U	0.5	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.99	U	0.99	U	0.5	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	**7.1**		**4.6**		**7.1**		**6.2**		**52**	D
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	**0.53**		0.46	J	**0.53**		0.47	J	**1.8**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	0.5	U	0.5	U	1.5	U	1.5	U	0.5	U
524.2 TVOC			8.6		5.93						70.29	
8260 TVOC	0.47						8.25		7.52			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	121-53 Depth : 229.00 05/13/2021 ug/L		121-53 Depth : 229.00 07/28/2021 ug/L		121-53 Depth : 229.00 11/19/2021 ug/L		121-54 Depth : 220.00 01/21/2021 ug/L		121-54 Depth : 220.00 05/13/2021 ug/L		121-54 Depth : 220.00 07/28/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**1.5**		**1.8**		**2.6**		**0.55**		0.46	J	**0.61**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	**0.68**		**0.78**		**0.78**		0.14	J	0.5	U	0.5	U
1,1-Dichloroethylene	**1.8**		**2.2**		**2.9**		0.44	J	0.5	U	0.46	J
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**7.2**		**9.4**		**17**		**35**		**34**		**26**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1.8**		**2.1**		**2.4**		**1**		0.5	U	**0.81**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5		0.49	J	**0.84**		0.66	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**61**	D	**68**	D	**96**	D	**66**	D	**85**	D	**88**	D
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**1.5**		**1.7**		**2.7**		**1.2**		**1.1**		**1.1**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U
524.2 TVOC	75.98						104.33		120.56			
8260 TVOC			86.47		125.22						116.98	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Middle Rd)

Analyte	121-54 Depth : 220.00 11/19/2021 ug/L											
1,1,1,2-Tetrachloroethane	0.5	U										
1,1,1-Trichloroethane	**0.67**											
1,1,2,2-Tetrachloroethane	0.5	U										
1,1,2-Trichloroethane	0.5	U										
1,1-Dichloroethane	0.5	U										
1,1-Dichloroethylene	**0.58**											
1,1-Dichloropropene	0.5	U										
1,2,3-Trichlorobenzene	0.5	U										
1,2,3-Trichloropropane	0.5	U										
1,2-Dichloroethane	0.5	U										
1,2-Dichloropropane	0.5	U										
1,3-Dichloropropane	0.5	U										
1,4-Dioxane												
2,2-Dichloropropane	0.5	U										
Benzene	0.5	U										
Benzene, 1,2,4-trimethyl	0.5	U										
Benzene, 1,3,5-trimethyl-	0.5	U										
Benzene, 1-methylethyl-	0.5	U										
Bromobenzene	0.5	U										
Bromodichloromethane	0.5	U										
Bromoform	0.5	U										
Carbon tetrachloride	**22**											
Chlorobenzene	0.5	U										
Chlorobromomethane	0.5	U										
Chloroethane	0.5	U										
Chloroform	**0.89**											
cis-1,2-Dichloroethylene	0.5	U										
cis-1,3-Dichloropropene	0.5	U										
Cymene	0.5	U										
DBCP	0.5	U										
Dibromochloromethane	0.5	U										
Dibromomethane	0.5	U										
Dichlorodifluoromethane	0.28	J										
EDB	0.5	U										
Ethene, 1,2-dichloro-, (E)-	0.5	U										
Ethylbenzene	0.5	U										
m-Dichlorobenzene	0.5	U										
m/p xylene	1	U										
Methyl bromide	0.5	U										
Methyl chloride	0.5	U										
Methyl tert-butyl ether	0.5	U										
Methylene chloride	0.5	U										
n-Butylbenzene	0.5	U										
n-Propylbenzene	0.5	U										
o-Chlorotoluene	0.5	U										
o-Dichlorobenzene	0.5	U										
o-Xylene	0.5	U										
p-Chlorotoluene	0.5	U										
p-Dichlorobenzene	0.5	U										
sec-Butylbenzene	0.5	U										
Styrene	0.5	U										
tert-Butylbenzene	0.5	U										
Tetrachloroethylene	**78**	D										
Toluene	0.5	U										
trans-1,3-Dichloropropene	0.5	U										
Trichloroethylene	**1**											
Trichlorofluoromethane	0.5	U										
Vinyl chloride	0.5	U										
Xylene (total)	1.5	U										
524.2 TVOC												
8260 TVOC	103.42											

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	095-322 Depth : 180.00 01/21/2021 ug/L		095-322 Depth : 180.00 04/28/2021 ug/L		095-322 Depth : 180.00 07/26/2021 ug/L		095-322 Depth : 180.00 11/04/2021 ug/L		095-323 Depth : 205.00 01/21/2021 ug/L		095-323 Depth : 205.00 04/28/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	095-323 Depth : 205.00 07/26/2021 ug/L		095-323 Depth : 205.00 11/04/2021 ug/L		095-92 Depth : 121.00 04/21/2021 ug/L		095-92 Depth : 121.00 11/04/2021 ug/L		104-11 Depth : 190.00 04/15/2021 ug/L		104-11 Depth : 190.00 11/01/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.67	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	104-36 Depth : 135.00 04/15/2021 ug/L		104-36 Depth : 136.00 11/01/2021 ug/L		104-37 Depth : 209.00 01/13/2021 ug/L		104-37 Depth : 209.00 05/04/2021 ug/L		104-37 Depth : 180.00 05/05/2021 ug/L		104-37 Depth : 209.00 05/06/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	104-37 Depth : 209.00 07/23/2021 ug/L		104-37 Depth : 209.00 11/01/2021 ug/L		104-38 Depth : 205.00 04/15/2021 ug/L		104-38 Depth : 205.00 11/01/2021 ug/L		105-23 Depth : 180.00 01/13/2021 ug/L		105-23 Depth : 180.00 04/21/2021 ug/L	
1,2,4-Trichlorobenzene	2	U D	0.5	U	0.55	U	0.5	U	0.55	U	0.55	U
Hexachlorobutadiene	2	U D	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	2	U D	0.5	U	0.67	U	0.5	U	0.67	U	0.67	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	105-23 Depth : 180.00 07/28/2021 ug/L		105-23 Depth : 180.00 10/29/2021 ug/L		105-25 Depth : 150.00 05/14/2021 ug/L		105-25 Depth : 147.50 11/01/2021 ug/L		105-42 Depth : 147.50 04/21/2021 ug/L		105-42 Depth : 147.50 10/29/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	105-44 Depth : 155.00 04/29/2021 ug/L		105-44 Depth : 152.50 11/03/2021 ug/L		105-53 Depth : 175.00 04/26/2021 ug/L		105-53 Depth : 175.00 11/01/2021 ug/L		105-66 Depth : 184.00 01/14/2021 ug/L		105-66 Depth : 184.00 04/26/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	105-66 Depth : 184.00 07/23/2021 ug/L		105-66 Depth : 184.00 11/01/2021 ug/L		105-67 Depth : 185.00 01/15/2021 ug/L		105-67 Depth : 185.00 04/26/2021 ug/L		105-67 Depth : 185.00 07/23/2021 ug/L		105-67 Depth : 185.00 11/01/2021 ug/L	
1,2,4-Trichlorobenzene	5	U D	0.5	U	0.55	U	0.5	U	2	U D	0.5	U
Hexachlorobutadiene	5	U D	0.5	U	0.5	U	0.5	U	2	U D	0.5	U
Naphthalene	5	U D	0.5	U	0.67	U	0.5	U	2	U D	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	105-68 Depth : 205.00 01/13/2021 ug/L		105-68 Depth : 205.00 04/22/2021 ug/L		105-68 Depth : 205.00 07/26/2021 ug/L		105-68 Depth : 205.00 11/01/2021 ug/L		105-69 Depth : 237.00 08/06/2021 ug/L		105-69 Depth : 167.00 08/09/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.55	U	5	U D	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	5	U D	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.67	U	5	U D	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)									1.73	U	**5.35**	
Perfluorooctanoic acid (PFOA)									1.73	U	**6.36**	

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	105-69 Depth : 177.00 08/09/2021 ug/L		105-69 Depth : 187.00 08/09/2021 ug/L		105-69 Depth : 197.00 08/09/2021 ug/L		105-69 Depth : 207.00 08/09/2021 ug/L		105-69 Depth : 217.00 08/09/2021 ug/L		105-69 Depth : 227.00 08/09/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)	**2.44**		**3.42**		**2.37**		**2.68**		**2.26**		0.995	J
Perfluorooctanoic acid (PFOA)	**3.83**		**7.57**		**11.7**		**37**		**26.5**		**7.51**	

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	105-69 Depth : 97.00 08/10/2021 ug/L		105-69 Depth : 107.00 08/10/2021 ug/L		105-69 Depth : 117.00 08/10/2021 ug/L		105-69 Depth : 127.00 08/10/2021 ug/L		105-69 Depth : 137.00 08/10/2021 ug/L		105-69 Depth : 147.00 08/10/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)	**8.41**		**11**		**10.3**		**10.7**		**10.3**		**7.23**	
Perfluorooctanoic acid (PFOA)	**7.37**		**6.97**		**6.45**		**7.82**		**7.07**		**8.42**	

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	105-69 Depth : 157.00 08/10/2021 ug/L		105-70 Depth : 217.00 08/03/2021 ug/L		105-70 Depth : 227.00 08/03/2021 ug/L		105-70 Depth : 237.00 08/03/2021 ug/L		105-70 Depth : 147.00 08/04/2021 ug/L		105-70 Depth : 157.00 08/04/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)	**6.32**		1.76	U	1.73	U	1.75	U	**8.9**		**8.15**	
Perfluorooctanoic acid (PFOA)	**5.94**		0.759	J	0.953	J	1.75	U	**7.14**		**4.17**	

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	105-70 Depth : 167.00 08/04/2021 ug/L		105-70 Depth : 177.00 08/04/2021 ug/L		105-70 Depth : 187.00 08/04/2021 ug/L		105-70 Depth : 197.00 08/04/2021 ug/L		105-70 Depth : 207.00 08/04/2021 ug/L		105-70 Depth : 97.00 08/05/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)	**6.13**		**5.61**		**2.6**		**4.43**		1.82	U	**7.3**	
Perfluorooctanoic acid (PFOA)	**4.03**		**6**		**7.5**		**77.5**		1.1	J	**8.42**	

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	105-70 Depth : 107.00 08/05/2021 ug/L		105-70 Depth : 117.00 08/05/2021 ug/L		105-70 Depth : 127.00 08/05/2021 ug/L		105-70 Depth : 137.00 08/05/2021 ug/L		105-71 Depth : 157.00 07/29/2021 ug/L		105-71 Depth : 217.00 07/29/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)	**17**		**11.2**		**10.9**		**9.81**				1.84	U
Perfluorooctanoic acid (PFOA)	**9.65**		**7.92**		**8.72**		**7.32**				1.84	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	105-71 Depth : 227.00 07/29/2021 ug/L		105-71 Depth : 237.00 07/29/2021 ug/L		105-71 Depth : 157.00 07/30/2021 ug/L		105-71 Depth : 167.00 07/30/2021 ug/L		105-71 Depth : 177.00 07/30/2021 ug/L		105-71 Depth : 187.00 07/30/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U			0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)	1.73	U	1.74	U	**3.15**		**3.13**		**3.92**		**3.9**	
Perfluorooctanoic acid (PFOA)	1.73	U	1.74	U	**4.1**		**4.14**		**2.27**		**5.74**	

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	105-71 Depth : 197.00 07/30/2021 ug/L		105-71 Depth : 207.00 07/30/2021 ug/L		105-71 Depth : 97.00 08/02/2021 ug/L		105-71 Depth : 107.00 08/02/2021 ug/L		105-71 Depth : 117.00 08/02/2021 ug/L		105-71 Depth : 127.00 08/02/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)	1.73	U	1.93	U	**10.3**		**9.98**		**12.1**		**9.08**	
Perfluorooctanoic acid (PFOA)	1.21	J	1.93	U	**6.1**		**5.97**		**6.5**		**7.06**	

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	105-71 Depth : 137.00 08/02/2021 ug/L		105-71 Depth : 147.00 08/02/2021 ug/L		106-56 Depth : 165.00 04/28/2021 ug/L		106-56 Depth : 165.00 11/02/2021 ug/L		106-58 Depth : 205.00 04/28/2021 ug/L		106-62 Depth : 72.00 04/27/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)	**5.94**		**5.25**									
Perfluorooctanoic acid (PFOA)	**7.33**		**5.66**									

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	106-62 Depth : 72.00 11/04/2021 ug/L		113-07 Depth : 99.00 11/01/2021 ug/L		113-08 Depth : 142.00 04/29/2021 ug/L		113-08 Depth : 142.00 11/01/2021 ug/L		113-09 Depth : 222.00 04/29/2021 ug/L		113-09 Depth : 222.00 11/03/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	113-11 Depth : 201.00 01/15/2021 ug/L		113-11 Depth : 201.00 04/29/2021 ug/L		113-11 Depth : 201.00 07/27/2021 ug/L		113-11 Depth : 201.00 11/02/2021 ug/L		113-17 Depth : 172.00 01/14/2021 ug/L		113-17 Depth : 177.00 04/22/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.55	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.67	U	0.67	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	113-17 Depth : 177.00 07/27/2021 ug/L		113-17 Depth : 177.00 11/02/2021 ug/L		113-18 Depth : 152.00 11/02/2021 ug/L		113-19 Depth : 230.00 01/14/2021 ug/L		113-19 Depth : 230.00 04/22/2021 ug/L		113-19 Depth : 230.00 07/27/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.55	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.67	U	0.67	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	113-19 Depth : 230.00 11/02/2021 ug/L		113-22 Depth : 240.00 04/27/2021 ug/L		113-22 Depth : 240.00 11/01/2021 ug/L		113-29 Depth : 190.00 01/13/2021 ug/L		113-29 Depth : 190.00 04/22/2021 ug/L		113-29 Depth : 190.00 07/23/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.55	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.67	U	0.67	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	113-29 Depth : 190.00 11/01/2021 ug/L		113-30 Depth : 190.00 01/13/2021 ug/L		113-30 Depth : 140.00 04/27/2021 ug/L		113-30 Depth : 190.00 07/23/2021 ug/L		113-30 Depth : 190.00 11/01/2021 ug/L		113-31 Depth : 190.00 01/13/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U	0.67	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	113-31 Depth : 190.00 04/28/2021 ug/L		113-31 Depth : 190.00 07/26/2021 ug/L		113-31 Depth : 190.00 11/02/2021 ug/L		114-12 Depth : 155.00 01/15/2021 ug/L		114-12 Depth : 155.00 04/22/2021 ug/L		114-12 Depth : 155.00 07/26/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.55	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.67	U	0.67	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	114-12 Depth : 155.00 11/03/2021 ug/L		121-45 Depth : 199.50 01/15/2021 ug/L		121-45 Depth : 199.00 04/21/2021 ug/L		121-45 Depth : 199.50 07/27/2021 ug/L		121-45 Depth : 199.50 11/04/2021 ug/L		121-53 Depth : 229.00 01/21/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.55	U	0.55	U	0.5	U	0.5	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.67	U	0.67	U	0.5	U	0.5	U	0.67	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	121-53 Depth : 229.00 05/13/2021 ug/L		121-53 Depth : 229.00 07/28/2021 ug/L		121-53 Depth : 229.00 11/19/2021 ug/L		121-54 Depth : 220.00 01/21/2021 ug/L		121-54 Depth : 220.00 05/13/2021 ug/L		121-54 Depth : 220.00 07/28/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Middle Rd)

Analyte	121-54 Depth : 220.00 11/19/2021 ug/L											
1,2,4-Trichlorobenzene	0.5	U										
Hexachlorobutadiene	0.5	U										
Naphthalene	0.5	U										
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

OU III (South Boundary)

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (South Boundary)

Analyte	000-280 Depth : 160.00 01/20/2021 ug/L		114-06 Depth : 185.00 12/08/2021 ug/L		114-07 Depth : 205.00 12/08/2021 ug/L		121-06 Depth : 45.00 07/29/2021 ug/L		121-08 Depth : 185.00 05/11/2021 ug/L		121-08 Depth : 185.00 11/18/2021 ug/L	
1,1,1,2-Tetrachloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane			0.5	U	0.5	U	0.5	U	0.41	J	0.5	
1,1,2,2-Tetrachloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene			0.5	U	0.5	U	0.5	U	**0.53**		0.47	J
1,1-Dichloropropene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane	0.108	J										
2,2-Dichloropropane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-			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
Bromobenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform			0.5	U	**1.4**		**1.1**		0.5	U	0.19	J
cis-1,2-Dichloroethylene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene			1	U	1	U	1	U	1	U	1	U
Methyl bromide			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene			0.5	U	0.5	U	0.5	U	**1.3**		**1.2**	
Trichlorofluoromethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)			1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC									2.24			
8260 TVOC			0		1.4		1.1				2.36	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (South Boundary)

Analyte	121-10 Depth : 165.00 05/12/2021 ug/L		121-10 Depth : 165.00 11/18/2021 ug/L		121-11 Depth : 205.00 05/14/2021 ug/L		121-11 Depth : 205.00 11/18/2021 ug/L		121-12 Depth : 50.00 07/29/2021 ug/L		121-14 Depth : 195.00 05/12/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	**0.73**		**1.1**		0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.33	J	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	**0.58**		**0.96**		0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	**2.2**		**1.1**		0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	**0.54**		0.5	U	**0.7**		**1.9**		0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	**1.3**		0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.19	J	**14**		**24**		0.5	U	**0.87**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	**0.65**		**1.1**		0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	0				18.16						0.87	
8260 TVOC			2.03				29.29		1.9			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (South Boundary)

Analyte	121-14 Depth : 195.00 11/18/2021 ug/L		121-18 Depth : 70.00 07/29/2021 ug/L		121-20 Depth : 190.00 11/18/2021 ug/L		121-21 Depth : 70.00 07/29/2021 ug/L		121-23 Depth : 190.00 11/19/2021 ug/L		121-40 Depth : 291.00 06/07/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.29	J	**1.5**		0.49	J	0.44	J	0.45	J	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.42	J	0.5	U	0.5	U	0.5	U	0.48	J	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.18	J	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC											0	
8260 TVOC	0.71		1.5		0.49		0.44		1.11			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (South Boundary)

Analyte	121-43 Depth : 195.00 05/18/2021 ug/L		121-43 Depth : 195.00 11/16/2021 ug/L		121-44 Depth : 270.00 06/08/2021 ug/L		121-45 Depth : 199.50 01/15/2021 ug/L		121-45 Depth : 199.00 04/21/2021 ug/L		121-45 Depth : 199.50 07/27/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.32	J	0.3	J	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.59	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.23	J	0.18	J	0.21	J
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.39	J	0.5	U	0.42	J	0.39	J	0.41	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.63	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.43	J	0.5	U	0.66	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.57	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.99	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**0.9**		**0.76**		0.5	U	**7.1**		**4.6**		**7.1**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	**0.53**		0.46	J	**0.53**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	0.5	U	0.5	U	1.5	U
524.2 TVOC	0.9				0		8.6		5.93			
8260 TVOC			1.58								8.25	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (South Boundary)

Analyte	121-45 Depth : 199.50 11/04/2021 ug/L		121-47 Depth : 229.00 05/13/2021 ug/L		121-47 Depth : 229.00 11/18/2021 ug/L		121-48 Depth : 228.00 05/14/2021 ug/L		121-48 Depth : 228.00 11/19/2021 ug/L		121-49 Depth : 215.00 01/21/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.25	J	**2.8**		**3.2**		**4.2**		**3.9**		**1.1**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	**1.2**		**1.5**		0.5	U	0.5	U	0.17	J
1,1-Dichloroethylene	0.5	U	**4**		**5.2**		**4.1**		**3.8**		**1.4**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.19	J	0.5	U	0.5	U	**2**		**1.8**		**35**	D
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.41	J	**1.6**		**2.1**		**0.55**		**1.1**		**1.5**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	**0.81**		**0.83**		0.16	J
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	**0.72**		0.5	U	0.5	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**6.2**		0.5	U	0.5	U	**2**		**2.4**		**240**	D
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.47	J	**0.57**		**0.61**		**2.8**		**3.2**		**5.7**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	0.5	U
524.2 TVOC			10.17				16.46				285.03	
8260 TVOC	7.52				13.33				17.03			

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (South Boundary)

Analyte	121-49 Depth : 215.00 05/12/2021 ug/L		121-49 Depth : 215.00 07/29/2021 ug/L		121-49 Depth : 215.00 11/18/2021 ug/L		121-53 Depth : 229.00 01/21/2021 ug/L		121-53 Depth : 229.00 05/13/2021 ug/L		121-53 Depth : 229.00 07/28/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**0.96**		**1.1**		0.2	J	**1.6**		**1.5**		**1.8**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	**1**		**0.68**		**0.78**	
1,1-Dichloroethylene	**1.2**		**1.1**		0.5	U	**2.5**		**1.8**		**2.2**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**28**		**44**		**0.87**		**8**		**7.2**		**9.4**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.34	J	**1.2**		0.5		**2.8**		**1.8**		**2.1**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.59	J	0.5		0.49	J
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**250**	D	**240**	D	**17**		**52**	D	**61**	D	**68**	D
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**4.4**		**4.1**		0.34	J	**1.8**		**1.5**		**1.7**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U
524.2 TVOC	284.9						70.29		75.98			
8260 TVOC			291.5		18.91						86.47	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (South Boundary)

Analyte	121-53 Depth : 229.00 11/19/2021 ug/L		121-54 Depth : 220.00 01/21/2021 ug/L		121-54 Depth : 220.00 05/13/2021 ug/L		121-54 Depth : 220.00 07/28/2021 ug/L		121-54 Depth : 220.00 11/19/2021 ug/L		122-04 Depth : 202.50 11/22/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**2.6**		**0.55**		0.46	J	**0.61**		**0.67**		0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	**0.78**		0.14	J	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	**2.9**		0.44	J	0.5	U	0.46	J	**0.58**		0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**17**		**35**		**34**		**26**		**22**		0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**2.4**		**1**		0.5	U	**0.81**		**0.89**		0.18	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**8.7**	
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	**0.84**		0.66	U	0.5	U	0.5	U	0.28	J	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**96**	D	**66**	D	**85**	D	**88**	D	**78**	D	**0.73**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**2.7**		**1.2**		**1.1**		**1.1**		**1**		0.18	J
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC			104.33		120.56							
8260 TVOC	125.22						116.98		103.42		9.79	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (South Boundary)

Analyte	122-05 Depth : 271.50 05/13/2021 ug/L		122-05 Depth : 271.50 11/22/2021 ug/L		122-09 Depth : 115.00 11/22/2021 ug/L		122-10 Depth : 154.50 07/29/2021 ug/L		122-17 Depth : 210.00 05/13/2021 ug/L		122-17 Depth : 210.00 11/22/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**1.1**		**1.4**		0.5	U	0.5	U	0.5	U	0.28	J
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.49	J	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	**1.6**		**1.9**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	**0.6**		**0.51**		0.23	J	0.5	U	**0.85**	
cis-1,2-Dichloroethylene	**3.9**		**11**		0.5	U	0.5	U	0.46	J	0.45	J
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.43	J
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**2.1**		**2.7**		0.5	U	0.23	J	**2.2**		**2.2**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**1.5**		**1.9**		0.5	U	0.5	U	**1.5**		**1.7**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	8.6								5.76			
8260 TVOC			18.09		0.51		0.46				7.81	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (South Boundary)

Analyte	122-19 Depth : 200.00 11/22/2021 ug/L		122-20 Depth : 260.00 11/22/2021 ug/L		122-21 Depth : 185.00 11/22/2021 ug/L		122-22 Depth : 205.00 11/22/2021 ug/L		122-31 Depth : 155.00 12/09/2021 ug/L		122-32 Depth : 205.00 12/09/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	**1.7**		0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	**0.63**		0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	**0.51**		0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	**0.72**		0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	**0.75**		**0.6**		0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.31	J	**1.7**		0.5	U	**0.65**		0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	**1.9**		0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC												
8260 TVOC	0.31		7.16		0		1.4		0.6		0	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (South Boundary)

Analyte	122-33 Depth : 180.00 12/09/2021 ug/L		122-34 Depth : 200.00 11/16/2021 ug/L		122-35 Depth : 205.00 11/16/2021 ug/L		122-41 Depth : 325.00 06/07/2021 ug/L					
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U				
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U				
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
Benzene	0.23	J	0.5	U	0.5	U	0.5	U				
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U				
Benzene, 1,3,5-trimethyl-	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	0.5	U	0.5	U	0.5	U	0.5	U				
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U				
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U				
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U				
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U				
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
Chloroform	0.5	U	0.5	U	0.27	J	0.5	U				
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U				
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U				
Cymene	0.5	U	0.5	U	0.5	U	0.5	U				
DBCP	0.5	U	0.5	U	0.5	U	0.5	U				
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U				
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U				
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U				
EDB	0.5	U	0.5	U	0.5	U	0.5	U				
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U				
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
m/p xylene	0.17	J	1	U	1	U	1	U				
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U				
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U				
Methyl tert-butyl ether	0.5	U	0.5	U	0.32	J	0.5	U				
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U				
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U				
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U				
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U				
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
Styrene	0.5	U	0.5	U	0.5	U	0.5	U				
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
Tetrachloroethylene	0.5	U	0.44	J	0.5	U	0.5	U				
Toluene	**0.56**		0.5	U	0.5	U	0.5	U				
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U				
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U				
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U				
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U				
Xylene (total)	0.17	J	1.5	U	1.5	U	1.5	U				
524.2 TVOC							0					
8260 TVOC	1.13		0.44		0.59							

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (South Boundary)

Analyte	000-280 Depth : 160.00 01/20/2021 ug/L		114-06 Depth : 185.00 12/08/2021 ug/L		114-07 Depth : 205.00 12/08/2021 ug/L		121-06 Depth : 45.00 07/29/2021 ug/L		121-08 Depth : 185.00 05/11/2021 ug/L		121-08 Depth : 185.00 11/18/2021 ug/L	
1,2,4-Trichlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)	**32.3**											
Perfluorooctanoic acid (PFOA)	**3.6**											

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (South Boundary)

Analyte	121-10 Depth : 165.00 05/12/2021 ug/L		121-10 Depth : 165.00 11/18/2021 ug/L		121-11 Depth : 205.00 05/14/2021 ug/L		121-11 Depth : 205.00 11/18/2021 ug/L		121-12 Depth : 50.00 07/29/2021 ug/L		121-14 Depth : 195.00 05/12/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (South Boundary)

Analyte	121-14 Depth : 195.00 11/18/2021 ug/L		121-18 Depth : 70.00 07/29/2021 ug/L		121-20 Depth : 190.00 11/18/2021 ug/L		121-21 Depth : 70.00 07/29/2021 ug/L		121-23 Depth : 190.00 11/19/2021 ug/L		121-40 Depth : 291.00 06/07/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (South Boundary)

Analyte	121-43 Depth : 195.00 05/18/2021 ug/L		121-43 Depth : 195.00 11/16/2021 ug/L		121-44 Depth : 270.00 06/08/2021 ug/L		121-45 Depth : 199.50 01/15/2021 ug/L		121-45 Depth : 199.00 04/21/2021 ug/L		121-45 Depth : 199.50 07/27/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.55	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.67	U	0.67	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (South Boundary)

Analyte	121-45 Depth : 199.50 11/04/2021 ug/L		121-47 Depth : 229.00 05/13/2021 ug/L		121-47 Depth : 229.00 11/18/2021 ug/L		121-48 Depth : 228.00 05/14/2021 ug/L		121-48 Depth : 228.00 11/19/2021 ug/L		121-49 Depth : 215.00 01/21/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.67	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (South Boundary)

Analyte	121-49 Depth : 215.00 05/12/2021 ug/L		121-49 Depth : 215.00 07/29/2021 ug/L		121-49 Depth : 215.00 11/18/2021 ug/L		121-53 Depth : 229.00 01/21/2021 ug/L		121-53 Depth : 229.00 05/13/2021 ug/L		121-53 Depth : 229.00 07/28/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (South Boundary)

Analyte	121-53 Depth : 229.00 11/19/2021 ug/L		121-54 Depth : 220.00 01/21/2021 ug/L		121-54 Depth : 220.00 05/13/2021 ug/L		121-54 Depth : 220.00 07/28/2021 ug/L		121-54 Depth : 220.00 11/19/2021 ug/L		122-04 Depth : 202.50 11/22/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (South Boundary)

Analyte	122-05 Depth : 271.50 05/13/2021 ug/L		122-05 Depth : 271.50 11/22/2021 ug/L		122-09 Depth : 115.00 11/22/2021 ug/L		122-10 Depth : 154.50 07/29/2021 ug/L		122-17 Depth : 210.00 05/13/2021 ug/L		122-17 Depth : 210.00 11/22/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (South Boundary)

Analyte	122-19 Depth : 200.00 11/22/2021 ug/L		122-20 Depth : 260.00 11/22/2021 ug/L		122-21 Depth : 185.00 11/22/2021 ug/L		122-22 Depth : 205.00 11/22/2021 ug/L		122-31 Depth : 155.00 12/09/2021 ug/L		122-32 Depth : 205.00 12/09/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (South Boundary)

Analyte	122-33 Depth : 180.00 12/09/2021 ug/L		122-34 Depth : 200.00 11/16/2021 ug/L		122-35 Depth : 205.00 11/16/2021 ug/L		122-41 Depth : 325.00 06/07/2021 ug/L					
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U				
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U				
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

OU III (Western South Boundary)

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	000-558 Depth : 165.00 03/02/2021 ug/L		000-558 Depth : 105.00 05/26/2021 ug/L		000-558 Depth : 165.00 09/10/2021 ug/L		000-558 Depth : 165.00 11/15/2021 ug/L		000-559 Depth : 215.00 03/02/2021 ug/L		000-559 Depth : 215.00 05/26/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**3.4**		**3.3**		**3.1**		**3.5**		0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	**0.96**		**1**		**1.1**		**1.2**		0.5	U	0.5	U
1,1-Dichloroethylene	**3.3**		**4.4**		**4.1**		**4.5**		0.5	U	0.23	J
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**4.6**		**4.6**		**4.5**		**5.1**		0.16	J	0.25	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	**0.98**		**1.5**		**1.9**		**2.5**		**0.88**		**1.7**	
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**4.1**		**4.4**		**4**		**4.4**		0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U
524.2 TVOC	17.34		19.2						1.04		2.18	
8260 TVOC					18.7		21.2					

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	000-559 Depth : 215.00 09/10/2021 ug/L		000-559 Depth : 215.00 11/15/2021 ug/L		000-560 Depth : 159.50 03/02/2021 ug/L		000-560 Depth : 159.50 05/26/2021 ug/L		000-560 Depth : 159.50 09/27/2021 ug/L		000-560 Depth : 159.50 11/16/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**0.78**		**0.59**		**1.4**		**0.91**		**1.7**		**2.5**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.22	J	0.5	U	0.5		0.33	J	**0.52**		**0.62**	
1,1-Dichloroethylene	**1.1**		**0.96**		**1.8**		**1.4**		**2.4**		**3**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1**		**0.8**		**1.9**		**1.4**		**1.6**		**2.3**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	**2.9**		**2.7**		**1.6**		**1.7**		**3.4**		**4.7**	
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.47	J	0.39	J	**1.6**		**1.2**		**2.1**		**2.2**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC					8.8		6.94					
8260 TVOC	6.47		5.44						11.72		15.32	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	103-15 Depth : 200.00 01/22/2021 ug/L		103-15 Depth : 200.00 04/30/2021 ug/L		103-15 Depth : 200.00 07/30/2021 ug/L		103-15 Depth : 200.00 11/04/2021 ug/L		103-18 Depth : 170.00 03/03/2021 ug/L		103-18 Depth : 170.00 05/07/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	**6.4**		**5.5**		**5.5**		**5**		**1.2**		**1.4**	
1,1-Dichloroethylene	**7.4**		**7**		**6.6**		**6.1**		**1.2**		**2.3**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	**9**		**8.4**		**10**		**15**		**1.5**		**4.5**	
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.16	J	0.5	U	0.5	U	0.5	U	0.16	J	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**6.6**		**6.2**		**6**		**5.9**		**2.5**		**3.1**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U
524.2 TVOC	29.56		27.1						6.56		11.3	
8260 TVOC					28.1		32					

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	103-18 Depth : 170.00 08/02/2021 ug/L		103-18 Depth : 170.00 11/11/2021 ug/L		103-19 Depth : 170.00 03/03/2021 ug/L		103-19 Depth : 170.00 05/07/2021 ug/L		103-19 Depth : 170.00 07/30/2021 ug/L		103-19 Depth : 170.00 11/11/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	**1.2**		**1.5**		**1.1**		**1.2**		**1.1**		**1.1**	
1,1-Dichloroethylene	**1.7**		**2.1**		**1.1**		**1.6**		**1.3**		**1.2**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.16	J	0.5	U	0.16	J	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	**4.4**		**4.5**		**1.2**		**1.8**		**1.6**		**1.6**	
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.19	J	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**3**		**2.9**		**3**		**3.1**		**3**		**2.4**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC					6.56		7.7					
8260 TVOC	10.3		11.19						7.16		6.3	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	111-15 Depth : 175.00 03/03/2021 ug/L		111-15 Depth : 175.00 04/29/2021 ug/L		111-15 Depth : 175.00 07/30/2021 ug/L		111-15 Depth : 175.00 11/04/2021 ug/L		111-16 Depth : 173.00 03/03/2021 ug/L		111-16 Depth : 173.00 04/30/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	**0.51**		**0.65**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	**0.84**		**1.2**	
1,1-Dichloroethylene	0.31	J	0.5	U	0.5	U	0.5	U	**1.9**		**2.7**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	**0.55**		0.5		0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.5	U	0.66	U	0.48	J
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.25	J	0.28	J
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	**0.63**		**1.1**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U
524.2 TVOC	0.31		0						4.63		6.41	
8260 TVOC					0		0.55					

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	111-16 Depth : 173.00 08/02/2021 ug/L		111-16 Depth : 173.00 11/04/2021 ug/L		111-17 Depth : 0.00 01/20/2021 ug/L		111-17 Depth : 0.00 04/14/2021 ug/L		111-17 Depth : 0.00 07/08/2021 ug/L		111-17 Depth : 0.00 10/07/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.25	J	**1.4**		**0.99**		**1**		**1.4**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	**0.77**		0.46	J	**1**		**0.78**		**0.89**		**0.99**	
1,1-Dichloroethylene	**2**		**1.5**		**5.9**		**3.5**		**4.5**		**6.3**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	0.59	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.46	J	**1.1**		**0.73**		**0.74**		**0.83**		**1.1**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.63	U	0.63	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.43	J	0.5	U	0.66	U	0.66	U	0.5	U	0.41	J
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.57	U	0.57	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.99	U	0.99	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.18	J	0.5	U	0.14	J	0.5	U	0.17	J	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**0.68**		0.35	J	**0.76**		**0.64**		**0.71**		**0.89**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	0.5	U	0.5	U	1.5	U	1.5	U
524.2 TVOC					9.93		6.65					
8260 TVOC	4.52		3.66						8.1		11.09	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	119-06 Depth : 130.00 01/22/2021 ug/L		119-06 Depth : 130.00 04/30/2021 ug/L		119-06 Depth : 130.00 08/02/2021 ug/L		119-06 Depth : 130.00 11/11/2021 ug/L		119-10 Depth : 200.00 01/26/2021 ug/L		119-10 Depth : 200.00 04/30/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	**2.3**		**2.5**	
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	**2**		**2.2**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.5	U	**2.8**		**3.5**	
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	**1.8**		**1.6**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U
524.2 TVOC	0		0						8.9		9.8	
8260 TVOC					0		0					

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	119-10 Depth : 200.00 08/02/2021 ug/L		119-10 Depth : 200.00 11/11/2021 ug/L		119-11 Depth : 180.00 01/27/2021 ug/L		119-11 Depth : 180.00 05/03/2021 ug/L		119-11 Depth : 180.00 08/02/2021 ug/L		119-11 Depth : 180.00 11/09/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	**9.4**		**11**	D	**12**		**12**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
1,1-Dichloroethane	**2.3**		**2**		**7.8**		**7.9**	D	**7.6**		**8.2**	
1,1-Dichloroethylene	**2**		**1.9**		**39**		**48**	D	**48**		**58**	D
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	1	U D	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	**0.52**		0.55	J D	**0.51**		**0.54**	
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Benzene, 1-methylethyl-	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Bromobenzene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.22	J	1	U D	0.2	J	0.21	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.63	U	1	U D	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Dichlorodifluoromethane	**3.4**		**3.7**		**1.3**		**1.5**	D	**1.8**		**2.2**	
EDB	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	2	U D	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.57	U	1	U D	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.99	U	1	U D	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Trichloroethylene	**1.6**		**1.4**		**3.7**		**4.3**	D	**3.8**		**4**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.19	J
Xylene (total)	1.5	U	1.5	U	0.5	U	3	U D	1.5	U	1.5	U
524.2 TVOC					61.94		73.25					
8260 TVOC	9.3		9						73.91		85.34	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	119-12 Depth : 179.00 01/27/2021 ug/L		119-12 Depth : 179.00 05/03/2021 ug/L		119-12 Depth : 179.00 08/02/2021 ug/L		119-12 Depth : 179.00 11/09/2021 ug/L		119-13 Depth : 0.00 01/20/2021 ug/L		119-13 Depth : 0.00 04/14/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**3.8**		**4.1**	D	**4.1**		**3.3**		**4.2**		**2.9**	
1,1,2,2-Tetrachloroethane	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	**0.87**		1	U D	**0.52**		0.47	J	**0.65**		**0.57**	
1,1-Dichloroethylene	**4.5**		**4.4**	D	**3.8**		**3.7**		**7.2**		**4.4**	
1,1-Dichloropropene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	1	U D	0.5	U	0.5	U	0.59	U	0.59	U
1,2,3-Trichloropropane	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1-methylethyl-	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Bromobenzene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.69**		1	U D	**0.53**		**0.56**		0.35	J	0.28	J
cis-1,2-Dichloroethylene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	1	U D	0.5	U	0.5	U	0.63	U	0.63	U
Dibromochloromethane	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	1	U D	0.5	U	0.5	U	0.49	J	0.33	J
EDB	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	2	U D	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	1	U D	0.5	U	0.5	U	0.57	U	0.57	U
Methyl chloride	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	1	U D	0.5	U	0.5	U	0.99	U	0.99	U
n-Butylbenzene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**2.6**		**3**	D	**2.5**		**2.6**		**0.95**		**0.71**	
Trichlorofluoromethane	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	3	U D	1.5	U	1.5	U	0.5	U	0.5	U
524.2 TVOC	12.46		11.5						13.84		9.19	
8260 TVOC					11.45		10.63					

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	119-13 Depth : 0.00 07/08/2021 ug/L		119-13 Depth : 0.00 10/07/2021 ug/L		121-42 Depth : 155.00 05/11/2021 ug/L		121-42 Depth : 155.00 11/10/2021 ug/L		121-55 Depth : 0.00 01/20/2021 ug/L		121-55 Depth : 0.00 02/10/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**3.2**		**3.9**		0.5	U	0.5	U	**2.4**		**2.3**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	**0.58**		**0.68**		0.5	U	0.5	U	**0.56**		0.49	J
1,1-Dichloroethylene	**5.2**		**7.8**		0.5	U	0.5	U	**4.1**		**3.8**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.59	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.2	J	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.26	J	0.31	J	0.5	U	0.5	U	**0.9**		**0.56**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.63	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.47	J	**0.79**		0.5	U	0.5	U	**0.87**		0.66	
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.57	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.99	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.31	J	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**0.83**		**0.99**		**0.67**		0.43	J	**1.3**		**0.64**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	0.5	U	0.5	U
524.2 TVOC					0.67				10.13		8.45	
8260 TVOC	10.54		14.47				0.94					

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	121-55 Depth : 0.00 03/03/2021 ug/L		121-55 Depth : 0.00 04/14/2021 ug/L		121-55 Depth : 0.00 05/10/2021 ug/L		121-55 Depth : 0.00 06/03/2021 ug/L		121-55 Depth : 0.00 07/08/2021 ug/L		121-55 Depth : 0.00 08/03/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**2.8**		**1.9**		**2.3**		**3.3**		**3**		**2.9**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	**0.53**		0.46	J	**0.59**		**0.52**		0.45	J	0.43	J
1,1-Dichloroethylene	**4**		**2.4**		**4.4**		**6.1**		**4.5**		**4.3**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.59	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.64**		0.49	J	0.5	U	**0.89**		**0.64**		**0.76**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.63	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	**0.87**		**0.72**		**1.1**		**1.4**		**1.2**		**1.2**	
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.57	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.99	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.2	J	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**0.71**		**0.55**		**0.68**		**0.78**		**0.75**		0.49	J
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	0.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	9.55		6.72		9.07		12.99					
8260 TVOC									10.54		10.08	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	121-55 Depth : 0.00 09/13/2021 ug/L		121-55 Depth : 0.00 10/07/2021 ug/L		121-55 Depth : 0.00 11/10/2021 ug/L		121-55 Depth : 0.00 12/06/2021 ug/L		126-01 Depth : 65.00 11/11/2021 ug/L		126-11 Depth : 155.00 05/05/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**2.4**		**2.4**		**2.4**		**2.7**		0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.49	J	**0.62**		0.48	J	0.24	J	0.5	U	0.5	U
1,1-Dichloroethylene	**4.4**		**4.5**		**4.3**		**4.8**		0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.88**		**0.93**		**0.77**		**0.61**		**0.86**		0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	**1.4**		**1.4**		**1.2**		**1.3**		0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**0.69**		**1.5**		**0.65**		**0.78**		0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC											0	
8260 TVOC	10.26		11.35		9.8		10.43		0.86			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	126-11 Depth : 155.00 11/09/2021 ug/L		126-13 Depth : 155.00 05/05/2021 ug/L		126-13 Depth : 155.00 11/05/2021 ug/L		126-14 Depth : 155.00 01/26/2021 ug/L		126-14 Depth : 155.00 05/06/2021 ug/L		126-14 Depth : 155.00 08/03/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	**19**		**16**		**13**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	**19**		**15**		**11**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.34	J	0.32	J	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.12	J	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.66	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	**2.5**		**2.7**		**2.3**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U
524.2 TVOC			0				40.96		34.02			
8260 TVOC	0				0						26.3	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	126-14 Depth : 155.00 11/05/2021 ug/L		126-15 Depth : 155.00 05/06/2021 ug/L		126-15 Depth : 155.00 11/10/2021 ug/L		126-16 Depth : 135.00 03/03/2021 ug/L		126-16 Depth : 135.00 05/18/2021 ug/L		126-16 Depth : 135.00 09/09/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**9.7**		0.5	U	0.5	U	**2.7**		**2.2**		**2.2**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	**0.92**		**0.85**		**0.94**	
1,1-Dichloroethylene	**8.5**		0.5	U	0.5	U	**3.3**		**3.3**		**3.4**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.3	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.27	J	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	**3.2**		**2.4**		**2.9**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	**6.4**		**6.9**		**2.2**		**3**		**3**	
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5		0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**2**		0.5	U	0.5	U	**3.5**		**3.1**		**3.3**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U
524.2 TVOC			6.4				15.82		14.85			
8260 TVOC	20.5				7.67						15.74	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	126-16 Depth : 135.00 11/15/2021 ug/L		126-17 Depth : 140.00 01/26/2021 ug/L		126-17 Depth : 140.00 05/06/2021 ug/L		126-17 Depth : 140.00 08/03/2021 ug/L		126-17 Depth : 140.00 11/05/2021 ug/L		126-18 Depth : 165.00 01/27/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**2.5**		0.29	J	0.5	U	0.5	U	0.27	J	**1.2**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	**1.1**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	**3.9**		0.28	J	0.5	U	0.2	J	0.27	J	**1.1**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.26	J
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**3.5**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	**3.4**		0.66	U	0.5	U	0.5	U	0.5	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.17	J	0.5	U	0.5	U	0.5	U	0.23	J
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**3.5**		0.2	J	0.5	U	0.5	U	0.5	U	0.27	J
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U	0.5	U
524.2 TVOC			0.94		0						3.06	
8260 TVOC	17.9						0.2		0.54			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	126-18 Depth : 165.00 05/03/2021 ug/L		126-18 Depth : 165.00 08/03/2021 ug/L		126-18 Depth : 165.00 11/09/2021 ug/L		126-19 Depth : 195.00 01/26/2021 ug/L		126-19 Depth : 195.00 05/03/2021 ug/L		126-19 Depth : 195.00 08/03/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	**0.54**		**0.6**		**1.5**		**1.7**		**1.8**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	**1.9**		**2**		**2.1**	
1,1-Dichloroethylene	**0.89**		**0.53**		**1.1**		**3.5**		**4.3**		**4.2**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.3	J	0.25	J	0.29	J	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	**3**		0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	**0.74**		0.27	J	**1.1**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	**8.3**		**8.9**		**8.5**	
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	**0.66**		0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	**1.8**		1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	**0.71**		0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.23	J	0.24	J	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	**5.1**		0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.44	J	0.2	J	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	**2.5**		0.5	U	1.5	U	1.5	U
524.2 TVOC	1.63						15.94		17.17			
8260 TVOC			1.75		16						17.7	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	126-19 Depth : 195.00 11/09/2021 ug/L		126-20 Depth : 140.00 01/27/2021 ug/L		126-20 Depth : 140.00 05/04/2021 ug/L		126-20 Depth : 140.00 08/03/2021 ug/L		126-20 Depth : 140.00 11/05/2021 ug/L		126-21 Depth : 204.00 01/27/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**1.8**		**9.3**		**9.1**		**7.6**		**5.9**		**0.58**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	**2.5**		0.21	J	0.5	U	0.5	U	0.5	U	0.14	J
1,1-Dichloroethylene	**4.2**		**11**		**11**		**8.8**		**6.8**		**1.1**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.37	J	0.3	J	0.3	J	0.3	J	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1**		0.34	J	0.5	U	0.3	J	0.31	J	0.38	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	**8.1**		0.66	U	0.5	U	0.5	U	0.5	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.44	J	**0.53**		0.5		0.47	J	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	**0.78**		**1**		**0.74**		**0.7**		0.13	J
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U	0.5	U
524.2 TVOC			22.44		21.93						2.33	
8260 TVOC	17.6						18.24		14.48			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	126-21 Depth : 204.00 05/04/2021 ug/L		126-21 Depth : 204.00 08/03/2021 ug/L		126-21 Depth : 204.00 11/05/2021 ug/L		127-04 Depth : 155.00 05/06/2021 ug/L		127-04 Depth : 155.00 11/10/2021 ug/L		127-06 Depth : 155.00 05/06/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.42	J	0.27	J	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	**1.2**		0.32	J	0.36	J	0.49	J	0.27	J	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.24	J	0.31	J	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.37	J	0.5	U	0.17	J	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	**1.4**		**1.1**		**0.66**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	1.57						2.31				0.66	
8260 TVOC			0.56		0.84				1.64			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	127-06 Depth : 155.00 11/10/2021 ug/L		127-07 Depth : 151.00 03/03/2021 ug/L		127-07 Depth : 151.00 05/18/2021 ug/L		127-07 Depth : 151.00 09/09/2021 ug/L		127-07 Depth : 151.00 11/15/2021 ug/L		130-02 Depth : 115.00 05/04/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.17	J	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.26	J	0.35	J	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.42	J	0.25	J	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.23	J	0.31	J	**0.71**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.66	U	0.5	U	**0.64**		**0.99**		0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.24	J	0.5	U	0.5	U	0.17	J	0.5	U	0.5	U
Toluene	0.35	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**0.69**		0.18	J	0.5	U	0.22	J	0.27	J	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC			0.18		0						0.71	
8260 TVOC	1.28						2.11		2.17			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	130-02 Depth : 115.00 11/05/2021 ug/L		130-03 Depth : 162.50 05/04/2021 ug/L		130-03 Depth : 162.50 11/05/2021 ug/L		130-04 Depth : 287.50 11/10/2021 ug/L		130-08 Depth : 150.00 03/02/2021 ug/L		130-08 Depth : 150.00 05/19/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	**2**		0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.31	J	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	**2.5**		**3.2**		0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1.1**		**0.88**		**2**		0.5	U	**1.5**		**0.98**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.22	J	0.27	J	**1**		0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	**0.58**		**0.65**		0.5	U	**0.54**		0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	**1.3**		0.5	U	0.5	U	0.37	J	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U
524.2 TVOC			5.48						2.41		0.98	
8260 TVOC	1.1				8.43		1					

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	130-08 Depth : 150.00 09/10/2021 ug/L		130-08 Depth : 150.00 11/15/2021 ug/L		130-09 Depth : 140.00 02/26/2021 ug/L		130-09 Depth : 140.00 05/18/2021 ug/L		130-09 Depth : 140.00 09/09/2021 ug/L		130-09 Depth : 140.00 11/15/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1.6**		**1.9**		**0.63**		0.5	U	0.39	J	**1.3**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.66	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**0.6**		0.38	J	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.36	J	0.23	J	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC					0.63		0					
8260 TVOC	2.56		2.51						0.39		1.3	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	130-10 Depth : 155.00 02/26/2021 ug/L		130-10 Depth : 155.00 05/18/2021 ug/L		130-10 Depth : 155.00 09/09/2021 ug/L		130-10 Depth : 155.00 11/15/2021 ug/L		130-11 Depth : 200.00 02/26/2021 ug/L		130-11 Depth : 200.00 05/18/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	**1.2**		**0.56**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	**1.3**		**0.87**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.36	J	0.5	U	0.42	J	0.38	J	**0.75**		0.27	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.5	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.11	J	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U
524.2 TVOC	0.36		0						3.36		1.7	
8260 TVOC					0.42		0.38					

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	130-11 Depth : 200.00 09/09/2021 ug/L		130-11 Depth : 200.00 11/15/2021 ug/L		130-12 Depth : 0.00 01/20/2021 ug/L		130-12 Depth : 0.00 05/13/2021 ug/L		130-12 Depth : 0.00 07/08/2021 ug/L		130-12 Depth : 0.00 10/07/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**0.55**		**0.96**		**5.4**		**14**		**5**		**5.7**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.44	J	0.5	U	0.42	J	0.4	J
1,1-Dichloroethylene	**0.73**		**1.3**		**6**		**18**		**5.1**		**7.2**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.13	J	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.65**		**1**		**1.8**		**2.4**		**1.7**		**1.7**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	**0.52**		**1.4**		**2**		**1.4**		**1.5**	
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	**1.4**		**1.7**		**1.3**		**1.4**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC					16.57		38.1					
8260 TVOC	1.93		3.78						14.92		17.9	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	130-13 Depth : 0.00 01/20/2021 ug/L		130-13 Depth : 0.00 04/14/2021 ug/L		130-13 Depth : 0.00 07/08/2021 ug/L		130-13 Depth : 0.00 10/07/2021 ug/L		130-14 Depth : 205.00 04/29/2021 ug/L		130-14 Depth : 208.00 08/03/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.23	J	0.17	J	0.24	J	0.38	J	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	**0.52**		0.45	J	**0.55**		**0.68**		**0.94**		**1**	
1,1-Dichloroethylene	**0.57**		0.47	J	**0.62**		**1.1**		**1**		**1.1**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.59	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.63	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	**3.1**		**2.1**		**3.3**		**5.1**		**23**		**18**	
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.57	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.99	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.13	J	0.14	J	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	0.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	4.55		3.33						24.94			
8260 TVOC					4.71		7.26				20.1	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Western South Boundary)

Analyte	130-14 Depth : 208.00 11/10/2021 ug/L											
1,1,1,2-Tetrachloroethane	0.5	U										
1,1,1-Trichloroethane	0.5	U										
1,1,2,2-Tetrachloroethane	0.5	U										
1,1,2-Trichloroethane	0.5	U										
1,1-Dichloroethane	**1.2**											
1,1-Dichloroethylene	**1.1**											
1,1-Dichloropropene	0.5	U										
1,2,3-Trichlorobenzene	0.5	U										
1,2,3-Trichloropropane	0.5	U										
1,2-Dichloroethane	0.5	U										
1,2-Dichloropropane	0.5	U										
1,3-Dichloropropane	0.5	U										
2,2-Dichloropropane	0.5	U										
Benzene	0.5	U										
Benzene, 1,2,4-trimethyl	0.5	U										
Benzene, 1,3,5-trimethyl-	0.5	U										
Benzene, 1-methylethyl-	0.5	U										
Bromobenzene	0.5	U										
Bromodichloromethane	0.5	U										
Bromoform	0.5	U										
Carbon tetrachloride	0.5	U										
Chlorobenzene	0.5	U										
Chlorobromomethane	0.5	U										
Chloroethane	0.5	U										
Chloroform	0.5	U										
cis-1,2-Dichloroethylene	0.5	U										
cis-1,3-Dichloropropene	0.5	U										
Cymene	0.5	U										
DBCP	0.5	U										
Dibromochloromethane	0.5	U										
Dibromomethane	0.5	U										
Dichlorodifluoromethane	**24**											
EDB	0.5	U										
Ethene, 1,2-dichloro-, (E)-	0.5	U										
Ethylbenzene	0.5	U										
m-Dichlorobenzene	0.5	U										
m/p xylene	1	U										
Methyl bromide	0.5	U										
Methyl chloride	0.5	U										
Methyl tert-butyl ether	0.5	U										
Methylene chloride	0.5	U										
n-Butylbenzene	0.5	U										
n-Propylbenzene	0.5	U										
o-Chlorotoluene	0.5	U										
o-Dichlorobenzene	0.5	U										
o-Xylene	0.5	U										
p-Chlorotoluene	0.5	U										
p-Dichlorobenzene	0.5	U										
sec-Butylbenzene	0.5	U										
Styrene	0.5	U										
tert-Butylbenzene	0.5	U										
Tetrachloroethylene	0.5	U										
Toluene	0.5	U										
trans-1,3-Dichloropropene	0.5	U										
Trichloroethylene	0.5	U										
Trichlorofluoromethane	0.5	U										
Vinyl chloride	0.5	U										
Xylene (total)	1.5	U										
524.2 TVOC												
8260 TVOC	26.3											

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	000-558 Depth : 165.00 03/02/2021 ug/L		000-558 Depth : 105.00 05/26/2021 ug/L		000-558 Depth : 165.00 09/10/2021 ug/L		000-558 Depth : 165.00 11/15/2021 ug/L		000-559 Depth : 215.00 03/02/2021 ug/L		000-559 Depth : 215.00 05/26/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	000-559 Depth : 215.00 09/10/2021 ug/L		000-559 Depth : 215.00 11/15/2021 ug/L		000-560 Depth : 159.50 03/02/2021 ug/L		000-560 Depth : 159.50 05/26/2021 ug/L		000-560 Depth : 159.50 09/27/2021 ug/L		000-560 Depth : 159.50 11/16/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	103-15 Depth : 200.00 01/22/2021 ug/L		103-15 Depth : 200.00 04/30/2021 ug/L		103-15 Depth : 200.00 07/30/2021 ug/L		103-15 Depth : 200.00 11/04/2021 ug/L		103-18 Depth : 170.00 03/03/2021 ug/L		103-18 Depth : 170.00 05/07/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	103-18 Depth : 170.00 08/02/2021 ug/L		103-18 Depth : 170.00 11/11/2021 ug/L		103-19 Depth : 170.00 03/03/2021 ug/L		103-19 Depth : 170.00 05/07/2021 ug/L		103-19 Depth : 170.00 07/30/2021 ug/L		103-19 Depth : 170.00 11/11/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	111-15 Depth : 175.00 03/03/2021 ug/L		111-15 Depth : 175.00 04/29/2021 ug/L		111-15 Depth : 175.00 07/30/2021 ug/L		111-15 Depth : 175.00 11/04/2021 ug/L		111-16 Depth : 173.00 03/03/2021 ug/L		111-16 Depth : 173.00 04/30/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	111-16 Depth : 173.00 08/02/2021 ug/L		111-16 Depth : 173.00 11/04/2021 ug/L		111-17 Depth : 0.00 01/20/2021 ug/L		111-17 Depth : 0.00 04/14/2021 ug/L		111-17 Depth : 0.00 07/08/2021 ug/L		111-17 Depth : 0.00 10/07/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.55	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.67	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	119-06 Depth : 130.00 01/22/2021 ug/L		119-06 Depth : 130.00 04/30/2021 ug/L		119-06 Depth : 130.00 08/02/2021 ug/L		119-06 Depth : 130.00 11/11/2021 ug/L		119-10 Depth : 200.00 01/26/2021 ug/L		119-10 Depth : 200.00 04/30/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	119-10 Depth : 200.00 08/02/2021 ug/L		119-10 Depth : 200.00 11/11/2021 ug/L		119-11 Depth : 180.00 01/27/2021 ug/L		119-11 Depth : 180.00 05/03/2021 ug/L		119-11 Depth : 180.00 08/02/2021 ug/L		119-11 Depth : 180.00 11/09/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	1	U D	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	1	U D	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	1	U D	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	119-12 Depth : 179.00 01/27/2021 ug/L		119-12 Depth : 179.00 05/03/2021 ug/L		119-12 Depth : 179.00 08/02/2021 ug/L		119-12 Depth : 179.00 11/09/2021 ug/L		119-13 Depth : 0.00 01/20/2021 ug/L		119-13 Depth : 0.00 04/14/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	1	U D	0.5	U	0.5	U	0.55	U	0.55	U
Hexachlorobutadiene	0.5	U	1	U D	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	1	U D	0.5	U	0.5	U	0.67	U	0.67	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	119-13 Depth : 0.00 07/08/2021 ug/L		119-13 Depth : 0.00 10/07/2021 ug/L		121-42 Depth : 155.00 05/11/2021 ug/L		121-42 Depth : 155.00 11/10/2021 ug/L		121-55 Depth : 0.00 01/20/2021 ug/L		121-55 Depth : 0.00 02/10/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.55	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.67	U	0.67	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	121-55 Depth : 0.00 03/03/2021 ug/L		121-55 Depth : 0.00 04/14/2021 ug/L		121-55 Depth : 0.00 05/10/2021 ug/L		121-55 Depth : 0.00 06/03/2021 ug/L		121-55 Depth : 0.00 07/08/2021 ug/L		121-55 Depth : 0.00 08/03/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.55	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.67	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	121-55 Depth : 0.00 09/13/2021 ug/L		121-55 Depth : 0.00 10/07/2021 ug/L		121-55 Depth : 0.00 11/10/2021 ug/L		121-55 Depth : 0.00 12/06/2021 ug/L		126-01 Depth : 65.00 11/11/2021 ug/L		126-11 Depth : 155.00 05/05/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	126-11 Depth : 155.00 11/09/2021 ug/L		126-13 Depth : 155.00 05/05/2021 ug/L		126-13 Depth : 155.00 11/05/2021 ug/L		126-14 Depth : 155.00 01/26/2021 ug/L		126-14 Depth : 155.00 05/06/2021 ug/L		126-14 Depth : 155.00 08/03/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	126-14 Depth : 155.00 11/05/2021 ug/L		126-15 Depth : 155.00 05/06/2021 ug/L		126-15 Depth : 155.00 11/10/2021 ug/L		126-16 Depth : 135.00 03/03/2021 ug/L		126-16 Depth : 135.00 05/18/2021 ug/L		126-16 Depth : 135.00 09/09/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	126-16 Depth : 135.00 11/15/2021 ug/L		126-17 Depth : 140.00 01/26/2021 ug/L		126-17 Depth : 140.00 05/06/2021 ug/L		126-17 Depth : 140.00 08/03/2021 ug/L		126-17 Depth : 140.00 11/05/2021 ug/L		126-18 Depth : 165.00 01/27/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U	0.67	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	126-18 Depth : 165.00 05/03/2021 ug/L		126-18 Depth : 165.00 08/03/2021 ug/L		126-18 Depth : 165.00 11/09/2021 ug/L		126-19 Depth : 195.00 01/26/2021 ug/L		126-19 Depth : 195.00 05/03/2021 ug/L		126-19 Depth : 195.00 08/03/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	126-19 Depth : 195.00 11/09/2021 ug/L		126-20 Depth : 140.00 01/27/2021 ug/L		126-20 Depth : 140.00 05/04/2021 ug/L		126-20 Depth : 140.00 08/03/2021 ug/L		126-20 Depth : 140.00 11/05/2021 ug/L		126-21 Depth : 204.00 01/27/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U	0.67	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	126-21 Depth : 204.00 05/04/2021 ug/L		126-21 Depth : 204.00 08/03/2021 ug/L		126-21 Depth : 204.00 11/05/2021 ug/L		127-04 Depth : 155.00 05/06/2021 ug/L		127-04 Depth : 155.00 11/10/2021 ug/L		127-06 Depth : 155.00 05/06/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	127-06 Depth : 155.00 11/10/2021 ug/L		127-07 Depth : 151.00 03/03/2021 ug/L		127-07 Depth : 151.00 05/18/2021 ug/L		127-07 Depth : 151.00 09/09/2021 ug/L		127-07 Depth : 151.00 11/15/2021 ug/L		130-02 Depth : 115.00 05/04/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	130-02 Depth : 115.00 11/05/2021 ug/L		130-03 Depth : 162.50 05/04/2021 ug/L		130-03 Depth : 162.50 11/05/2021 ug/L		130-04 Depth : 287.50 11/10/2021 ug/L		130-08 Depth : 150.00 03/02/2021 ug/L		130-08 Depth : 150.00 05/19/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	130-08 Depth : 150.00 09/10/2021 ug/L		130-08 Depth : 150.00 11/15/2021 ug/L		130-09 Depth : 140.00 02/26/2021 ug/L		130-09 Depth : 140.00 05/18/2021 ug/L		130-09 Depth : 140.00 09/09/2021 ug/L		130-09 Depth : 140.00 11/15/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	130-10 Depth : 155.00 02/26/2021 ug/L		130-10 Depth : 155.00 05/18/2021 ug/L		130-10 Depth : 155.00 09/09/2021 ug/L		130-10 Depth : 155.00 11/15/2021 ug/L		130-11 Depth : 200.00 02/26/2021 ug/L		130-11 Depth : 200.00 05/18/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	130-11 Depth : 200.00 09/09/2021 ug/L		130-11 Depth : 200.00 11/15/2021 ug/L		130-12 Depth : 0.00 01/20/2021 ug/L		130-12 Depth : 0.00 05/13/2021 ug/L		130-12 Depth : 0.00 07/08/2021 ug/L		130-12 Depth : 0.00 10/07/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	130-13 Depth : 0.00 01/20/2021 ug/L		130-13 Depth : 0.00 04/14/2021 ug/L		130-13 Depth : 0.00 07/08/2021 ug/L		130-13 Depth : 0.00 10/07/2021 ug/L		130-14 Depth : 205.00 04/29/2021 ug/L		130-14 Depth : 208.00 08/03/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.55	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.67	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Western South Boundary)

Analyte	130-14 Depth : 208.00 11/10/2021 ug/L											
1,2,4-Trichlorobenzene	0.5	U										
Hexachlorobutadiene	0.5	U										
Naphthalene	0.5	U										

OU III (Industrial Park)

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-112 Depth : 165.00 03/08/2021 ug/L		000-112 Depth : 180.00 05/19/2021 ug/L		000-112 Depth : 180.00 09/20/2021 ug/L		000-112 Depth : 180.00 11/29/2021 ug/L		000-114 Depth : 135.00 11/29/2021 ug/L		000-245 Depth : 212.00 11/29/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.73**		0.23	J	**0.54**		**0.77**		**0.91**		**1.1**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	**0.52**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.26	J	0.5	U	0.5	U	0.2	J	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	1.51		0.23									
8260 TVOC					0.54		0.97		0.91		1.1	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Industrial Park)

Analyte	000-248 Depth : 232.50 11/29/2021 ug/L		000-250 Depth : 298.00 11/29/2021 ug/L		000-252 Depth : 171.50 11/24/2021 ug/L		000-253 Depth : 225.50 03/10/2021 ug/L		000-253 Depth : 225.50 05/20/2021 ug/L		000-253 Depth : 225.20 09/15/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1.3**		0.5	U	**1.4**		**1.4**		**1.2**		**1.3**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.37	J	0.5	U	0.66	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.27	J	0.5	U	0.5	U	0.47	J	0.5	U	0.41	J
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U
524.2 TVOC							1.87		1.2			
8260 TVOC	1.57		0.37		1.4						1.71	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-253 Depth : 225.50 11/24/2021 ug/L		000-255 Depth : 167.50 11/24/2021 ug/L		000-256 Depth : 222.50 03/10/2021 ug/L		000-256 Depth : 222.50 05/20/2021 ug/L		000-256 Depth : 222.50 09/15/2021 ug/L		000-256 Depth : 222.50 11/24/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1.6**		**1.9**		**0.98**		**0.84**		**1.2**		**1.4**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.66	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.34	J	0.5	U	**0.54**		0.43	J	**0.74**		**0.65**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC					1.52		1.27					
8260 TVOC	1.94		1.9						1.94		2.05	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-259 Depth : 202.50 03/08/2021 ug/L		000-259 Depth : 202.50 05/17/2021 ug/L		000-259 Depth : 202.50 09/15/2021 ug/L		000-259 Depth : 202.50 11/29/2021 ug/L		000-261 Depth : 132.50 11/23/2021 ug/L		000-262 Depth : 182.50 03/05/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**0.65**		**0.52**		**0.53**		0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.36	J	0.42	J	0.33	J	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.5	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**1.3**		**1.3**		**0.88**		0.27	J	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.81**		0.3	J	**0.59**		**0.56**		0.25	J	**0.71**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.5	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.5	U	0.5	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.5	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	**0.86**		**0.52**		0.38	J	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.5	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**6.6**		**6.2**		**5.5**		**2.9**		0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**0.75**		**0.67**		**0.61**		0.36	J	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	1.5	U	1.5	U	0.5	U
524.2 TVOC	11.33		9.93								0.71	
8260 TVOC					8.82		4.09		0.25			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-262 Depth : 182.50 05/25/2021 ug/L		000-262 Depth : 182.50 09/16/2021 ug/L		000-262 Depth : 182.50 12/01/2021 ug/L		000-265 Depth : 212.50 09/20/2021 ug/L		000-267 Depth : 160.50 11/17/2021 ug/L		000-268 Depth : 215.50 03/05/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	**0.76**		**0.93**		0.5	U	0.5	U	0.2	J
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.25	J	0.47	J	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.46	J	**0.77**		0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.71**		0.44	J	**0.56**		**0.72**		0.43	J	0.23	J
cis-1,2-Dichloroethylene	0.5	U	**0.89**		**1.1**		0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	**2.4**		**2.2**		0.5	U	0.5	U	0.28	J
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	**0.67**		**0.76**		0.5	U	0.5	U	0.24	J
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	0.5	U
524.2 TVOC	0.71										0.95	
8260 TVOC			5.87		6.79		0.72		0.43			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-268 Depth : 215.50 05/20/2021 ug/L		000-268 Depth : 215.50 09/20/2021 ug/L		000-268 Depth : 215.50 11/17/2021 ug/L		000-271 Depth : 215.50 03/08/2021 ug/L		000-271 Depth : 215.50 05/25/2021 ug/L		000-271 Depth : 215.50 09/20/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.21	J	0.28	J	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.18	J	0.25	J	**0.62**		0.25	J	0.31	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.66	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.41	J	**0.58**		0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.25	J	0.29	J	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U
524.2 TVOC	0						0.62		0.25			
8260 TVOC			1.05		1.4						0.31	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-271 Depth : 215.50 11/17/2021 ug/L		000-272 Depth : 191.00 11/30/2021 ug/L		000-273 Depth : 185.00 05/24/2021 ug/L		000-273 Depth : 185.00 11/30/2021 ug/L		000-274 Depth : 242.00 05/24/2021 ug/L		000-274 Depth : 242.00 11/30/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.28	J	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.17	J	**0.97**		0.5	U	**0.73**		**1.1**		**0.86**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.34	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.47	J	0.5	U	0.32	J
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC					0				1.1			
8260 TVOC	0.51		0.97				1.48				1.18	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-275 Depth : 134.00 05/24/2021 ug/L		000-275 Depth : 134.00 11/30/2021 ug/L		000-276 Depth : 164.00 05/24/2021 ug/L		000-276 Depth : 164.00 12/01/2021 ug/L		000-277 Depth : 147.00 05/25/2021 ug/L		000-277 Depth : 147.00 11/30/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.45	J	0.32	J	**0.82**		0.44	J	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	0				0.32				0.44			
8260 TVOC			0.45				0.82				0	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-278 Depth : 194.00 05/24/2021 ug/L		000-278 Depth : 194.00 12/01/2021 ug/L		000-279 Depth : 193.00 03/31/2021 ug/L		000-279 Depth : 193.00 05/17/2021 ug/L		000-279 Depth : 193.00 09/16/2021 ug/L		000-279 Depth : 193.00 11/23/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**1.8**		**2.1**		0.5	U	0.5	U	0.21	J	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	**0.62**		**0.93**		0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.21	J	0.5	U	0.5	U	**1.9**		**0.86**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.31	J	**0.56**		**1.7**		**1.1**		**1.2**		**1.5**	
cis-1,2-Dichloroethylene	0.39	J	0.19	J	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.66	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**1**		**1.3**		**0.88**		**0.64**		**2.5**		**1.4**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**0.91**		**0.84**		0.5	U	0.5	U	0.31	J	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	5.03				2.58		1.74					
8260 TVOC			6.13						6.12		3.76	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-280 Depth : 160.00 01/20/2021 ug/L		000-431 Depth : 260.00 05/24/2021 ug/L		000-431 Depth : 260.00 11/30/2021 ug/L		000-432 Depth : 230.00 05/24/2021 ug/L		000-432 Depth : 230.00 12/01/2021 ug/L		000-528 Depth : 220.00 02/18/2021 ug/L	
1,1,1,2-Tetrachloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.39	J
1,1,2,2-Tetrachloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene			0.5	U	0.5	U	0.5	U	0.5	U	0.21	J
1,1-Dichloropropene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.59	U
1,2,3-Trichloropropane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane	0.108	J										
2,2-Dichloropropane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-			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
Bromobenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform			0.33	J	**1.1**		**0.65**		**0.63**		**0.74**	
cis-1,2-Dichloroethylene			0.5	U	0.5	U	0.5	U	0.5	U	**0.78**	
cis-1,3-Dichloropropene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP			0.5	U	0.5	U	0.5	U	0.5	U	0.63	U
Dibromochloromethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane			0.5	U	0.5	U	0.5	U	0.5	U	0.66	U
EDB			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene			1	U	1	U	1	U	1	U	1	U
Methyl bromide			0.5	U	0.5	U	0.5	U	0.5	U	0.57	U
Methyl chloride			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether			0.5	U	0.5	U	0.5	U	**1.6**		0.5	U
Methylene chloride			0.5	U	0.5	U	0.5	U	0.5	U	0.99	U
n-Butylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene			0.5	U	0.5	U	0.5	U	0.5	U	**3.2**	
Toluene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene			0.5	U	0.5	U	0.5	U	0.5	U	0.44	J
Trichlorofluoromethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)			1.5	U	1.5	U	1.5	U	1.5	U	0.5	U
524.2 TVOC			0.33				0.65				5.76	
8260 TVOC					1.1				2.23			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-528 Depth : 220.00 05/21/2021 ug/L		000-528 Depth : 220.00 09/21/2021 ug/L		000-528 Depth : 220.00 11/30/2021 ug/L		000-529 Depth : 215.00 03/04/2021 ug/L		000-529 Depth : 215.00 05/20/2021 ug/L		000-529 Depth : 219.00 09/16/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	**0.56**		0.43	J	**3.5**		**4.5**		**4.1**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.16	J	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.17	J	0.22	J	**1.9**		**4.3**		**2.3**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.29	J	0.5	U	**1.1**		**1.3**		**1.2**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.24	J	0.5		**0.51**		**0.82**		0.32	J	**0.52**	
cis-1,2-Dichloroethylene	0.5		0.42	J	0.45	J	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.28	J	0.5	U	0.66	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**4.2**		**4.6**		**3.1**		**5.4**		**8**		**7.5**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	**0.56**		0.38	J	**2**		**2.5**		**2.7**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U
524.2 TVOC	4.94						14.88		20.92			
8260 TVOC			7.38		5.09						18.32	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Industrial Park)

Analyte	000-529 Depth : 215.00 11/17/2021 ug/L		000-530 Depth : 210.00 03/08/2021 ug/L		000-530 Depth : 210.00 05/17/2021 ug/L		000-530 Depth : 210.00 09/15/2021 ug/L		000-530 Depth : 210.00 11/24/2021 ug/L		000-531 Depth : 205.00 03/05/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**5.1**		**16**		**18**		**16**		**19**		**2.1**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.24	J	0.39	J	0.5	U	**0.56**		**0.66**		0.5	U
1,1-Dichloroethylene	**2.9**		**8.4**		**8.1**		**9.1**		**10**		**2**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**1.5**		0.33	J	0.5	U	0.25	J	0.26	J	**18**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.69**		0.45	J	0.5	U	0.44	J	0.47	J	**1.8**	
cis-1,2-Dichloroethylene	0.5	U	0.23	J	0.5	U	0.25	J	0.24	J	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.66	U	0.5	U	0.5	U	0.5	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.38	J	0.22	J	0.26	J	0.2	J	0.5	U
Methylene chloride	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**8.3**		0.5	U	0.5	U	0.5	U	0.5	U	**1.2**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**2.7**		**1.8**		**1.8**		**2**		**1.9**		**9.5**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U	0.5	U
524.2 TVOC			27.98		28.12						34.6	
8260 TVOC	21.43						28.86		32.73			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-531 Depth : 205.00 05/20/2021 ug/L		000-531 Depth : 205.00 09/22/2021 ug/L		000-531 Depth : 205.00 11/17/2021 ug/L		000-537 Depth : 245.00 03/03/2021 ug/L		000-537 Depth : 245.00 05/21/2021 ug/L		000-537 Depth : 245.00 09/21/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**2.1**		**1.7**		**2.4**		**9.4**		**7.9**		**7.8**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.2	J
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.3	J	0.5	U	0.24	J
1,1-Dichloroethylene	**2**		**1.6**		**2.2**		**3.8**		**3**		**3**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**18**		**13**		**16**		**1.2**		**1.2**		**1.2**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1.5**		**1.6**		**2**		**0.82**		0.43	J	**0.78**	
cis-1,2-Dichloroethylene	0.5	U	0.16	J	0.23	J	**0.67**		**0.56**		**0.69**	
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.66	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**1.2**		**1.2**		**1.2**		**27**		**32**		**27**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**9.9**		**9.5**		**9.9**		**8**		**7.2**		**8.1**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U
524.2 TVOC	34.7						51.19		52.29			
8260 TVOC			28.76		33.93						49.01	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-537 Depth : 245.00 11/17/2021 ug/L		000-538 Depth : 215.00 03/03/2021 ug/L		000-538 Depth : 215.00 05/21/2021 ug/L		000-538 Depth : 215.00 09/21/2021 ug/L		000-538 Depth : 215.00 11/17/2021 ug/L		000-541 Depth : 235.00 03/04/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**11**		**3.7**		**3.4**		**3.4**		**4.5**		**2.4**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.27	J	0.5	U	0.5	U	0.5	U	0.5	U	0.21	J
1,1-Dichloroethylene	**4.1**		**1.6**		**1.4**		**1.5**		**2**		**1.6**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**1.4**		**0.72**		0.47	J	**0.64**		**0.78**		**14**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1**		**0.76**		0.29	J	**0.53**		**0.85**		**4.4**	
cis-1,2-Dichloroethylene	**0.86**		**1.1**		**0.73**		**0.72**		0.5	U	0.19	J
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.66	U	0.5	U	0.5	U	0.41	J	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**31**		**8.7**		**9**		**8.5**		**9.1**		**6.4**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**9.4**		**4.6**		**4.3**		**4.8**		**5**		**10**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U	0.5	U
524.2 TVOC			21.18		19.59						39.2	
8260 TVOC	59.03						20.09		22.64			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-541 Depth : 235.00 05/25/2021 ug/L		000-541 Depth : 235.00 09/21/2021 ug/L		000-541 Depth : 235.00 11/23/2021 ug/L		000-542 Depth : 235.00 03/08/2021 ug/L		000-542 Depth : 235.00 05/17/2021 ug/L		000-542 Depth : 235.00 09/15/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**2.7**		**2.4**		**3.4**		0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.29	J	0.39	J	**0.53**		0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	**1.8**		**1.7**		**2.5**		0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**17**		**15**		**21**		0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**4.2**		**3.6**		**5.1**		0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.24	J	0.23	J	0.3	J	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.66	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**7.8**		**7.1**		**8.6**		0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**11**		**11**		**13**		0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U
524.2 TVOC	45.03						0		0			
8260 TVOC			41.42		54.43						0	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-542 Depth : 235.00 11/24/2021 ug/L		000-543 Depth : 230.00 03/05/2021 ug/L		000-543 Depth : 230.00 05/25/2021 ug/L		000-543 Depth : 230.00 09/16/2021 ug/L		000-543 Depth : 230.00 11/23/2021 ug/L		000-544 Depth : 230.00 03/10/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**6.7**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**4.3**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**2.5**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**0.63**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.19	J
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.66	U	0.5	U	0.5	U	0.5	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**0.57**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U	0.5	U
524.2 TVOC			0		0						14.89	
8260 TVOC	0						0		0			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-544 Depth : 230.00 05/25/2021 ug/L		000-544 Depth : 230.00 09/21/2021 ug/L		000-544 Depth : 230.00 12/01/2021 ug/L		000-548 Depth : 235.00 02/18/2021 ug/L		000-548 Depth : 235.00 05/21/2021 ug/L		000-548 Depth : 235.00 09/16/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**2.9**		**2.4**		**13**		**11**		**8.8**		**7.7**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	**2**		**1.5**		**8**		**4.4**		**9.6**		**2.9**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.21	J	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.45	J	0.48	J	**5**		**3.4**		**2.8**		**2.3**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.37	J	0.26	J	**0.94**		**0.6**		0.18	J	**0.51**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.29	J	0.22	J	0.5	U	0.2	J
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.66	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	**0.75**		**0.71**		**0.8**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.17	J	**0.8**		**9.2**		**8.6**		**8.3**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U
524.2 TVOC	5.72						29.57		30.69			
8260 TVOC			4.81		28.24						22.71	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Industrial Park)

Analyte	000-548 Depth : 235.00 11/16/2021 ug/L		127-08 Depth : 240.00 03/04/2021 ug/L		127-08 Depth : 240.00 05/25/2021 ug/L		127-08 Depth : 240.00 09/10/2021 ug/L		127-08 Depth : 240.00 11/16/2021 ug/L		127-09 Depth : 225.00 03/04/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**10**		**0.96**		**0.94**		**0.82**		**0.85**		0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	**4.4**		**0.58**		**0.59**		**0.51**		**0.54**		0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U	0.59	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**3**		**6.5**		**7.2**		**5.6**		**6.7**		**0.66**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.62**		**1.3**		**1.4**		**1.2**		**1.4**		**0.95**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U	0.63	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.66	U	0.5	U	0.5	U	0.5	U	0.66	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U	0.57	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U	0.99	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**0.89**		**21**		**23**		**19**		**22**		**2.6**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**9.3**		**2.4**		**2.3**		**2**		**2.2**		0.15	J
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U	0.5	U
524.2 TVOC			32.74		35.43						4.36	
8260 TVOC	28.21						29.13		33.69			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	127-09 Depth : 225.00 05/26/2021 ug/L		127-09 Depth : 225.00 09/10/2021 ug/L		127-09 Depth : 225.00 11/16/2021 ug/L							
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U						
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U						
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U						
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U						
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U						
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U						
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U						
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U						
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U						
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U						
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U						
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U						
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U						
Benzene	0.5	U	0.5	U	0.5	U						
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U						
Benzene, 1,3,5-trimethyl-	0.5	U	0.5	U	0.5	U						
Benzene, 1-methylethyl-	0.5	U	0.5	U	0.5	U						
Bromobenzene	0.5	U	0.5	U	0.5	U						
Bromodichloromethane	0.5	U	0.5	U	0.5	U						
Bromoform	0.5	U	0.5	U	0.5	U						
Carbon tetrachloride	0.26	J	0.46	J	**1.5**							
Chlorobenzene	0.5	U	0.5	U	0.5	U						
Chlorobromomethane	0.5	U	0.5	U	0.5	U						
Chloroethane	0.5	U	0.5	U	0.5	U						
Chloroform	**0.98**		**1.1**		**1.6**							
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U						
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U						
Cymene	0.5	U	0.5	U	0.5	U						
DBCP	0.5	U	0.5	U	0.5	U						
Dibromochloromethane	0.5	U	0.5	U	0.5	U						
Dibromomethane	0.5	U	0.5	U	0.5	U						
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U						
EDB	0.5	U	0.5	U	0.5	U						
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U						
Ethylbenzene	0.5	U	0.5	U	0.5	U						
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U						
m/p xylene	1	U	1	U	1	U						
Methyl bromide	0.5	U	0.5	U	0.5	U						
Methyl chloride	0.5	U	0.5	U	0.5	U						
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U						
Methylene chloride	0.5	U	0.5	U	0.5	U						
n-Butylbenzene	0.5	U	0.5	U	0.5	U						
n-Propylbenzene	0.5	U	0.5	U	0.5	U						
o-Chlorotoluene	0.5	U	0.5	U	0.5	U						
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U						
o-Xylene	0.5	U	0.5	U	0.5	U						
p-Chlorotoluene	0.5	U	0.5	U	0.5	U						
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U						
sec-Butylbenzene	0.5	U	0.5	U	0.5	U						
Styrene	0.5	U	0.5	U	0.5	U						
tert-Butylbenzene	0.5	U	0.5	U	0.5	U						
Tetrachloroethylene	**2.8**		**2.8**		**3.2**							
Toluene	0.5	U	0.5	U	0.5	U						
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U						
Trichloroethylene	0.5	U	0.5	U	0.17	J						
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U						
Vinyl chloride	0.5	U	0.5	U	0.5	U						
Xylene (total)	1.5	U	1.5	U	1.5	U						
524.2 TVOC	4.04											
8260 TVOC			4.36		6.47							

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-112 Depth : 165.00 03/08/2021 ug/L		000-112 Depth : 180.00 05/19/2021 ug/L		000-112 Depth : 180.00 09/20/2021 ug/L		000-112 Depth : 180.00 11/29/2021 ug/L		000-114 Depth : 135.00 11/29/2021 ug/L		000-245 Depth : 212.00 11/29/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-248 Depth : 232.50 11/29/2021 ug/L		000-250 Depth : 298.00 11/29/2021 ug/L		000-252 Depth : 171.50 11/24/2021 ug/L		000-253 Depth : 225.50 03/10/2021 ug/L		000-253 Depth : 225.50 05/20/2021 ug/L		000-253 Depth : 225.20 09/15/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-253 Depth : 225.50 11/24/2021 ug/L		000-255 Depth : 167.50 11/24/2021 ug/L		000-256 Depth : 222.50 03/10/2021 ug/L		000-256 Depth : 222.50 05/20/2021 ug/L		000-256 Depth : 222.50 09/15/2021 ug/L		000-256 Depth : 222.50 11/24/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-259 Depth : 202.50 03/08/2021 ug/L		000-259 Depth : 202.50 05/17/2021 ug/L		000-259 Depth : 202.50 09/15/2021 ug/L		000-259 Depth : 202.50 11/29/2021 ug/L		000-261 Depth : 132.50 11/23/2021 ug/L		000-262 Depth : 182.50 03/05/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.5	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.5	U	0.67	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-262 Depth : 182.50 05/25/2021 ug/L		000-262 Depth : 182.50 09/16/2021 ug/L		000-262 Depth : 182.50 12/01/2021 ug/L		000-265 Depth : 212.50 09/20/2021 ug/L		000-267 Depth : 160.50 11/17/2021 ug/L		000-268 Depth : 215.50 03/05/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.55	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.67	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-268 Depth : 215.50 05/20/2021 ug/L		000-268 Depth : 215.50 09/20/2021 ug/L		000-268 Depth : 215.50 11/17/2021 ug/L		000-271 Depth : 215.50 03/08/2021 ug/L		000-271 Depth : 215.50 05/25/2021 ug/L		000-271 Depth : 215.50 09/20/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-271 Depth : 215.50 11/17/2021 ug/L		000-272 Depth : 191.00 11/30/2021 ug/L		000-273 Depth : 185.00 05/24/2021 ug/L		000-273 Depth : 185.00 11/30/2021 ug/L		000-274 Depth : 242.00 05/24/2021 ug/L		000-274 Depth : 242.00 11/30/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-275 Depth : 134.00 05/24/2021 ug/L		000-275 Depth : 134.00 11/30/2021 ug/L		000-276 Depth : 164.00 05/24/2021 ug/L		000-276 Depth : 164.00 12/01/2021 ug/L		000-277 Depth : 147.00 05/25/2021 ug/L		000-277 Depth : 147.00 11/30/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-278 Depth : 194.00 05/24/2021 ug/L		000-278 Depth : 194.00 12/01/2021 ug/L		000-279 Depth : 193.00 03/31/2021 ug/L		000-279 Depth : 193.00 05/17/2021 ug/L		000-279 Depth : 193.00 09/16/2021 ug/L		000-279 Depth : 193.00 11/23/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-431 Depth : 260.00 05/24/2021 ug/L		000-431 Depth : 260.00 11/30/2021 ug/L		000-432 Depth : 230.00 05/24/2021 ug/L		000-432 Depth : 230.00 12/01/2021 ug/L		000-528 Depth : 220.00 02/18/2021 ug/L		000-528 Depth : 220.00 05/21/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-528 Depth : 220.00 09/21/2021 ug/L		000-528 Depth : 220.00 11/30/2021 ug/L		000-529 Depth : 215.00 03/04/2021 ug/L		000-529 Depth : 215.00 05/20/2021 ug/L		000-529 Depth : 219.00 09/16/2021 ug/L		000-529 Depth : 215.00 11/17/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-530 Depth : 210.00 03/08/2021 ug/L		000-530 Depth : 210.00 05/17/2021 ug/L		000-530 Depth : 210.00 09/15/2021 ug/L		000-530 Depth : 210.00 11/24/2021 ug/L		000-531 Depth : 205.00 03/05/2021 ug/L		000-531 Depth : 205.00 05/20/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-531 Depth : 205.00 09/22/2021 ug/L		000-531 Depth : 205.00 11/17/2021 ug/L		000-537 Depth : 245.00 03/03/2021 ug/L		000-537 Depth : 245.00 05/21/2021 ug/L		000-537 Depth : 245.00 09/21/2021 ug/L		000-537 Depth : 245.00 11/17/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-538 Depth : 215.00 03/03/2021 ug/L		000-538 Depth : 215.00 05/21/2021 ug/L		000-538 Depth : 215.00 09/21/2021 ug/L		000-538 Depth : 215.00 11/17/2021 ug/L		000-541 Depth : 235.00 03/04/2021 ug/L		000-541 Depth : 235.00 05/25/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-541 Depth : 235.00 09/21/2021 ug/L		000-541 Depth : 235.00 11/23/2021 ug/L		000-542 Depth : 235.00 03/08/2021 ug/L		000-542 Depth : 235.00 05/17/2021 ug/L		000-542 Depth : 235.00 09/15/2021 ug/L		000-542 Depth : 235.00 11/24/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-543 Depth : 230.00 03/05/2021 ug/L		000-543 Depth : 230.00 05/25/2021 ug/L		000-543 Depth : 230.00 09/16/2021 ug/L		000-543 Depth : 230.00 11/23/2021 ug/L		000-544 Depth : 230.00 03/10/2021 ug/L		000-544 Depth : 230.00 05/25/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	000-544 Depth : 230.00 09/21/2021 ug/L		000-544 Depth : 230.00 12/01/2021 ug/L		000-548 Depth : 235.00 02/18/2021 ug/L		000-548 Depth : 235.00 05/21/2021 ug/L		000-548 Depth : 235.00 09/16/2021 ug/L		000-548 Depth : 235.00 11/16/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	127-08 Depth : 240.00 03/04/2021 ug/L		127-08 Depth : 240.00 05/25/2021 ug/L		127-08 Depth : 240.00 09/10/2021 ug/L		127-08 Depth : 240.00 11/16/2021 ug/L		127-09 Depth : 225.00 03/04/2021 ug/L		127-09 Depth : 225.00 05/26/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park)

Analyte	127-09 Depth : 225.00 09/10/2021 ug/L		127-09 Depth : 225.00 11/16/2021 ug/L									
1,2,4-Trichlorobenzene	0.5	U	0.5	U								
Hexachlorobutadiene	0.5	U	0.5	U								
Naphthalene	0.5	U	0.5	U								

OU III (Industrial Park East)

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park East)

Analyte	122-24 Depth : 257.50 01/12/2021 ug/L		122-25 Depth : 227.50 01/12/2021 ug/L									
1,4-Dioxane	**0.268**		0.151	J								

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Industrial Park East)

Analyte	122-24 Depth : 257.50 01/12/2021 ug/L		122-25 Depth : 227.50 01/12/2021 ug/L									
Perfluorooctanesulfonate (PFOS)	1.34	J	0.815	J								
Perfluorooctanoic acid (PFOA)	1.34	J	1.51	J								

OU III (North Street)

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (North Street)

Analyte	000-108 Depth : 220.00 05/26/2021 ug/L		000-108 Depth : 220.00 12/21/2021 ug/L		000-154 Depth : 198.00 05/26/2021 ug/L		000-154 Depth : 198.00 12/21/2021 ug/L		000-212 Depth : 205.00 05/27/2021 ug/L		000-212 Depth : 205.00 12/21/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	**0.6**		**0.73**		0.37	J	0.31	J
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.2	J	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.44	J	**0.58**		0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1.2**		**1.2**		**1**		**1.2**		**0.93**		**0.83**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.41	J	0.4	J	0.5	U	0.5	U	**4.4**		**3.4**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	**0.55**		0.46	J	0.33	J	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	1.61				2.79				6.03			
8260 TVOC			1.6				2.97				4.54	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (North Street)

Analyte	000-343 Depth : 330.00 06/10/2021 ug/L		000-343 Depth : 330.00 12/20/2021 ug/L		000-465 Depth : 190.00 05/26/2021 ug/L		000-465 Depth : 190.00 12/21/2021 ug/L		000-472 Depth : 211.00 05/27/2021 ug/L		000-472 Depth : 211.00 12/21/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**0.97**		**1.6**		**0.56**		0.42	J	**3.3**		**3.5**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.17	J	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	**3.8**		**3.6**		0.5	U	0.5	U	0.4	J	0.47	J
1,1-Dichloroethylene	0.49	J	**0.57**		0.24	J	0.26	J	**2**		**1.8**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.23	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	**10**		**1.8**		**0.97**		**1**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.34	J	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.31	J	**0.61**		**1.6**		**1.1**		**2**		**2.1**	
cis-1,2-Dichloroethylene	**0.68**		**1**		0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.29	J	0.31	J
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.26	J	**9.2**		**10**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.21	J	0.5	U	**1.7**		**1.2**		**0.86**		**0.9**	
Trichlorofluoromethane	0.5	U	0.24	J	0.5	U	0.5	U	0.5	U	0.16	J
Vinyl chloride	0.38	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	7.07				14.27				19.02			
8260 TVOC			7.96				5.04				20.24	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (North Street)

Analyte	000-474 Depth : 200.00 05/27/2021 ug/L		000-474 Depth : 200.00 12/22/2021 ug/L		800-63 Depth : 206.00 05/27/2021 ug/L		800-63 Depth : 206.00 06/17/2021 ug/L		800-63 Depth : 206.00 12/13/2021 ug/L			
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1,1-Trichloroethane	**1.2**		**1.2**		0.5	U	0.5	U	0.5	U		
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.13	J		
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1-Dichloroethylene	0.45	J	0.36	J	0.5	U	0.5	U	0.5	U		
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Benzene, 1,3,5-trimethyl-	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		
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Carbon tetrachloride	0.34	J	0.5	U	0.22	J	0.5	U	0.5	U		
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Chloroform	**1.9**		**2**		**0.89**		**0.93**		0.48	J		
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
m/p xylene	1	U	1	U	1	U	1	U	1	U		
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Tetrachloroethylene	**6**		**6.9**		0.5	U	0.5	U	0.5	U		
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Trichloroethylene	**0.96**		**1.2**		**0.8**		**0.66**		**0.77**			
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U		
524.2 TVOC	10.85				1.91		1.59					
8260 TVOC			11.66						1.38			

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (North Street)

Analyte	000-108 Depth : 220.00 05/26/2021 ug/L		000-108 Depth : 220.00 12/21/2021 ug/L		000-154 Depth : 198.00 05/26/2021 ug/L		000-154 Depth : 198.00 12/21/2021 ug/L		000-212 Depth : 205.00 05/27/2021 ug/L		000-212 Depth : 205.00 12/21/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (North Street)

Analyte	000-343 Depth : 330.00 06/10/2021 ug/L		000-343 Depth : 330.00 12/20/2021 ug/L		000-465 Depth : 190.00 05/26/2021 ug/L		000-465 Depth : 190.00 12/21/2021 ug/L		000-472 Depth : 211.00 05/27/2021 ug/L		000-472 Depth : 211.00 12/21/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (North Street)

Analyte	000-474 Depth : 200.00 05/27/2021 ug/L		000-474 Depth : 200.00 12/22/2021 ug/L		800-63 Depth : 206.00 05/27/2021 ug/L		800-63 Depth : 206.00 06/17/2021 ug/L		800-63 Depth : 206.00 12/13/2021 ug/L			
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		

OU III (North Street East)

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (North Street East)

Analyte	000-138 Depth : 168.00 03/16/2021 ug/L		000-138 Depth : 168.00 06/02/2021 ug/L		000-138 Depth : 168.00 09/23/2021 ug/L		000-138 Depth : 168.00 12/21/2021 ug/L		000-394 Depth : 178.00 03/11/2021 ug/L		000-394 Depth : 178.00 06/01/2021 ug/L	
1,1,1,2-Tetrachloroethane												
1,1,1-Trichloroethane												
1,1,2,2-Tetrachloroethane												
1,1,2-Trichloroethane												
1,1-Dichloroethane												
1,1-Dichloroethylene												
1,1-Dichloropropene												
1,2,3-Trichlorobenzene												
1,2,3-Trichloropropane												
1,2-Dichloroethane												
1,2-Dichloropropane												
1,3-Dichloropropane												
2,2-Dichloropropane												
Benzene												
Benzene, 1,2,4-trimethyl												
Benzene, 1,3,5-trimethyl-												
Benzene, 1-methylethyl-												
Bromobenzene												
Bromodichloromethane												
Bromoform												
Carbon tetrachloride												
Chlorobenzene												
Chlorobromomethane												
Chloroethane												
Chloroform												
cis-1,2-Dichloroethylene												
cis-1,3-Dichloropropene												
Cymene												
DBCP	0.0191	U	0.0188	U	0.0192	U	0.0193	U	0.0192	U	0.0187	U
Dibromochloromethane												
Dibromomethane												
Dichlorodifluoromethane												
EDB	0.0191	U	0.0188	U	0.0192	U	0.0193	U	**0.0637**		**0.0468**	
Ethene, 1,2-dichloro-, (E)-												
Ethylbenzene												
m-Dichlorobenzene												
m/p xylene												
Methyl bromide												
Methyl chloride												
Methyl tert-butyl ether												
Methylene chloride												
n-Butylbenzene												
n-Propylbenzene												
o-Chlorotoluene												
o-Dichlorobenzene												
o-Xylene												
p-Chlorotoluene												
p-Dichlorobenzene												
sec-Butylbenzene												
Styrene												
tert-Butylbenzene												
Tetrachloroethylene												
Toluene												
trans-1,3-Dichloropropene												
Trichloroethylene												
Trichlorofluoromethane												
Vinyl chloride												
8260 TVOC												

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (North Street East)

Analyte	000-394 Depth : 178.00 09/23/2021 ug/L		000-394 Depth : 176.00 12/17/2021 ug/L		000-551 Depth : 175.00 03/16/2021 ug/L		000-551 Depth : 175.00 09/23/2021 ug/L		000-551 Depth : 175.00 12/21/2021 ug/L		000-552 Depth : 155.00 03/16/2021 ug/L	
1,1,1,2-Tetrachloroethane			0.5	U					0.5	U		
1,1,1-Trichloroethane			0.5	U					0.5	U		
1,1,2,2-Tetrachloroethane			0.5	U					0.5	U		
1,1,2-Trichloroethane			0.5	U					0.5	U		
1,1-Dichloroethane			0.5	U					0.5	U		
1,1-Dichloroethylene			0.5	U					0.5	U		
1,1-Dichloropropene			0.5	U					0.5	U		
1,2,3-Trichlorobenzene			0.5	U					0.5	U		
1,2,3-Trichloropropane			0.5	U					0.5	U		
1,2-Dichloroethane			0.5	U					0.5	U		
1,2-Dichloropropane			0.5	U					0.5	U		
1,3-Dichloropropane			0.5	U					0.5	U		
2,2-Dichloropropane			0.5	U					0.5	U		
Benzene			**1.61**						0.5	U		
Benzene, 1,2,4-trimethyl			0.34	J					0.5	U		
Benzene, 1,3,5-trimethyl-			0.5	U					0.5	U		
Benzene, 1-methylethyl-			0.5	U					0.5	U		
Bromobenzene			0.5	U					0.5	U		
Bromodichloromethane			0.5	U					0.5	U		
Bromoform			0.5	U					0.5	U		
Carbon tetrachloride			0.5	U					0.5	U		
Chlorobenzene			0.5	U					0.5	U		
Chlorobromomethane			0.5	U					0.5	U		
Chloroethane			0.5	U					0.5	U		
Chloroform			0.5	U					0.5	U		
cis-1,2-Dichloroethylene			0.5	U					0.5	U		
cis-1,3-Dichloropropene			0.5	U					0.5	U		
Cymene			0.5	U					0.5	U		
DBCP	0.0189	U	0.0187	U	0.0188	U	0.0188	U	0.019	U	0.0188	U
Dibromochloromethane			0.5	U					0.5	U		
Dibromomethane			0.5	U					0.5	U		
Dichlorodifluoromethane			0.5	U					0.5	U		
EDB	**0.043**		**0.0327**		0.00917	J	0.0188	U	0.019	U	**0.0648**	
Ethene, 1,2-dichloro-, (E)-			0.5	U					0.5	U		
Ethylbenzene			**0.52**	J					0.5	U		
m-Dichlorobenzene			0.5	U					0.5	U		
m/p xylene			**1.6**	J					0.5	U		
Methyl bromide			0.5	U					0.5	U		
Methyl chloride			0.5	U					0.5	U		
Methyl tert-butyl ether			**0.78**	J					0.5	U		
Methylene chloride			0.54	U					1.57	U		
n-Butylbenzene			0.5	U					0.5	U		
n-Propylbenzene			0.5	U					0.5	U		
o-Chlorotoluene			0.5	U					0.5	U		
o-Dichlorobenzene			0.5	U					0.5	U		
o-Xylene			0.48	J					0.5	U		
p-Chlorotoluene			0.5	U					0.5	U		
p-Dichlorobenzene			0.5	U					0.5	U		
sec-Butylbenzene			0.5	U					0.5	U		
Styrene			0.5	U					0.5	U		
tert-Butylbenzene			0.5	U					0.5	U		
Tetrachloroethylene			**1**						**1.46**			
Toluene			**2.38**						0.5	U		
trans-1,3-Dichloropropene			0.5	U					0.5	U		
Trichloroethylene			0.5	U					0.5	U		
Trichlorofluoromethane			0.5	U					0.5	U		
Vinyl chloride			0.5	U					0.5	U		
8260 TVOC			8.71						1.46			

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (North Street East)

Analyte	000-552 Depth : 155.00 09/23/2021 ug/L		000-552 Depth : 155.00 12/20/2021 ug/L		000-553 Depth : 175.00 03/16/2021 ug/L		000-553 Depth : 175.00 09/23/2021 ug/L		000-553 Depth : 175.00 12/20/2021 ug/L		000-554 Depth : 195.00 03/16/2021 ug/L	
1,1,1,2-Tetrachloroethane			0.5	U					0.5	U		
1,1,1-Trichloroethane			0.36	J					0.5	U		
1,1,2,2-Tetrachloroethane			0.5	U					0.5	U		
1,1,2-Trichloroethane			0.5	U					0.5	U		
1,1-Dichloroethane			0.5	U					0.5	U		
1,1-Dichloroethylene			0.5	U					0.5	U		
1,1-Dichloropropene			0.5	U					0.5	U		
1,2,3-Trichlorobenzene			0.5	U					0.5	U		
1,2,3-Trichloropropane			0.5	U					0.5	U		
1,2-Dichloroethane			0.5	U					0.5	U		
1,2-Dichloropropane			0.5	U					0.5	U		
1,3-Dichloropropane			0.5	U					0.5	U		
2,2-Dichloropropane			0.5	U					0.5	U		
Benzene			0.5	U					0.5	U		
Benzene, 1,2,4-trimethyl			0.5	U					0.5	U		
Benzene, 1,3,5-trimethyl-			0.5	U					0.5	U		
Benzene, 1-methylethyl-			0.5	U					0.5	U		
Bromobenzene			0.5	U					0.5	U		
Bromodichloromethane			0.5	U					0.5	U		
Bromoform			0.5	U					0.5	U		
Carbon tetrachloride			0.5	U					0.5	U		
Chlorobenzene			0.5	U					0.5	U		
Chlorobromomethane			0.5	U					0.5	U		
Chloroethane			0.5	U					0.5	U		
Chloroform			0.5	U					0.5	U		
cis-1,2-Dichloroethylene			0.5	U					0.5	U		
cis-1,3-Dichloropropene			0.5	U					0.5	U		
Cymene			0.5	U					0.5	U		
DBCP	0.019	U	0.0189	U	0.0189	U	0.0191	U	0.0192	U	0.019	U
Dibromochloromethane			0.5	U					0.5	U		
Dibromomethane			0.5	U					0.5	U		
Dichlorodifluoromethane			0.5	U					0.5	U		
EDB	**0.115**		**0.107**		**0.0384**		**0.0313**		0.0192	U	**0.154**	
Ethene, 1,2-dichloro-, (E)-			0.5	U					0.5	U		
Ethylbenzene			0.5	U					0.5	U		
m-Dichlorobenzene			0.5	U					0.5	U		
m/p xylene			0.5	U					0.5	U		
Methyl bromide			0.5	U					0.5	U		
Methyl chloride			0.5	U					0.5	U		
Methyl tert-butyl ether			0.5	U					0.5	U		
Methylene chloride			0.56	U					0.56	U		
n-Butylbenzene			0.5	U					0.5	U		
n-Propylbenzene			0.5	U					0.5	U		
o-Chlorotoluene			0.5	U					0.5	U		
o-Dichlorobenzene			0.5	U					0.5	U		
o-Xylene			0.5	U					0.5	U		
p-Chlorotoluene			0.5	U					0.5	U		
p-Dichlorobenzene			0.5	U					0.5	U		
sec-Butylbenzene			0.5	U					0.5	U		
Styrene			0.5	U					0.5	U		
tert-Butylbenzene			0.5	U					0.5	U		
Tetrachloroethylene			**4.64**						**4.73**			
Toluene			0.34	J					0.5	U		
trans-1,3-Dichloropropene			0.5	U					0.5	U		
Trichloroethylene			0.5	U					0.5	U		
Trichlorofluoromethane			0.5	U					0.5	U		
Vinyl chloride			0.5	U					0.5	U		
8260 TVOC			5.34						4.73			

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (North Street East)

Analyte	000-554 Depth : 195.00 06/01/2021 ug/L		000-554 Depth : 195.00 09/23/2021 ug/L		000-554 Depth : 195.00 12/20/2021 ug/L		000-555 Depth : 200.00 03/11/2021 ug/L		000-555 Depth : 200.00 06/01/2021 ug/L		000-555 Depth : 200.00 09/23/2021 ug/L	
1,1,1,2-Tetrachloroethane					0.5	U						
1,1,1-Trichloroethane					0.5	U						
1,1,2,2-Tetrachloroethane					0.5	U						
1,1,2-Trichloroethane					0.5	U						
1,1-Dichloroethane					0.5	U						
1,1-Dichloroethylene					0.5	U						
1,1-Dichloropropene					0.5	U						
1,2,3-Trichlorobenzene					0.5	U						
1,2,3-Trichloropropane					0.5	U						
1,2-Dichloroethane					0.5	U						
1,2-Dichloropropane					0.5	U						
1,3-Dichloropropane					0.5	U						
2,2-Dichloropropane					0.5	U						
Benzene					0.5	U						
Benzene, 1,2,4-trimethyl					0.5	U						
Benzene, 1,3,5-trimethyl-					0.5	U						
Benzene, 1-methylethyl-					0.5	U						
Bromobenzene					0.5	U						
Bromodichloromethane					0.5	U						
Bromoform					0.5	U						
Carbon tetrachloride					0.5	U						
Chlorobenzene					0.5	U						
Chlorobromomethane					0.5	U						
Chloroethane					0.5	U						
Chloroform					0.5	U						
cis-1,2-Dichloroethylene					0.5	U						
cis-1,3-Dichloropropene					0.5	U						
Cymene					0.5	U						
DBCP	0.0188	U	0.0188	U	0.019	U	0.0189	U	0.019	U	0.0191	U
Dibromochloromethane					0.5	U						
Dibromomethane					0.5	U						
Dichlorodifluoromethane					0.5	U						
EDB	**0.183**		**0.778**	D	**0.865**	D	0.0189	U	0.019	U	0.0191	U
Ethene, 1,2-dichloro-, (E)-					0.5	U						
Ethylbenzene					0.5	U						
m-Dichlorobenzene					0.5	U						
m/p xylene					0.5	U						
Methyl bromide					0.5	U						
Methyl chloride					0.5	U						
Methyl tert-butyl ether					0.5	U						
Methylene chloride					0.56	U						
n-Butylbenzene					0.5	U						
n-Propylbenzene					0.5	U						
o-Chlorotoluene					0.5	U						
o-Dichlorobenzene					0.5	U						
o-Xylene					0.5	U						
p-Chlorotoluene					0.5	U						
p-Dichlorobenzene					0.5	U						
sec-Butylbenzene					0.5	U						
Styrene					0.5	U						
tert-Butylbenzene					0.5	U						
Tetrachloroethylene					**1.08**							
Toluene					0.5	U						
trans-1,3-Dichloropropene					0.5	U						
Trichloroethylene					**0.74**	J						
Trichlorofluoromethane					0.5	U						
Vinyl chloride					0.5	U						
8260 TVOC					2.53							

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (North Street East)

Analyte	000-555 Depth : 200.00 12/16/2021 ug/L											
1,1,1,2-Tetrachloroethane	0.5	U										
1,1,1-Trichloroethane	0.5	U										
1,1,2,2-Tetrachloroethane	0.5	U										
1,1,2-Trichloroethane	0.5	U										
1,1-Dichloroethane	0.5	U										
1,1-Dichloroethylene	0.5	U										
1,1-Dichloropropene	0.5	U										
1,2,3-Trichlorobenzene	0.5	U										
1,2,3-Trichloropropane	0.5	U										
1,2-Dichloroethane	0.5	U										
1,2-Dichloropropane	0.5	U										
1,3-Dichloropropane	0.5	U										
2,2-Dichloropropane	0.5	U										
Benzene	0.5	U										
Benzene, 1,2,4-trimethyl	0.5	U										
Benzene, 1,3,5-trimethyl-	0.5	U										
Benzene, 1-methylethyl-	0.5	U										
Bromobenzene	0.5	U										
Bromodichloromethane	0.5	U										
Bromoform	0.5	U										
Carbon tetrachloride	0.5	U										
Chlorobenzene	0.5	U										
Chlorobromomethane	0.5	U										
Chloroethane	0.5	U										
Chloroform	**1.87**											
cis-1,2-Dichloroethylene	0.5	U										
cis-1,3-Dichloropropene	0.5	U										
Cymene	0.5	U										
DBCP	0.0191	U										
Dibromochloromethane	0.5	U										
Dibromomethane	0.5	U										
Dichlorodifluoromethane	0.5	U										
EDB	0.0191	U										
Ethene, 1,2-dichloro-, (E)-	0.5	U										
Ethylbenzene	0.5	U										
m-Dichlorobenzene	0.5	U										
m/p xylene	0.5	U										
Methyl bromide	0.5	U										
Methyl chloride	0.5	U										
Methyl tert-butyl ether	0.5	U										
Methylene chloride	0.6	U										
n-Butylbenzene	0.5	U										
n-Propylbenzene	0.5	U										
o-Chlorotoluene	0.5	U										
o-Dichlorobenzene	0.5	U										
o-Xylene	0.5	U										
p-Chlorotoluene	0.5	U										
p-Dichlorobenzene	0.5	U										
sec-Butylbenzene	0.5	U										
Styrene	0.5	U										
tert-Butylbenzene	0.5	U										
Tetrachloroethylene	0.5	U										
Toluene	0.5	U										
trans-1,3-Dichloropropene	0.5	U										
Trichloroethylene	0.5	U										
Trichlorofluoromethane	0.5	U										
Vinyl chloride	0.5	U										
8260 TVOC	1.87											

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (North Street East)

Analyte	000-394 Depth : 176.00 12/17/2021 ug/L		000-551 Depth : 175.00 12/21/2021 ug/L		000-552 Depth : 155.00 12/20/2021 ug/L		000-553 Depth : 175.00 12/20/2021 ug/L		000-554 Depth : 195.00 12/20/2021 ug/L		000-555 Depth : 200.00 12/16/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

OU III (LIPA)

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (LIPA)

Analyte	000-101 Depth : 195.00 12/06/2021 ug/L		000-102 Depth : 315.00 12/06/2021 ug/L		000-104 Depth : 205.00 06/04/2021 ug/L		000-104 Depth : 205.00 12/03/2021 ug/L		000-105 Depth : 285.00 12/02/2021 ug/L		000-130 Depth : 280.00 06/04/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.2	J	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.28	J	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.2	J	0.5	U	1.5	U	**1.4**		0.4	J	1.4	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**0.66**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.4	J	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC					0.2						0.66	
8260 TVOC	0.2		0				2.08		0.4			

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (LIPA)

Analyte	000-130 Depth : 280.00 12/16/2021 ug/L		000-131 Depth : 227.50 06/02/2021 ug/L		000-131 Depth : 227.50 12/02/2021 ug/L		000-425 Depth : 315.00 06/02/2021 ug/L		000-425 Depth : 315.00 12/06/2021 ug/L		000-445 Depth : 219.00 12/02/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	**2.5**		**2.4**		**0.6**		0.39	J	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	**2.6**		**1.9**		0.3	J	0.27	J	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.21	J	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.29	J	0.33	J	0.38	J	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1.4**		**2.1**		**0.55**		**0.62**		0.37	J	**0.56**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**0.64**		0.5	U	0.5	U	**2**		**2.2**		0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	**1.4**		**1.5**		**0.72**		**0.79**		0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC			8.89				4.62					
8260 TVOC	2.04				6.89				4.02		0.56	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (LIPA)

Analyte	000-446 Depth : 212.00 12/03/2021 ug/L		000-447 Depth : 219.00 06/07/2021 ug/L		000-447 Depth : 219.00 12/03/2021 ug/L		000-448 Depth : 212.00 06/03/2021 ug/L		000-448 Depth : 212.00 12/02/2021 ug/L		000-449 Depth : 193.00 06/04/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	**0.72**		0.33	J	**0.92**		0.42	J	**0.54**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	**0.65**		**0.6**		**0.77**		**0.75**		**0.69**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.33	J
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.25	J	**2.2**		**2**		0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	**1.2**		**0.91**		0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC			1.37				5.09				1.56	
8260 TVOC	0				1.18				4.08			

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (LIPA)

Analyte	000-449 Depth : 193.00 12/06/2021 ug/L		000-450 Depth : 208.00 12/06/2021 ug/L		000-451 Depth : 193.00 06/02/2021 ug/L		000-451 Depth : 193.00 12/02/2021 ug/L		000-452 Depth : 217.00 06/03/2021 ug/L		000-452 Depth : 217.00 12/03/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**0.68**		0.5	U	**2**		**0.85**		**0.73**		0.27	J
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	**1.2**		0.5	U	**0.78**		0.29	J	0.33	J	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.29	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.19	J	**1.3**		**2.1**		**2.7**		**1.2**		**1.1**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.18	J	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5		0.5	U	**1**		**1.2**		**0.97**		**0.92**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC					5.88				3.41			
8260 TVOC	2.86		1.3				5.04				2.29	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (LIPA)

Analyte	000-459 Depth : 304.00 12/06/2021 ug/L		000-460 Depth : 300.00 12/02/2021 ug/L									
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U								
1,1,1-Trichloroethane	0.5	U	0.5	U								
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U								
1,1,2-Trichloroethane	0.5	U	0.5	U								
1,1-Dichloroethane	0.5	U	0.5	U								
1,1-Dichloroethylene	0.5	U	0.5	U								
1,1-Dichloropropene	0.5	U	0.5	U								
1,2,3-Trichlorobenzene	0.5	U	0.5	U								
1,2,3-Trichloropropane	0.5	U	0.5	U								
1,2-Dichloroethane	0.5	U	0.5	U								
1,2-Dichloropropane	0.5	U	0.5	U								
1,3-Dichloropropane	0.5	U	0.5	U								
2,2-Dichloropropane	0.5	U	0.5	U								
Benzene	0.5	U	0.5	U								
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U								
Benzene, 1,3,5-trimethyl-	0.5	U	0.5	U								
Benzene, 1-methylethyl-	0.5	U	0.5	U								
Bromobenzene	0.5	U	0.5	U								
Bromodichloromethane	0.5	U	0.5	U								
Bromoform	0.5	U	0.5	U								
Carbon tetrachloride	0.5	U	0.5	U								
Chlorobenzene	0.5	U	0.5	U								
Chlorobromomethane	0.5	U	0.5	U								
Chloroethane	0.5	U	0.5	U								
Chloroform	0.5	U	0.5	U								
cis-1,2-Dichloroethylene	0.5	U	0.5	U								
cis-1,3-Dichloropropene	0.5	U	0.5	U								
Cymene	0.5	U	0.5	U								
DBCP	0.5	U	0.5	U								
Dibromochloromethane	0.5	U	0.5	U								
Dibromomethane	0.5	U	0.5	U								
Dichlorodifluoromethane	0.5	U	0.5	U								
EDB	0.5	U	0.5	U								
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U								
Ethylbenzene	0.5	U	0.5	U								
m-Dichlorobenzene	0.5	U	0.5	U								
m/p xylene	1	U	1	U								
Methyl bromide	0.5	U	0.5	U								
Methyl chloride	0.5	U	0.5	U								
Methyl tert-butyl ether	0.5	U	0.5	U								
Methylene chloride	0.5	U	0.5	U								
n-Butylbenzene	0.5	U	0.5	U								
n-Propylbenzene	0.5	U	0.5	U								
o-Chlorotoluene	0.5	U	0.5	U								
o-Dichlorobenzene	0.5	U	0.5	U								
o-Xylene	0.5	U	0.5	U								
p-Chlorotoluene	0.5	U	0.5	U								
p-Dichlorobenzene	0.5	U	0.5	U								
sec-Butylbenzene	0.5	U	0.5	U								
Styrene	0.5	U	0.5	U								
tert-Butylbenzene	0.5	U	0.5	U								
Tetrachloroethylene	0.5	U	0.5	U								
Toluene	0.5	U	**0.97**									
trans-1,3-Dichloropropene	0.5	U	0.5	U								
Trichloroethylene	0.5	U	0.5	U								
Trichlorofluoromethane	0.5	U	0.5	U								
Vinyl chloride	0.5	U	0.5	U								
Xylene (total)	1.5	U	1.5	U								
524.2 TVOC												
8260 TVOC	0		0.97									

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (LIPA)

Analyte	000-101 Depth : 195.00 12/06/2021 ug/L		000-102 Depth : 315.00 12/06/2021 ug/L		000-104 Depth : 205.00 06/04/2021 ug/L		000-104 Depth : 205.00 12/03/2021 ug/L		000-105 Depth : 285.00 12/02/2021 ug/L		000-130 Depth : 280.00 06/04/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (LIPA)

Analyte	000-130 Depth : 280.00 12/16/2021 ug/L		000-131 Depth : 227.50 06/02/2021 ug/L		000-131 Depth : 227.50 12/02/2021 ug/L		000-425 Depth : 315.00 06/02/2021 ug/L		000-425 Depth : 315.00 12/06/2021 ug/L		000-445 Depth : 219.00 12/02/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (LIPA)

Analyte	000-446 Depth : 212.00 12/03/2021 ug/L		000-447 Depth : 219.00 06/07/2021 ug/L		000-447 Depth : 219.00 12/03/2021 ug/L		000-448 Depth : 212.00 06/03/2021 ug/L		000-448 Depth : 212.00 12/02/2021 ug/L		000-449 Depth : 193.00 06/04/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (LIPA)

Analyte	000-449 Depth : 193.00 12/06/2021 ug/L		000-450 Depth : 208.00 12/06/2021 ug/L		000-451 Depth : 193.00 06/02/2021 ug/L		000-451 Depth : 193.00 12/02/2021 ug/L		000-452 Depth : 217.00 06/03/2021 ug/L		000-452 Depth : 217.00 12/03/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (LIPA)

Analyte	000-459 Depth : 304.00 12/06/2021 ug/L		000-460 Depth : 300.00 12/02/2021 ug/L									
1,2,4-Trichlorobenzene	0.5	U	0.5	U								
Hexachlorobutadiene	0.5	U	0.5	U								
Naphthalene	0.5	U	0.5	U								

OU III (Airport)

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Airport)

Analyte	000-428 Depth : 298.00 02/25/2021 ug/L		000-428 Depth : 298.00 06/04/2021 ug/L		000-428 Depth : 298.00 09/22/2021 ug/L		000-428 Depth : 299.00 12/01/2021 ug/L		800-100 Depth : 214.00 06/14/2021 ug/L		800-100 Depth : 214.00 12/15/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	**0.61**		**0.74**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	0		0						0.61			
8260 TVOC					0		0				0.74	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Airport)

Analyte	800-101 Depth : 280.00 06/15/2021 ug/L		800-101 Depth : 280.00 12/14/2021 ug/L		800-102 Depth : 304.00 06/15/2021 ug/L		800-102 Depth : 304.00 12/14/2021 ug/L		800-103 Depth : 225.00 06/14/2021 ug/L		800-103 Depth : 225.00 12/15/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**1.7**		**3.3**		0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	**5.7**		**6.8**		0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.32	J	0.35	J	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	**2.1**		**4**		0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	**0.93**		**1.2**		0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**3.6**		**5**		0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**6.4**		**9**		**1**		**1.5**		0.32	J	0.27	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.19	J	0.22	J	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	**8.8**		0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**16**		**19**		0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.34	J	**0.58**		0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	37.28				1				0.32			
8260 TVOC			58.25				1.5				0.27	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Airport)

Analyte	800-104 Depth : 170.00 06/15/2021 ug/L		800-104 Depth : 170.00 12/15/2021 ug/L		800-105 Depth : 233.00 06/15/2021 ug/L		800-105 Depth : 233.00 12/15/2021 ug/L		800-106 Depth : 217.00 06/17/2021 ug/L		800-106 Depth : 217.00 12/16/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.46	J	0.42	J	**2.2**		**2.6**		**1.4**		**1.2**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	0.46				2.2				1.4			
8260 TVOC			0.42				2.6				1.2	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Airport)

Analyte	800-108 Depth : 216.00 03/01/2021 ug/L		800-108 Depth : 216.00 06/14/2021 ug/L		800-108 Depth : 216.00 09/27/2021 ug/L		800-108 Depth : 216.00 12/15/2021 ug/L		800-126 Depth : 175.00 03/01/2021 ug/L		800-126 Depth : 175.00 06/16/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.38	J	0.24	J	0.31	J	0.38	J	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.5	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U
524.2 TVOC	0.38		0.24						0		0	
8260 TVOC					0.31		0.38					

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Airport)

Analyte	800-126 Depth : 175.00 09/27/2021 ug/L		800-126 Depth : 175.00 12/15/2021 ug/L		800-127 Depth : 175.00 03/01/2021 ug/L		800-127 Depth : 175.00 06/15/2021 ug/L		800-127 Depth : 175.00 09/27/2021 ug/L		800-127 Depth : 175.00 12/14/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.66	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC					0		0					
8260 TVOC	0		0						0		0	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Airport)

Analyte	800-128 Depth : 180.00 03/01/2021 ug/L		800-128 Depth : 180.00 06/16/2021 ug/L		800-128 Depth : 180.00 09/27/2021 ug/L		800-128 Depth : 180.00 12/13/2021 ug/L		800-129 Depth : 180.00 06/11/2021 ug/L		800-129 Depth : 180.00 12/13/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.19	J	0.21	J
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.28	J	0.43	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	0		0						0.47			
8260 TVOC					0		0				0.64	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Airport)

Analyte	800-130 Depth : 185.00 06/11/2021 ug/L		800-130 Depth : 185.00 12/13/2021 ug/L		800-131 Depth : 194.00 03/01/2021 ug/L		800-131 Depth : 194.00 06/15/2021 ug/L		800-131 Depth : 194.00 09/27/2021 ug/L		800-131 Depth : 194.00 12/14/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**3.1**		**3.3**		**1.5**		**0.87**		**0.64**		**0.96**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.55**		**0.57**		0.25	J	0.43	J	0.41	J	**0.65**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.66	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**8.9**		**7.6**		0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	12.55				1.75		1.3					
8260 TVOC			11.47						1.05		1.61	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Airport)

Analyte	800-133 Depth : 225.00 03/01/2021 ug/L		800-133 Depth : 225.00 06/14/2021 ug/L		800-133 Depth : 225.00 09/27/2021 ug/L		800-133 Depth : 225.00 12/14/2021 ug/L		800-138 Depth : 250.00 06/22/2021 ug/L		800-138 Depth : 250.00 12/07/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.22	J	0.5	U	0.35	J	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1.4**		**1.3**		**1.3**		**1.6**		0.47	J	**0.9**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.39	J	**0.79**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	1.4		1.52						0.86			
8260 TVOC					1.3		1.95				1.69	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Airport)

Analyte	800-43 Depth : 157.00 06/16/2021 ug/L		800-43 Depth : 157.00 12/07/2021 ug/L		800-44 Depth : 212.00 06/16/2021 ug/L		800-44 Depth : 212.00 12/07/2021 ug/L		800-50 Depth : 205.00 06/16/2021 ug/L		800-50 Depth : 205.00 12/07/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.2	J	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	**8.4**		**6.4**		0.5	U	0.4	J
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1.3**		**1.5**		0.45	J	0.19	J	**0.73**		**0.61**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	1.3				9.05				0.73			
8260 TVOC			1.5				6.59				1.01	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Airport)

Analyte	800-59 Depth : 208.00 06/17/2021 ug/L		800-59 Depth : 208.00 12/07/2021 ug/L		800-60 Depth : 210.00 03/02/2021 ug/L		800-60 Depth : 210.00 06/16/2021 ug/L		800-60 Depth : 210.00 09/27/2021 ug/L		800-60 Depth : 210.00 12/07/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.37	J	0.35	J	**1.1**		**0.9**		**0.75**		**0.68**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.66	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	0.37				1.1		0.9					
8260 TVOC			0.35						0.75		0.68	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Airport)

Analyte	800-63 Depth : 206.00 05/27/2021 ug/L		800-63 Depth : 206.00 06/17/2021 ug/L		800-63 Depth : 206.00 12/13/2021 ug/L		800-90 Depth : 255.00 06/09/2021 ug/L		800-90 Depth : 255.00 12/07/2021 ug/L		800-92 Depth : 200.00 06/17/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.13	J	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.22	J	0.5	U	0.5	U	**0.87**		**0.51**		0.47	J
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.89**		**0.93**		0.48	J	**1.9**		**2.1**		**1.4**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**0.8**		**0.66**		**0.77**		**1.5**		**1.7**		**1.5**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	1.91		1.59				4.27				3.37	
8260 TVOC					1.38				4.31			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Airport)

Analyte	800-92 Depth : 200.00 12/07/2021 ug/L		800-94 Depth : 185.00 06/17/2021 ug/L		800-94 Depth : 185.00 12/16/2021 ug/L		800-95 Depth : 187.00 06/22/2021 ug/L		800-95 Depth : 187.00 12/13/2021 ug/L		800-96 Depth : 189.00 06/11/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	**1.2**		**1.8**		0.5	U	0.17	J	**3.4**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	**1.9**		**2.6**		0.42	J	0.31	J	**5.4**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.27	J	0.33	J	0.5	U	0.5	U	**0.57**	
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**0.62**		**32**		**42**		**14**		**11**		**24**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**1.3**		**1.2**		**1.5**		**1.2**		**1.5**		**1.1**	
cis-1,2-Dichloroethylene	0.5	U	0.3	J	0.5		0.5	U	0.5	U	**1.7**	
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**1.5**		**18**		**27**		**6.6**		**6.1**		**28**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC			54.87				22.22				64.17	
8260 TVOC	3.42				75.73				19.08			

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Airport)

Analyte	800-96 Depth : 189.00 12/13/2021 ug/L		800-97 Depth : 199.00 06/11/2021 ug/L		800-97 Depth : 199.00 12/14/2021 ug/L		800-98 Depth : 184.00 06/22/2021 ug/L		800-98 Depth : 184.00 12/13/2021 ug/L		800-99 Depth : 248.00 06/22/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**2.7**		0.5	U	0.5	U	0.5	U	0.5	U	0.19	J
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	**3.2**		0.5	U	0.5	U	0.5	U	0.5	U	**0.72**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.29	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**25**		**4.2**		**5.6**		0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.9**		0.29	J	0.32	J	0.37	J	**0.59**		**1.5**	
cis-1,2-Dichloroethylene	**1.4**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.083	J	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	**43**		0.5	U	0.5	U	0.5	U	0.5	U	**0.83**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC			4.49				0.37				3.24	
8260 TVOC	76.49				5.92				0.673			

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (Airport)

Analyte	800-99 Depth : 248.00 12/13/2021 ug/L											
1,1,1,2-Tetrachloroethane	0.5	U										
1,1,1-Trichloroethane	**0.53**											
1,1,2,2-Tetrachloroethane	0.5	U										
1,1,2-Trichloroethane	0.5	U										
1,1-Dichloroethane	0.5	U										
1,1-Dichloroethylene	**0.9**											
1,1-Dichloropropene	0.5	U										
1,2,3-Trichlorobenzene	0.19	J										
1,2,3-Trichloropropane	0.5	U										
1,2-Dichloroethane	0.16	J										
1,2-Dichloropropane	0.5	U										
1,3-Dichloropropane	0.5	U										
2,2-Dichloropropane	0.5	U										
Benzene	0.5	U										
Benzene, 1,2,4-trimethyl	0.5	U										
Benzene, 1,3,5-trimethyl-	0.5	U										
Benzene, 1-methylethyl-	0.5	U										
Bromobenzene	0.5	U										
Bromodichloromethane	0.5	U										
Bromoform	0.5	U										
Carbon tetrachloride	0.5	U										
Chlorobenzene	0.5	U										
Chlorobromomethane	0.5	U										
Chloroethane	0.5	U										
Chloroform	**3.9**											
cis-1,2-Dichloroethylene	0.5	U										
cis-1,3-Dichloropropene	0.5	U										
Cymene	0.5	U										
DBCP	0.5	U										
Dibromochloromethane	0.5	U										
Dibromomethane	0.5	U										
Dichlorodifluoromethane	0.5	U										
EDB	0.5	U										
Ethene, 1,2-dichloro-, (E)-	0.5	U										
Ethylbenzene	0.5	U										
m-Dichlorobenzene	0.5	U										
m/p xylene	1	U										
Methyl bromide	0.5	U										
Methyl chloride	0.5	U										
Methyl tert-butyl ether	0.5	U										
Methylene chloride	0.5	U										
n-Butylbenzene	0.5	U										
n-Propylbenzene	0.5	U										
o-Chlorotoluene	0.5	U										
o-Dichlorobenzene	0.5	U										
o-Xylene	0.5	U										
p-Chlorotoluene	0.5	U										
p-Dichlorobenzene	0.5	U										
sec-Butylbenzene	0.5	U										
Styrene	0.5	U										
tert-Butylbenzene	0.5	U										
Tetrachloroethylene	0.5	U										
Toluene	0.5	U										
trans-1,3-Dichloropropene	0.5	U										
Trichloroethylene	**1.1**											
Trichlorofluoromethane	0.5	U										
Vinyl chloride	0.5	U										
Xylene (total)	1.5	U										
524.2 TVOC												
8260 TVOC	6.78											

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Airport)

Analyte	000-428 Depth : 298.00 02/25/2021 ug/L		000-428 Depth : 298.00 06/04/2021 ug/L		000-428 Depth : 298.00 09/22/2021 ug/L		000-428 Depth : 299.00 12/01/2021 ug/L		800-100 Depth : 214.00 06/14/2021 ug/L		800-100 Depth : 214.00 12/15/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Airport)

Analyte	800-101 Depth : 280.00 06/15/2021 ug/L		800-101 Depth : 280.00 12/14/2021 ug/L		800-102 Depth : 304.00 06/15/2021 ug/L		800-102 Depth : 304.00 12/14/2021 ug/L		800-103 Depth : 225.00 06/14/2021 ug/L		800-103 Depth : 225.00 12/15/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Airport)

Analyte	800-104 Depth : 170.00 06/15/2021 ug/L		800-104 Depth : 170.00 12/15/2021 ug/L		800-105 Depth : 233.00 06/15/2021 ug/L		800-105 Depth : 233.00 12/15/2021 ug/L		800-106 Depth : 217.00 06/17/2021 ug/L		800-106 Depth : 217.00 12/16/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Airport)

Analyte	800-108 Depth : 216.00 03/01/2021 ug/L		800-108 Depth : 216.00 06/14/2021 ug/L		800-108 Depth : 216.00 09/27/2021 ug/L		800-108 Depth : 216.00 12/15/2021 ug/L		800-126 Depth : 175.00 03/01/2021 ug/L		800-126 Depth : 175.00 06/16/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Airport)

Analyte	800-126 Depth : 175.00 09/27/2021 ug/L		800-126 Depth : 175.00 12/15/2021 ug/L		800-127 Depth : 175.00 03/01/2021 ug/L		800-127 Depth : 175.00 06/15/2021 ug/L		800-127 Depth : 175.00 09/27/2021 ug/L		800-127 Depth : 175.00 12/14/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Airport)

Analyte	800-128 Depth : 180.00 03/01/2021 ug/L		800-128 Depth : 180.00 06/16/2021 ug/L		800-128 Depth : 180.00 09/27/2021 ug/L		800-128 Depth : 180.00 12/13/2021 ug/L		800-129 Depth : 180.00 06/11/2021 ug/L		800-129 Depth : 180.00 12/13/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Airport)

Analyte	800-130 Depth : 185.00 06/11/2021 ug/L		800-130 Depth : 185.00 12/13/2021 ug/L		800-131 Depth : 194.00 03/01/2021 ug/L		800-131 Depth : 194.00 06/15/2021 ug/L		800-131 Depth : 194.00 09/27/2021 ug/L		800-131 Depth : 194.00 12/14/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Airport)

Analyte	800-133 Depth : 225.00 03/01/2021 ug/L		800-133 Depth : 225.00 06/14/2021 ug/L		800-133 Depth : 225.00 09/27/2021 ug/L		800-133 Depth : 225.00 12/14/2021 ug/L		800-138 Depth : 250.00 06/22/2021 ug/L		800-138 Depth : 250.00 12/07/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Airport)

Analyte	800-43 Depth : 157.00 06/16/2021 ug/L		800-43 Depth : 157.00 12/07/2021 ug/L		800-44 Depth : 212.00 06/16/2021 ug/L		800-44 Depth : 212.00 12/07/2021 ug/L		800-50 Depth : 205.00 06/16/2021 ug/L		800-50 Depth : 205.00 12/07/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Airport)

Analyte	800-59 Depth : 208.00 06/17/2021 ug/L		800-59 Depth : 208.00 12/07/2021 ug/L		800-60 Depth : 210.00 03/02/2021 ug/L		800-60 Depth : 210.00 06/16/2021 ug/L		800-60 Depth : 210.00 09/27/2021 ug/L		800-60 Depth : 210.00 12/07/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Airport)

Analyte	800-63 Depth : 206.00 05/27/2021 ug/L		800-63 Depth : 206.00 06/17/2021 ug/L		800-63 Depth : 206.00 12/13/2021 ug/L		800-90 Depth : 255.00 06/09/2021 ug/L		800-90 Depth : 255.00 12/07/2021 ug/L		800-92 Depth : 200.00 06/17/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Airport)

Analyte	800-92 Depth : 200.00 12/07/2021 ug/L		800-94 Depth : 185.00 06/17/2021 ug/L		800-94 Depth : 185.00 12/16/2021 ug/L		800-95 Depth : 187.00 06/22/2021 ug/L		800-95 Depth : 187.00 12/13/2021 ug/L		800-96 Depth : 189.00 06/11/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Airport)

Analyte	800-96 Depth : 189.00 12/13/2021 ug/L		800-97 Depth : 199.00 06/11/2021 ug/L		800-97 Depth : 199.00 12/14/2021 ug/L		800-98 Depth : 184.00 06/22/2021 ug/L		800-98 Depth : 184.00 12/13/2021 ug/L		800-99 Depth : 248.00 06/22/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Airport)

Analyte	800-99 Depth : 248.00 12/13/2021 ug/L											
1,2,4-Trichlorobenzene	0.5	U										
Hexachlorobutadiene	0.5	U										
Naphthalene	0.5	U										

Magothy

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	000-102 Depth : 315.00 12/06/2021 ug/L		000-105 Depth : 285.00 12/02/2021 ug/L		000-130 Depth : 280.00 06/04/2021 ug/L		000-130 Depth : 280.00 12/16/2021 ug/L		000-249 Depth : 264.00 03/09/2021 ug/L		000-249 Depth : 264.00 05/20/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethene												
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone												
Acetone												
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon disulfide												
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	**1.4**		**1.8**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.4	J	1.4	U	**1.4**		**0.7**		0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	**0.66**		**0.64**		**0.64**		0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.3	J	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl acetate												
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U
524.2 TVOC					0.66				3.04		1.8	
8260 TVOC	0		0.4				2.04					

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	000-249 Depth : 264.00 09/15/2021 ug/L		000-249 Depth : 264.00 11/30/2021 ug/L		000-250 Depth : 298.00 11/29/2021 ug/L		000-343 Depth : 330.00 06/10/2021 ug/L		000-343 Depth : 330.00 12/20/2021 ug/L		000-425 Depth : 315.00 06/02/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	**0.97**		**1.6**		**0.6**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	**3.8**		**3.6**		0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.49	J	**0.57**		0.3	J
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethene												
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.23	J	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone												
Acetone												
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon disulfide												
Carbon tetrachloride	**1**		**0.89**		0.5	U	0.5	U	0.5	U	0.38	J
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.34	J	0.5	U
Chloroform	**0.58**		**0.78**		0.5	U	0.31	J	**0.61**		**0.62**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	**0.68**		**1**		0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.37	J	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**0.88**		**0.84**		0.5	U	0.5	U	0.5	U	**2**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Trichloroethylene	0.5	U	0.3	J	0.5	U	0.21	J	0.5	U	**0.72**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.24	J	0.5	U
Vinyl acetate												
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.38	J	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC							7.07				4.62	
8260 TVOC	2.46		2.81		0.37				7.96			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	000-425 Depth : 315.00 12/06/2021 ug/L		000-428 Depth : 298.00 02/25/2021 ug/L		000-428 Depth : 298.00 06/04/2021 ug/L		000-428 Depth : 298.00 09/22/2021 ug/L		000-428 Depth : 299.00 12/01/2021 ug/L		000-458 Depth : 301.00 12/03/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.39	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.27	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethene												
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone												
Acetone												
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon disulfide												
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.37	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.66	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**2.2**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Trichloroethylene	**0.79**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl acetate												
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC			0		0							
8260 TVOC	4.02						0		0		0	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	000-459 Depth : 304.00 12/06/2021 ug/L		000-460 Depth : 300.00 12/02/2021 ug/L		000-537 Depth : 245.00 03/03/2021 ug/L		000-537 Depth : 245.00 05/21/2021 ug/L		000-537 Depth : 245.00 09/21/2021 ug/L		000-537 Depth : 245.00 11/17/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	**9.4**		**7.9**		**7.8**		**11**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.2	J	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.3	J	0.5	U	0.24	J	0.27	J
1,1-Dichloroethylene	0.5	U	0.5	U	**3.8**		**3**		**3**		**4.1**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethene												
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone												
Acetone												
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon disulfide												
Carbon tetrachloride	0.5	U	0.5	U	**1.2**		**1.2**		**1.2**		**1.4**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	**0.82**		0.43	J	**0.78**		**1**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	**0.67**		**0.56**		**0.69**		**0.86**	
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.66	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	**27**		**32**		**27**		**31**	
Toluene	0.5	U	**0.97**		0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Trichloroethylene	0.5	U	0.5	U	**8**		**7.2**		**8.1**		**9.4**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl acetate												
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC					51.19		52.29					
8260 TVOC	0		0.97						49.01		59.03	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	000-541 Depth : 235.00 03/04/2021 ug/L		000-541 Depth : 235.00 05/25/2021 ug/L		000-541 Depth : 235.00 09/21/2021 ug/L		000-541 Depth : 235.00 11/23/2021 ug/L		000-542 Depth : 235.00 03/08/2021 ug/L		000-542 Depth : 235.00 05/17/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**2.4**		**2.7**		**2.4**		**3.4**		0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.21	J	0.29	J	0.39	J	**0.53**		0.5	U	0.5	U
1,1-Dichloroethylene	**1.6**		**1.8**		**1.7**		**2.5**		0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethene												
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone												
Acetone												
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon disulfide												
Carbon tetrachloride	**14**		**17**		**15**		**21**		0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**4.4**		**4.2**		**3.6**		**5.1**		0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.19	J	0.24	J	0.23	J	0.3	J	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.5	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**6.4**		**7.8**		**7.1**		**8.6**		0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Trichloroethylene	**10**		**11**		**11**		**13**		0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl acetate												
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U
524.2 TVOC	39.2		45.03						0		0	
8260 TVOC					41.42		54.43					

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	000-542 Depth : 235.00 09/15/2021 ug/L		000-542 Depth : 235.00 11/24/2021 ug/L		000-543 Depth : 230.00 03/05/2021 ug/L		000-543 Depth : 230.00 05/25/2021 ug/L		000-543 Depth : 230.00 09/16/2021 ug/L		000-543 Depth : 230.00 11/23/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethene												
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone												
Acetone												
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon disulfide												
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.63	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.66	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.57	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.99	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl acetate												
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	0.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC					0		0					
8260 TVOC	0		0						0		0	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	000-544 Depth : 230.00 03/10/2021 ug/L		000-544 Depth : 230.00 05/25/2021 ug/L		000-544 Depth : 230.00 09/21/2021 ug/L		000-544 Depth : 230.00 12/01/2021 ug/L		000-548 Depth : 235.00 02/18/2021 ug/L		000-548 Depth : 235.00 05/21/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**6.7**		**2.9**		**2.4**		**13**		**11**		**8.8**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	**4.3**		**2**		**1.5**		**8**		**4.4**		**9.6**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.5	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.21	J	0.5	U	0.5	U
1,2-Dichloroethene												
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone												
Acetone												
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon disulfide												
Carbon tetrachloride	**2.5**		0.45	J	0.48	J	**5**		**3.4**		**2.8**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.63**		0.37	J	0.26	J	**0.94**		**0.6**		0.18	J
cis-1,2-Dichloroethylene	0.19	J	0.5	U	0.5	U	0.29	J	0.22	J	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.5	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.5	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.5	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.5	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	**0.75**		**0.71**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Trichloroethylene	**0.57**		0.5	U	0.17	J	**0.8**		**9.2**		**8.6**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl acetate												
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	1.5	U	0.5	U	1.5	U
524.2 TVOC	14.89		5.72						29.57		30.69	
8260 TVOC					4.81		28.24					

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	000-548 Depth : 235.00 09/16/2021 ug/L		000-548 Depth : 235.00 11/16/2021 ug/L		109-12 Depth : 265.00 02/25/2021 ug/L		109-12 Depth : 265.00 06/04/2021 ug/L		109-12 Depth : 265.00 06/09/2021 ug/L		109-12 Depth : 265.00 06/30/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1,1-Trichloroethane	**7.7**		**10**		0.5	U	0.5	U				
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1-Dichloroethylene	**2.9**		**4.4**		0.5	U	0.5	U				
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U				
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.59	U	0.5	U				
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,2-Dichloroethene												
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
1,4-Dioxane									0.2	U	0.2	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
2-Hexanone												
Acetone												
Benzene	0.5	U	0.5	U	0.5	U	0.5	U				
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U				
Benzene, 1,3,5-trimethyl-	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	0.5	U	0.5	U	0.5	U	0.5	U				
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U				
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U				
Carbon disulfide												
Carbon tetrachloride	**2.3**		**3**		0.5	U	0.5	U				
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U				
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
Chloroform	**0.51**		**0.62**		0.5	U	0.5	U				
cis-1,2-Dichloroethylene	0.2	J	0.5	U	0.5	U	0.5	U				
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U				
Cymene	0.5	U	0.5	U	0.5	U	0.5	U				
DBCP	0.5	U	0.5	U	0.63	U	0.5	U				
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U				
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U				
Dichlorodifluoromethane	0.5	U	0.5	U	0.66	U	0.5	U				
EDB	0.5	U	0.5	U	0.5	U	0.5	U				
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U				
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
m/p xylene	1	U	1	U	1	U	1	U				
Methyl bromide	0.5	U	0.5	U	0.57	U	0.5	U				
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U				
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U				
Methylene chloride	0.5	U	0.5	U	0.99	U	0.5	U				
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U				
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U				
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U				
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
Styrene	0.5	U	0.5	U	0.5	U	0.5	U				
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
Tetrachloroethylene	**0.8**		**0.89**		0.5	U	0.5	U				
Toluene	0.5	U	0.5	U	0.5	U	0.5	U				
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U				

Trichloroethylene	**8.3**		**9.3**		0.5	U	0.5	U				
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U				
Vinyl acetate												
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U				
Xylene (total)	1.5	U	1.5	U	0.5	U	1.5	U				
524.2 TVOC					0		0					
8260 TVOC	22.71		28.21									

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	109-12 Depth : 265.00 09/22/2021 ug/L		109-12 Depth : 265.00 10/12/2021 ug/L		109-12 Depth : 265.00 12/29/2021 ug/L		109-13 Depth : 238.00 02/25/2021 ug/L		109-13 Depth : 238.00 06/04/2021 ug/L		109-13 Depth : 238.00 06/09/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
1,1,1-Trichloroethane	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
1,1,2-Trichloroethane	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
1,1-Dichloroethane	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
1,1-Dichloroethylene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
1,1-Dichloropropene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
1,2,3-Trichlorobenzene	0.5	U	0.5	U	1	U	0.59	U	0.5	U		
1,2,3-Trichloropropane	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
1,2-Dichloroethane	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
1,2-Dichloroethene					2	U						
1,2-Dichloropropane	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
1,3-Dichloropropane	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
1,4-Dioxane			0.2	U	0.8	U					0.2	U
2,2-Dichloropropane	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
2-Hexanone					5	U						
Acetone					5	U						
Benzene	0.5	U	0.5	U	0.52	J	0.5	U	0.5	U		
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Benzene, 1,3,5-trimethyl-	0.5	U	0.5	U	2	U	0.5	U	0.5	U		
Benzene, 1-methylethyl-	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Bromobenzene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Bromodichloromethane	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Bromoform	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Carbon disulfide					5	U						
Carbon tetrachloride	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Chlorobenzene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Chlorobromomethane	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Chloroethane	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Chloroform	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
cis-1,2-Dichloroethylene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
cis-1,3-Dichloropropene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Cymene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
DBCP	0.5	U	0.5	U	1	U	0.63	U	0.5	U		
Dibromochloromethane	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Dibromomethane	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Dichlorodifluoromethane	0.5	U	0.5	U	1	U	0.66	U	0.5	U		
EDB	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Ethylbenzene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
m-Dichlorobenzene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
m/p xylene	1	U	0.5	U	2	U	1	U	1	U		
Methyl bromide	0.5	U	0.5	U	1	U	0.57	U	0.5	U		
Methyl chloride	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Methyl ethyl ketone					5	U						
Methyl isobutyl ketone (MIBK)					5	U						
Methyl tert-butyl ether	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Methylene chloride	0.5	U	0.5	U	5	U	0.99	U	0.5	U		
n-Butylbenzene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
n-Propylbenzene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
o-Chlorotoluene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
o-Dichlorobenzene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
o-Xylene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
p-Chlorotoluene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
p-Dichlorobenzene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
sec-Butylbenzene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Styrene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
tert-Butylbenzene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Tetrachloroethylene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Toluene	0.5	U	0.5	U	0.37	J	0.5	U	0.5	U		
trans-1,3-Dichloropropene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		

Trichloroethylene	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Trichlorofluoromethane	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Vinyl acetate					5	U						
Vinyl chloride	0.5	U	0.5	U	1	U	0.5	U	0.5	U		
Xylene (total)	1.5	U			3	U	0.5	U	1.5	U		
524.2 TVOC							0		0			
8260 TVOC	0		0		0.89							

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	109-13 Depth : 238.00 06/30/2021 ug/L		109-13 Depth : 238.00 09/22/2021 ug/L		109-13 Depth : 238.00 10/12/2021 ug/L		109-13 Depth : 238.00 12/30/2021 ug/L		113-09 Depth : 222.00 04/29/2021 ug/L		113-09 Depth : 222.00 11/03/2021 ug/L	
1,1,1,2-Tetrachloroethane			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
1,1,1-Trichloroethane			0.5	U	0.5	U	0.5	U	**1.2**		1.7	J D
1,1,2,2-Tetrachloroethane			0.5	U	0.5	U	0.5	U	0.35	J	2	U D
1,1,2-Trichloroethane			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
1,1-Dichloroethane			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
1,1-Dichloroethylene			0.5	U	0.5	U	0.5	U	**1**		1.8	J D
1,1-Dichloropropene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
1,2,3-Trichlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
1,2,3-Trichloropropane			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
1,2-Dichloroethane			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
1,2-Dichloroethene												
1,2-Dichloropropane			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
1,3-Dichloropropane			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
1,4-Dioxane	0.2	U			0.2	U	0.2	U				
2,2-Dichloropropane			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
2-Hexanone												
Acetone												
Benzene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Benzene, 1,2,4-trimethyl			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Benzene, 1,3,5-trimethyl-			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Benzene, 1-methylethyl-			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Bromobenzene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Bromodichloromethane			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Bromoform			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Carbon disulfide												
Carbon tetrachloride			0.5	U	0.5	U	0.5	U	0.48	J	2	U D
Chlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Chlorobromomethane			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Chloroethane			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Chloroform			0.5	U	0.5	U	0.5	U	0.5	U	1.6	J D
cis-1,2-Dichloroethylene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
cis-1,3-Dichloropropene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Cymene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
DBCP			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Dibromochloromethane			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Dibromomethane			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Dichlorodifluoromethane			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
EDB			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Ethene, 1,2-dichloro-, (E)-			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Ethylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
m-Dichlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
m/p xylene			1	U	0.5	U	0.5	U	1	U	4	U D
Methyl bromide			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Methyl chloride			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Methylene chloride			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
n-Butylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
n-Propylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
o-Chlorotoluene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
o-Dichlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
o-Xylene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
p-Chlorotoluene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
p-Dichlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
sec-Butylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Styrene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
tert-Butylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Tetrachloroethylene			0.5	U	0.5	U	0.5	U	**52**	D	**68**	D
Toluene			0.5	U	0.5	U	0.5	U	0.5	U	0.72	J D
trans-1,3-Dichloropropene			0.5	U	0.5	U	0.5	U	0.5	U	2	U D

Trichloroethylene			0.5	U	0.5	U	0.5	U	**3.9**		**4.4**	D
Trichlorofluoromethane			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Vinyl acetate												
Vinyl chloride			0.5	U	0.5	U	0.5	U	0.5	U	2	U D
Xylene (total)			1.5	U					1.5	U	6	U D
524.2 TVOC									58.93			
8260 TVOC			0		0		0				78.22	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	113-19 Depth : 230.00 01/14/2021 ug/L		113-19 Depth : 230.00 04/22/2021 ug/L		113-19 Depth : 230.00 07/27/2021 ug/L		113-19 Depth : 230.00 11/02/2021 ug/L		113-22 Depth : 240.00 04/27/2021 ug/L		113-22 Depth : 240.00 11/01/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**10**		**10**		**9.8**		**9.8**		0.38	J	**0.55**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	**1**		**1**		**0.88**		**1**		0.5	U	0.5	U
1,1-Dichloroethylene	**5.8**		**4.9**		**5.3**		**5.6**		0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.59	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.11	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethene												
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone												
Acetone												
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon disulfide												
Carbon tetrachloride	**7.2**		**6.4**		**7.1**		**7**		**7.1**		**11**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.97**		**0.96**		**0.85**		**0.88**		0.5	U	**0.91**	
cis-1,2-Dichloroethylene	0.46	J	0.47	J	0.41	J	0.46	J	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.63	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.66	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.57	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.99	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.17	J	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Trichloroethylene	**4.9**		**4.2**		**4.7**		**4.6**		0.5	U	0.32	J
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl acetate												
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	0.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	30.44		28.1						7.48			
8260 TVOC					29.04		29.34				12.78	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	121-40 Depth : 291.00 06/07/2021 ug/L		121-44 Depth : 270.00 06/08/2021 ug/L		122-05 Depth : 271.50 05/13/2021 ug/L		122-05 Depth : 271.50 11/22/2021 ug/L		122-20 Depth : 260.00 11/22/2021 ug/L		122-24 Depth : 257.50 01/12/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1,1-Trichloroethane	0.5	U	0.5	U	**1.1**		**1.4**		**1.7**			
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.49	J	**0.63**			
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,2-Dichloroethene												
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,4-Dioxane											**0.268**	
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
2-Hexanone												
Acetone												
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Benzene, 1,3,5-trimethyl-	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		
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Carbon disulfide												
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Chloroform	0.5	U	0.5	U	0.5	U	**0.6**		**0.51**			
cis-1,2-Dichloroethylene	0.5	U	0.5	U	**3.9**		**11**		**0.72**			
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
m/p xylene	1	U	1	U	1	U	1	U	1	U		
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Tetrachloroethylene	0.5	U	0.5	U	**2.1**		**2.7**		**1.7**			
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		

Trichloroethylene	0.5	U	0.5	U	**1.5**		**1.9**		**1.9**			
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Vinyl acetate												
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U		
524.2 TVOC	0		0		8.6							
8260 TVOC							18.09		7.16			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	122-25 Depth : 227.50 01/12/2021 ug/L		122-41 Depth : 325.00 06/07/2021 ug/L		127-08 Depth : 240.00 03/04/2021 ug/L		127-08 Depth : 240.00 05/25/2021 ug/L		127-08 Depth : 240.00 09/10/2021 ug/L		127-08 Depth : 240.00 11/16/2021 ug/L	
1,1,1,2-Tetrachloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane			0.5	U	**0.96**		**0.94**		**0.82**		**0.85**	
1,1,2,2-Tetrachloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene			0.5	U	**0.58**		**0.59**		**0.51**		**0.54**	
1,1-Dichloropropene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene			0.5	U	0.59	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethene												
1,2-Dichloropropane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane	0.151	J										
2,2-Dichloropropane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone												
Acetone												
Benzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-			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
Bromobenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon disulfide												
Carbon tetrachloride			0.5	U	**6.5**		**7.2**		**5.6**		**6.7**	
Chlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform			0.5	U	**1.3**		**1.4**		**1.2**		**1.4**	
cis-1,2-Dichloroethylene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP			0.5	U	0.63	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane			0.5	U	0.66	U	0.5	U	0.5	U	0.5	U
EDB			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene			1	U	1	U	1	U	1	U	1	U
Methyl bromide			0.5	U	0.57	U	0.5	U	0.5	U	0.5	U
Methyl chloride			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride			0.5	U	0.99	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene			0.5	U	**21**		**23**		**19**		**22**	
Toluene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Trichloroethylene			0.5	U	**2.4**		**2.3**		**2**		**2.2**	
Trichlorofluoromethane			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl acetate												
Vinyl chloride			0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)			1.5	U	0.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC			0		32.74		35.43					
8260 TVOC									29.13		33.69	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	127-09 Depth : 225.00 03/04/2021 ug/L		127-09 Depth : 225.00 05/26/2021 ug/L		127-09 Depth : 225.00 09/10/2021 ug/L		127-09 Depth : 225.00 11/16/2021 ug/L		130-04 Depth : 287.50 11/10/2021 ug/L		800-101 Depth : 280.00 06/15/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**1.7**	
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**5.7**	
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.32	J
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**2.1**	
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**0.93**	
1,2-Dichloroethene												
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone												
Acetone												
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon disulfide												
Carbon tetrachloride	**0.66**		0.26	J	0.46	J	**1.5**		0.5	U	**3.6**	
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.95**		**0.98**		**1.1**		**1.6**		0.5	U	**6.4**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.5	U	0.5	U	**1**		0.19	J
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**2.6**		**2.8**		**2.8**		**3.2**		0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Trichloroethylene	0.15	J	0.5	U	0.5	U	0.17	J	0.5	U	**16**	
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.34	J
Vinyl acetate												
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	4.36		4.04								37.28	
8260 TVOC					4.36		6.47		1			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	800-101 Depth : 280.00 12/14/2021 ug/L		800-102 Depth : 304.00 06/15/2021 ug/L		800-102 Depth : 304.00 12/14/2021 ug/L		800-105 Depth : 233.00 06/15/2021 ug/L		800-105 Depth : 233.00 12/15/2021 ug/L		800-138 Depth : 250.00 06/22/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	**3.3**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	**6.8**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.35	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	**4**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	**1.2**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethene												
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone												
Acetone												
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon disulfide												
Carbon tetrachloride	**5**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**9**		**1**		**1.5**		**2.2**		**2.6**		0.47	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.22	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	**8.8**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Trichloroethylene	**19**		0.5	U	0.5	U	0.5	U	0.5	U	0.39	J
Trichlorofluoromethane	**0.58**		0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl acetate												
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC			1				2.2				0.86	
8260 TVOC	58.25				1.5				2.6			

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	800-138 Depth : 250.00 12/07/2021 ug/L		800-90 Depth : 255.00 06/09/2021 ug/L		800-90 Depth : 255.00 12/07/2021 ug/L		800-99 Depth : 248.00 06/22/2021 ug/L		800-99 Depth : 248.00 12/13/2021 ug/L			
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.19	J	**0.53**			
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	**0.72**		**0.9**			
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.19	J		
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.16	J		
1,2-Dichloroethene												
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
1,4-Dioxane												
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
2-Hexanone												
Acetone												
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Benzene, 1,3,5-trimethyl-	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		
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Carbon disulfide												
Carbon tetrachloride	0.5	U	**0.87**		**0.51**		0.5	U	0.5	U		
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Chloroform	**0.9**		**1.9**		**2.1**		**1.5**		**3.9**			
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
m/p xylene	1	U	1	U	1	U	1	U	1	U		
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		

Trichloroethylene	**0.79**		**1.5**		**1.7**		**0.83**		**1.1**			
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Vinyl acetate												
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U		
524.2 TVOC			4.27				3.24					
8260 TVOC	1.69				4.31				6.78			

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	000-102 Depth : 315.00 12/06/2021 ug/L		000-105 Depth : 285.00 12/02/2021 ug/L		000-130 Depth : 280.00 06/04/2021 ug/L		000-130 Depth : 280.00 12/16/2021 ug/L		000-249 Depth : 264.00 03/09/2021 ug/L		000-249 Depth : 264.00 05/20/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
bis-chloroisopropyl ether												
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	000-249 Depth : 264.00 09/15/2021 ug/L		000-249 Depth : 264.00 11/30/2021 ug/L		000-250 Depth : 298.00 11/29/2021 ug/L		000-343 Depth : 330.00 06/10/2021 ug/L		000-343 Depth : 330.00 12/20/2021 ug/L		000-425 Depth : 315.00 06/02/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
bis-chloroisopropyl ether												
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	000-425 Depth : 315.00 12/06/2021 ug/L		000-428 Depth : 298.00 02/25/2021 ug/L		000-428 Depth : 298.00 06/04/2021 ug/L		000-428 Depth : 298.00 09/22/2021 ug/L		000-428 Depth : 299.00 12/01/2021 ug/L		000-458 Depth : 301.00 12/03/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U	0.5	U
bis-chloroisopropyl ether												
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	000-459 Depth : 304.00 12/06/2021 ug/L		000-460 Depth : 300.00 12/02/2021 ug/L		000-537 Depth : 245.00 03/03/2021 ug/L		000-537 Depth : 245.00 05/21/2021 ug/L		000-537 Depth : 245.00 09/21/2021 ug/L		000-537 Depth : 245.00 11/17/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U
bis-chloroisopropyl ether												
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	000-541 Depth : 235.00 03/04/2021 ug/L		000-541 Depth : 235.00 05/25/2021 ug/L		000-541 Depth : 235.00 09/21/2021 ug/L		000-541 Depth : 235.00 11/23/2021 ug/L		000-542 Depth : 235.00 03/08/2021 ug/L		000-542 Depth : 235.00 05/17/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
bis-chloroisopropyl ether												
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	000-542 Depth : 235.00 09/15/2021 ug/L		000-542 Depth : 235.00 11/24/2021 ug/L		000-543 Depth : 230.00 03/05/2021 ug/L		000-543 Depth : 230.00 05/25/2021 ug/L		000-543 Depth : 230.00 09/16/2021 ug/L		000-543 Depth : 230.00 11/23/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U	0.5	U	0.5	U
bis-chloroisopropyl ether												
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	000-544 Depth : 230.00 03/10/2021 ug/L		000-544 Depth : 230.00 05/25/2021 ug/L		000-544 Depth : 230.00 09/21/2021 ug/L		000-544 Depth : 230.00 12/01/2021 ug/L		000-548 Depth : 235.00 02/18/2021 ug/L		000-548 Depth : 235.00 05/21/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
bis-chloroisopropyl ether												
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	000-548 Depth : 235.00 09/16/2021 ug/L		000-548 Depth : 235.00 11/16/2021 ug/L		109-12 Depth : 265.00 02/25/2021 ug/L		109-12 Depth : 265.00 06/04/2021 ug/L		109-12 Depth : 265.00 06/30/2021 ug/L		109-12 Depth : 265.00 09/22/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.55	U	0.5	U			0.5	U
bis-chloroisopropyl ether												
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U			0.5	U
Naphthalene	0.5	U	0.5	U	0.67	U	0.5	U			0.5	U
Perfluorooctanesulfonate (PFOS)									1.78	U	1.84	U
Perfluorooctanoic acid (PFOA)									1.78	U	1.84	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	109-12 Depth : 265.00 10/12/2021 ug/L		109-12 Depth : 265.00 12/29/2021 ug/L		109-13 Depth : 238.00 02/25/2021 ug/L		109-13 Depth : 238.00 06/04/2021 ug/L		109-13 Depth : 238.00 06/30/2021 ug/L		109-13 Depth : 238.00 09/22/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	1	U	0.55	U	0.5	U			0.5	U
bis-chloroisopropyl ether			5	U								
Hexachlorobutadiene	0.5	U	1	U	0.5	U	0.5	U			0.5	U
Naphthalene	0.5	U	1	U	0.67	U	0.5	U			0.5	U
Perfluorooctanesulfonate (PFOS)	1.69	U	1.68	U					1.81	U	1.99	U
Perfluorooctanoic acid (PFOA)	1.69	U	1.68	U					1.81	U	1.99	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	109-13 Depth : 238.00 10/12/2021 ug/L		109-13 Depth : 238.00 12/30/2021 ug/L		113-09 Depth : 222.00 04/29/2021 ug/L		113-09 Depth : 222.00 11/03/2021 ug/L		113-19 Depth : 230.00 01/14/2021 ug/L		113-19 Depth : 230.00 04/22/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	2	U D	0.55	U	0.55	U
bis-chloroisopropyl ether												
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	2	U D	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	2	U D	0.67	U	0.67	U
Perfluorooctanesulfonate (PFOS)	1.76	U	1.8	U								
Perfluorooctanoic acid (PFOA)	1.76	U	1.8	U								

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	113-19 Depth : 230.00 07/27/2021 ug/L		113-19 Depth : 230.00 11/02/2021 ug/L		113-22 Depth : 240.00 04/27/2021 ug/L		113-22 Depth : 240.00 11/01/2021 ug/L		121-40 Depth : 291.00 06/07/2021 ug/L		121-44 Depth : 270.00 06/08/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
bis-chloroisopropyl ether												
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	122-05 Depth : 271.50 05/13/2021 ug/L		122-05 Depth : 271.50 11/22/2021 ug/L		122-20 Depth : 260.00 11/22/2021 ug/L		122-24 Depth : 257.50 01/12/2021 ug/L		122-25 Depth : 227.50 01/12/2021 ug/L		122-41 Depth : 325.00 06/07/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U					0.5	U
bis-chloroisopropyl ether												
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U					0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U					0.5	U
Perfluorooctanesulfonate (PFOS)							1.34	J	0.815	J		
Perfluorooctanoic acid (PFOA)							1.34	J	1.51	J		

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	127-08 Depth : 240.00 03/04/2021 ug/L		127-08 Depth : 240.00 05/25/2021 ug/L		127-08 Depth : 240.00 09/10/2021 ug/L		127-08 Depth : 240.00 11/16/2021 ug/L		127-09 Depth : 225.00 03/04/2021 ug/L		127-09 Depth : 225.00 05/26/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
bis-chloroisopropyl ether												
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	127-09 Depth : 225.00 09/10/2021 ug/L		127-09 Depth : 225.00 11/16/2021 ug/L		130-04 Depth : 287.50 11/10/2021 ug/L		800-101 Depth : 280.00 06/15/2021 ug/L		800-101 Depth : 280.00 12/14/2021 ug/L		800-102 Depth : 304.00 06/15/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
bis-chloroisopropyl ether												
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	800-102 Depth : 304.00 12/14/2021 ug/L		800-105 Depth : 233.00 06/15/2021 ug/L		800-105 Depth : 233.00 12/15/2021 ug/L		800-138 Depth : 250.00 06/22/2021 ug/L		800-138 Depth : 250.00 12/07/2021 ug/L		800-90 Depth : 255.00 06/09/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
bis-chloroisopropyl ether												
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (Magothy) Sampling Program

Analyte	800-90 Depth : 255.00 12/07/2021 ug/L		800-99 Depth : 248.00 06/22/2021 ug/L		800-99 Depth : 248.00 12/13/2021 ug/L							
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U						
bis-chloroisopropyl ether												
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U						
Naphthalene	0.5	U	0.5	U	0.5	U						
Perfluorooctanesulfonate (PFOS)												
Perfluorooctanoic acid (PFOA)												

OU III South Boundary Radionuclide

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-11 Depth : 61.50 02/12/2021 pCi/l				075-11 Depth : 61.50 04/02/2021 pCi/l				075-11 Depth : 61.50 08/23/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-141	U	429	222	135	U	417	246	428		390	258

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-11 Depth : 61.50 10/04/2021 pCi/l				075-288 Depth : 54.00 02/16/2021 pCi/l				075-288 Depth : 54.00 04/02/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	622		373	269	13.5	U	420	235	21.6	U	308	175

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-288 Depth : 54.00 08/23/2021 pCi/l				075-288 Depth : 48.81 10/04/2021 pCi/l				075-40 Depth : 122.50 02/17/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-45	U	390	210	-18	U	377	206	-216	U	420	210

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-40 Depth : 122.50 08/25/2021 pCi/l				075-40 Depth : 122.50 10/04/2021 pCi/l				075-802 Depth : 54.00 02/17/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	279	U	369	234	126	U	375	221	-124	U	410	216

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-802 Depth : 52.00 04/02/2021 pCi/l				075-802 Depth : 53.91 08/24/2021 pCi/l				075-802 Depth : 53.56 10/04/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-43.7	U	327	176	-4.5	U	383	211	-27	U	367	201

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-803 Depth : 55.00 02/17/2021 pCi/l				075-803 Depth : 52.00 04/02/2021 pCi/l				075-803 Depth : 55.00 09/01/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-81.1	U	425	227	218	U	326	205	437		374	256

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-803 Depth : 54.24 09/30/2021 pCi/l				075-804 Depth : 55.00 02/16/2021 pCi/l				075-804 Depth : 52.00 04/05/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	252	U	388	239	**1290**		433	370	**4800**		341	654

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-804 Depth : 54.95 08/24/2021 pCi/l				075-804 Depth : 54.52 10/01/2021 pCi/l				075-805 Depth : 54.00 02/16/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	**2850**		306	432	**3340**		364	517	**2840**		424	512

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-805 Depth : 52.00 04/02/2021 pCi/l				075-805 Depth : 52.00 08/25/2021 pCi/l				075-805 Depth : 54.27 10/01/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	**2840**		308	455	81.1	U	365	211	518	N2	373	259

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-806 Depth : 54.00 02/16/2021 pCi/l				075-806 Depth : 52.00 04/01/2021 pCi/l				075-806 Depth : 54.22 08/24/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	**784**		422	316	**1450**		419	381	189	U	390	234

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-806 Depth : 53.84 09/30/2021 pCi/l				075-807 Depth : 53.00 02/12/2021 pCi/l				075-807 Depth : 52.00 04/01/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	234	U	398	242	18	U	422	236	4.5	U	415	230

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-807 Depth : 52.52 08/23/2021 pCi/l				075-807 Depth : 53.02 10/01/2021 pCi/l				075-808 Depth : 52.00 02/12/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-85.1	U	379	201	-4.5	U	377	208	-179	U	425	216

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-808 Depth : 52.00 04/02/2021 pCi/l				075-808 Depth : 52.00 08/23/2021 pCi/l				075-808 Depth : 51.58 09/30/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-54.1	U	430	230	9.01	U	380	211	-31.5	U	360	198

OU III (BGRR/WCF Sr-90)

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

Analyte	065-03 Depth : 60.00 10/19/2021 ug/L		065-04 Depth : 60.00 10/19/2021 ug/L		065-06 Depth : 60.00 10/19/2021 ug/L							
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U						
1,1,1-Trichloroethane	**0.65**		**1.7**		0.4	J						
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U						
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U						
1,1-Dichloroethane	0.28	J	**0.62**		0.5	U						
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U						
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U						
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U						
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U						
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U						
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U						
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U						
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U						
Benzene	0.5	U	0.5	U	0.5	U						
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U						
Benzene, 1,3,5-trimethyl-	0.5	U	0.5	U	0.5	U						
Benzene, 1-methylethyl-	0.5	U	0.5	U	0.5	U						
Bromobenzene	0.5	U	0.5	U	0.5	U						
Bromodichloromethane	0.5	U	0.5	U	0.5	U						
Bromoform	0.5	U	0.5	U	0.5	U						
Carbon tetrachloride	0.5	U	0.5	U	0.5	U						
Chlorobenzene	0.5	U	0.5	U	0.5	U						
Chlorobromomethane	0.5	U	0.5	U	0.5	U						
Chloroethane	0.5	U	0.5	U	0.5	U						
Chloroform	0.5	U	0.5	U	0.5	U						
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U						
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U						
Cymene	0.5	U	0.5	U	0.5	U						
DBCP	0.5	U	0.5	U	0.5	U						
Dibromochloromethane	0.5	U	0.5	U	0.5	U						
Dibromomethane	0.5	U	0.5	U	0.5	U						
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U						
EDB	0.5	U	0.5	U	0.5	U						
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U						
Ethylbenzene	0.5	U	0.5	U	0.5	U						
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U						
m/p xylene	1	U	1	U	1	U						
Methyl bromide	0.5	U	0.5	U	0.5	U						
Methyl chloride	0.5	U	0.5	U	0.5	U						
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U						
Methylene chloride	0.5	U	0.5	U	0.5	U						
n-Butylbenzene	0.5	U	0.5	U	0.5	U						
n-Propylbenzene	0.5	U	0.5	U	0.5	U						
o-Chlorotoluene	0.5	U	0.5	U	0.5	U						
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U						
o-Xylene	0.5	U	0.5	U	0.5	U						
p-Chlorotoluene	0.5	U	0.5	U	0.5	U						
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U						
sec-Butylbenzene	0.5	U	0.5	U	0.5	U						
Styrene	0.5	U	0.5	U	0.5	U						
tert-Butylbenzene	0.5	U	0.5	U	0.5	U						
Tetrachloroethylene	0.5	U	0.5	U	0.5	U						
Toluene	0.5	U	0.5	U	0.5	U						
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U						
Trichloroethylene	0.5	U	0.18	J	0.5	U						
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U						
Vinyl chloride	0.5	U	0.5	U	0.5	U						
Xylene (total)	1.5	U	1.5	U	1.5	U						
8260 TVOC	0.93		2.5		0.4							

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (BGRR/WCF Sr-90)

Analyte	065-03 Depth : 60.00 10/19/2021 ug/L		065-04 Depth : 60.00 10/19/2021 ug/L		065-06 Depth : 60.00 10/19/2021 ug/L							
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U						
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U						
Naphthalene	0.5	U	0.5	U	0.5	U						

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	065-06 Depth : 60.00 10/19/2021 pCi/l				065-160 Depth : 40.00 10/20/2021 pCi/l				065-162 Depth : 46.00 10/19/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	-0.0466	U	0.453	0.251	**5.61**		0.317	0.659	0.301	U	0.404	0.255
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	065-163 Depth : 75.00 10/20/2021 pCi/l				065-164 Depth : 75.00 10/20/2021 pCi/l				065-169 Depth : 85.00 10/27/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241									-5.65	U	16.9	12.6
Beryllium-7									-25.6	U DL	76.4	61.5
Cesium-134									-0.781	U DL	13.9	1.45
Cesium-137									-4.25	U	10.8	9.07
Co-60									3.33	U	6.79	6.07
Cobalt-57									1.22	U DL	6.75	4
Europium-152									5.37	U DL	108	11
Europium-154									8.51	U DL	96.9	13.9
Europium-155									-1.51	U	31.9	18.8
Manganese-54									3.1	U DL	9.58	5.76
Sodium-22									0.175	U DL	9.39	4.88
Strontium-90	0.0145	U	0.267	0.15	0.538	N2	0.324	0.239	**1.91**		0.35	0.368
Tritium												
Zinc-65									0	U DL	25.9	1.57

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	065-170 Depth : 85.00 10/21/2021 pCi/l				065-174 Depth : 40.00 10/19/2021 pCi/l				065-175 Depth : 40.00 04/12/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	-1.11	U	15.7	11.6								
Beryllium-7	-25.6	U DL	68.9	55.4								
Cesium-134	2.89	U DL	13.3	5.97								
Cesium-137	1.24	U	8.23	6.59								
Co-60	-0.164	U	9.05	7.78								
Cobalt-57	0.981	U DL	6.68	5.06								
Europium-152	46.1	U	60	40								
Europium-154	7.88	U DL	66.5	16.2								
Europium-155	4.66	U	28.2	16.7								
Manganese-54	2.33	U DL	12.5	7.34								
Sodium-22	3.67	U	3.86	2.81								
Strontium-90	**5.84**		0.558	0.826	**18.8**		0.483	1.85	**13.1**		0.259	1.25
Tritium												
Zinc-65	4.85	U DL	20.3	11.7								

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	065-175 Depth : 40.00 10/19/2021 pCi/l				065-176 Depth : 40.00 10/22/2021 pCi/l				065-178 Depth : 80.00 10/22/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**52.2**		0.443	4.54	0.0451	U	0.376	0.213	-0.134	U	0.468	0.251
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	065-325 Depth : 77.00 02/05/2021 pCi/l				065-325 Depth : 77.00 06/30/2021 pCi/l				065-325 Depth : 73.50 08/25/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**41.3**		0.267	3.54	**21.3**		0.255	1.92	**24**		0.472	2.28
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	065-325 Depth : 77.00 10/21/2021 pCi/l				065-360 Depth : 45.00 10/19/2021 pCi/l				065-361 Depth : 55.00 10/19/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**23.9**		0.666	2.35	0.13	U DL	0.862	0.496	**2.13**		0.382	0.403
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	065-362 Depth : 45.00 10/19/2021 pCi/l				065-363 Depth : 60.00 10/20/2021 pCi/l				065-364 Depth : 70.00 10/21/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**1.77**		0.376	0.367	0.218	U	0.51	0.305	0.332	N2	0.24	0.168
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	065-365 Depth : 80.00 10/20/2021 pCi/l				065-367 Depth : 95.00 10/21/2021 pCi/l				065-37 Depth : 76.00 04/09/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241									3.52	U	23.7	14.1
Beryllium-7									-28	U DL	71.2	60
Cesium-134									4.23	U DL	15.4	7.63
Cesium-137									-0.793	U	9.93	8.44
Co-60									1.88	U	6.5	5.27
Cobalt-57									-2.77	U DL	8.6	5.18
Europium-152									28.7	U DL	109	53.8
Europium-154									21.8	U DL	93.5	32
Europium-155									8.03	U	31	18.7
Manganese-54									-5.84	U DL	12.8	5.04
Sodium-22									-2.11	U DL	11.3	6.4
Strontium-90	0.195	U	0.579	0.343	0.0569	U	0.516	0.292	**20.6**	DL	0.999	2.36
Tritium									-140	U	394	214
Zinc-65									0	U DL	25.9	4.06

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	065-37 Depth : 77.00 10/28/2021 pCi/l				065-38 Depth : 63.00 04/05/2021 pCi/l				065-38 Depth : 64.45 10/20/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	4.48	U	15.8	11.8								
Beryllium-7	-5.85	U	59.8	46.3								
Cesium-134	3.67	U DL	10.3	4.89								
Cesium-137	-1.63	U	10.2	8.31								
Co-60	2.28	U	8.83	4.19								
Cobalt-57	2.57	U DL	6.73	5.43								
Europium-152	30.3	U DL	94.8	36.4								
Europium-154	8.01	U DL	83.9	15.9								
Europium-155	5.87	U	23.8	11.6								
Manganese-54	3.54	U DL	12.3	7.38								
Sodium-22	**9.95**		3.86	4.71								
Strontium-90	**25.4**		0.52	2.45	**0.705**		0.236	0.199	0.0279	U	0.8	0.455
Tritium	-76.6	U	381	208								
Zinc-65	4.68	U DL	17.9	10.3								

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	065-384 Depth : 60.00 04/05/2021 pCi/l				065-384 Depth : 60.00 10/19/2021 pCi/l				065-385 Depth : 60.00 04/05/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90												
Tritium	-39.6	U	314	170	-4.5	U	396	221	-125	U	324	164
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	065-385 Depth : 60.00 10/19/2021 pCi/l				065-39 Depth : 87.40 04/12/2021 pCi/l				065-39 Depth : 87.40 10/20/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90					**23.2**		0.271	2.08	**39.1**		0.656	3.65
Tritium	-27	U	389	216								
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	065-401 Depth : 67.00 04/09/2021 pCi/l				065-401 Depth : 71.00 10/28/2021 pCi/l				065-402 Depth : 47.00 04/13/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	0.0735	U	0.286	0.167	-0.0628	U	0.677	0.378	0.439	U	0.513	0.329
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	065-402 Depth : 52.00 10/20/2021 pCi/l				065-404 Depth : 100.00 04/12/2021 pCi/l				065-404 Depth : 100.00 10/28/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	0.0975	U	0.287	0.17	0.362		0.285	0.193	0.0305	U	0.522	0.293
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	065-405 Depth : 80.00 02/05/2021 pCi/l				065-405 Depth : 80.00 04/13/2021 pCi/l				065-405 Depth : 80.00 08/25/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**79.9**		0.219	6.71	**21.7**		0.259	1.96	**8.18**		0.249	0.833
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	065-405 Depth : 80.00 10/21/2021 pCi/l				075-189 Depth : 69.50 10/21/2021 pCi/l				075-193 Depth : 85.00 10/25/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**9**		0.583	1.09	**1.06**		0.524	0.398	**0.514**		0.276	0.205
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-194 Depth : 145.00 10/22/2021 pCi/l				075-201 Depth : 68.00 10/27/2021 pCi/l				075-210 Depth : 58.00 04/12/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	0.147	U	0.246	0.152	0.483	U	0.552	0.356	**0.556**		0.269	0.203
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-210 Depth : 58.00 10/22/2021 pCi/l				075-39 Depth : 52.00 10/21/2021 pCi/l				075-40 Depth : 122.50 02/17/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	0.468	N2	0.357	0.242	0.0571	U	0.587	0.334				
Tritium									-216	U	420	210
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-40 Depth : 122.50 08/25/2021 pCi/l				075-40 Depth : 122.50 10/04/2021 pCi/l				075-41 Depth : 195.50 10/21/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90									-0.128	U	0.689	0.379
Tritium	279	U	369	234	126	U	375	221				
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-46 Depth : 38.00 10/25/2021 pCi/l				075-47 Depth : 36.30 04/06/2021 pCi/l				075-47 Depth : 36.30 10/21/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	0.158	U	0.226	0.142	0.254		0.247	0.162	0.483	U	0.565	0.36
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-48 Depth : 68.00 04/06/2021 pCi/l				075-48 Depth : 68.00 10/21/2021 pCi/l				075-664 Depth : 65.00 01/14/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	0.296		0.239	0.164	0.324	N2	0.251	0.173	**8.85**		0.229	0.881
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-664 Depth : 66.00 02/17/2021 pCi/l				075-664 Depth : 65.00 03/09/2021 pCi/l				075-664 Depth : 70.00 04/06/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**3.83**		0.216	0.453	**1.89**		0.242	0.301	**2.9**		0.274	0.409
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-664 Depth : 66.00 05/11/2021 pCi/l				075-664 Depth : 70.00 06/08/2021 pCi/l				075-664 Depth : 66.00 07/21/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	-0.205	U	0.29	0.138	0.224	U	0.285	0.181	**0.764**		0.209	0.192
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-664 Depth : 63.00 08/25/2021 pCi/l				075-664 Depth : 68.00 09/03/2021 pCi/l				075-664 Depth : 68.00 10/27/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**1.52**		0.225	0.266	**0.864**		0.28	0.23	**0.947**		0.265	0.239
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-664 Depth : 70.00 11/12/2021 pCi/l				075-664 Depth : 70.00 12/08/2021 pCi/l				075-665 Depth : 82.00 04/06/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**0.972**		0.274	0.246	**0.918**	UJ(+)-B	0.431	0.283	**2.95**		0.242	0.409
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-665 Depth : 82.00 10/27/2021 pCi/l				075-666 Depth : 51.00 10/28/2021 pCi/l				075-669 Depth : 60.00 10/29/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	0.158	U	0.312	0.189	0.794	N2	0.557	0.388	0.133	U	0.698	0.405
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-670 Depth : 94.00 04/08/2021 pCi/l				075-670 Depth : 94.00 10/25/2021 pCi/l				075-671 Depth : 109.00 04/08/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**1.51**		0.314	0.314	0.957	N2	0.591	0.419	**1.67**		0.316	0.324
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-671 Depth : 109.00 10/25/2021 pCi/l				075-672 Depth : 112.00 10/25/2021 pCi/l				075-673 Depth : 43.00 10/29/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**1.8**		0.304	0.331	0.373	N2	0.218	0.162	0.757	N2	0.674	0.444
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-674 Depth : 75.00 10/25/2021 pCi/l				075-675 Depth : 95.00 10/25/2021 pCi/l				075-681 Depth : 59.00 10/22/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**0.784**		0.209	0.204	0.345	N2	0.304	0.203	**1.76**		0.529	0.46
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-682 Depth : 81.00 04/08/2021 pCi/l				075-682 Depth : 81.00 10/21/2021 pCi/l				075-683 Depth : 81.00 10/22/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	0.258	U	0.272	0.177	**0.897**		0.512	0.374	**1.74**		0.279	0.315
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-684 Depth : 79.00 04/06/2021 pCi/l				075-684 Depth : 79.00 10/20/2021 pCi/l				075-699 Depth : 80.00 06/30/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**3.65**		0.33	0.492	**1.91**		0.401	0.393	**3.51**		0.261	0.447
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-699 Depth : 86.00 10/28/2021 pCi/l				075-700 Depth : 60.00 04/13/2021 pCi/l				075-700 Depth : 95.00 10/22/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	0.517	U	0.642	0.407	0.133	U	0.293	0.176	-0.151	U	0.674	0.367
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-700 Depth : 66.00 10/27/2021 pCi/l				075-701 Depth : 62.90 01/14/2021 pCi/l				075-701 Depth : 62.00 02/17/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	0.205	U	0.307	0.191	**4.18**		0.792	0.823	**2.45**		0.789	0.618
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-701 Depth : 61.50 03/09/2021 pCi/l				075-701 Depth : 60.50 04/07/2021 pCi/l				075-701 Depth : 60.50 06/08/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**2.95**		0.751	0.7	**5.17**		0.403	0.415	**6.75**		0.792	0.943
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-701 Depth : 61.77 07/21/2021 pCi/l				075-701 Depth : 62.50 08/25/2021 pCi/l				075-701 Depth : 61.50 09/03/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**4.47**		0.683	0.501	**3.03**		0.887	0.604	**2.37**		0.772	0.521
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-701 Depth : 58.00 10/27/2021 pCi/l				075-701 Depth : 58.00 11/12/2021 pCi/l				075-701 Depth : 58.00 12/08/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**2.52**		0.787	0.617	**1.72**		0.777	0.575	**1.81**	UJ(+)-B	0.745	0.486
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-705 Depth : 90.00 04/09/2021 pCi/l				075-705 Depth : 90.00 10/25/2021 pCi/l				075-706 Depth : 95.00 04/08/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**1.45**		0.264	0.281	**1.25**		0.272	0.266	**1.06**		0.309	0.267
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-707 Depth : 75.00 04/08/2021 pCi/l				075-707 Depth : 75.00 10/21/2021 pCi/l				075-85 Depth : 67.50 10/25/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**3.83**		0.276	0.492	0.217	U	0.548	0.327	**13.5**		0.246	1.29
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	075-86 Depth : 107.50 10/25/2021 pCi/l				075-87 Depth : 107.50 04/06/2021 pCi/l				075-87 Depth : 107.50 10/20/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**0.934**		0.373	0.291	0.206	U	0.25	0.16	0.0585	U	0.37	0.211
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	085-398 Depth : 130.00 04/12/2021 pCi/l				085-398 Depth : 130.00 10/25/2021 pCi/l				085-399 Depth : 65.00 10/25/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**7.76**		0.398	0.897	**7.75**		0.564	1	**1.21**		0.519	0.413
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	085-402 Depth : 100.00 07/02/2021 pCi/l				085-402 Depth : 100.00 10/25/2021 pCi/l				085-403 Depth : 120.00 04/13/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**12.6**		0.566	1.37	**8.9**		0.588	1.08	**15.7**		0.291	1.48
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (BGRR/WCF Sr-90)

	085-403 Depth : 120.00 10/27/2021 pCi/l											
Analyte	Result	Qual	MDA	Error								
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	**12.7**		0.351	1.24								
Tritium												
Zinc-65												

Chemical/Animal Holes Sr-90

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2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: Chemical/Animal Holes Sr-90

	097-313 Depth : 38.00 02/23/2021 pCi/l				097-313 Depth : 33.75 07/22/2021 pCi/l				097-314 Depth : 38.00 02/23/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	**3.76**		0.794	0.811	**5.62**		0.747	0.556	**43.9**		0.764	2.38

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: Chemical/Animal Holes Sr-90

	097-314 Depth : 39.00 07/22/2021 pCi/l				097-315 Depth : 38.00 02/23/2021 pCi/l				097-315 Depth : 33.59 07/22/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	**71.9**		0.677	1.35	**2.57**		0.796	0.677	**5.51**		0.757	0.575

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: Chemical/Animal Holes Sr-90

	106-100 Depth : 30.41 07/16/2021 pCi/l				106-101 Depth : 32.81 07/16/2021 pCi/l				106-102 Depth : 31.76 07/16/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	**3.47**		0.477	0.332	**6.33**		0.641	0.549	0.473	U	0.651	0.402

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: Chemical/Animal Holes Sr-90

	106-103 Depth : 29.85 07/15/2021 pCi/l				106-104 Depth : 29.69 07/15/2021 pCi/l				106-105 Depth : 29.39 07/15/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	**3.25**		0.496	0.346	**5.22**		0.485	0.509	-0.335	U	0.764	0.44

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: Chemical/Animal Holes Sr-90

	106-119 Depth : 40.00 07/20/2021 pCi/l				106-120 Depth : 40.00 07/19/2021 pCi/l				106-121 Depth : 40.00 07/19/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	0.315	U	0.68	0.4	0.403	U	0.473	0.286	0.293	U	0.502	0.299

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: Chemical/Animal Holes Sr-90

	106-122 Depth : 40.00 07/19/2021 pCi/l				106-125 Depth : 40.00 07/20/2021 pCi/l				106-13 Depth : 34.00 07/20/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	0.657	U	0.69	0.44	**2.77**		0.836	0.559	**1.43**		0.481	0.33

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: Chemical/Animal Holes Sr-90

	106-135 Depth : 35.00 07/21/2021 pCi/l				106-136 Depth : 32.00 07/20/2021 pCi/l				106-14 Depth : 36.10 07/21/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	0.473	U	0.774	0.466	**6.75**		0.647	0.562	0.312	U	0.476	0.285

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: Chemical/Animal Holes Sr-90

	106-16 Depth : 35.47 07/22/2021 pCi/l				106-46 Depth : 34.00 07/22/2021 pCi/l				106-47 Depth : 34.00 07/22/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	**20.9**		0.637	0.796	0.304	U	0.691	0.406	0.262	U	0.784	0.453

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: Chemical/Animal Holes Sr-90

	106-48 Depth : 37.30 07/20/2021 pCi/l				106-49 Depth : 37.00 07/23/2021 pCi/l				106-50 Depth : 39.00 07/20/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	0.492	U	0.76	0.463	0.754	J	0.725	0.458	0.382	U	0.474	0.286

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: Chemical/Animal Holes Sr-90

	106-94 Depth : 35.65 07/21/2021 pCi/l				106-95 Depth : 35.39 07/21/2021 pCi/l				106-96 Depth : 27.36 07/22/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	**18.3**		0.677	0.727	**16.7**		0.484	0.683	0.00718	U	0.478	0.275

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: Chemical/Animal Holes Sr-90

	106-98 Depth : 30.69 07/15/2021 pCi/l				106-99 Depth : 31.77 07/16/2021 pCi/l							
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error				
Strontium-90	**2.21**		0.476	0.337	**19**		0.758	0.815				

OU III (AOC 29/HFBR Tritium)

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

Analyte	105-23 Depth : 180.00 01/13/2021 ug/L		105-23 Depth : 180.00 04/21/2021 ug/L		105-23 Depth : 180.00 07/28/2021 ug/L		105-23 Depth : 180.00 10/29/2021 ug/L		105-44 Depth : 155.00 04/29/2021 ug/L		105-44 Depth : 152.50 11/03/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.24	J	0.3	J	**0.72**		**0.77**		0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.23	J	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.23	J	**1.5**		**0.86**		0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.59	U	0.5	U	0.5	U	0.5	U	0.46	J
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	**0.57**		**0.52**		**0.51**		0.48	J	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.65**		**0.59**		**0.55**		0.45	J	0.5	U	0.24	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.63	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.66	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.57	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.99	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	**12**		**12**		**16**		**21**		**1.8**		**1.4**	
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.29	J	0.32	J	0.35	J	0.45	J	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	0.5	U	1.5	U	1.5	U	1.5	U	1.5	U
524.2 TVOC	13.75		13.96						1.8			
8260 TVOC					19.86		24.01				2.1	

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU III (AOC 29/HFBR Tritium)

Analyte	105-23 Depth : 180.00 01/13/2021 ug/L		105-23 Depth : 180.00 04/21/2021 ug/L		105-23 Depth : 180.00 07/28/2021 ug/L		105-23 Depth : 180.00 10/29/2021 ug/L		105-44 Depth : 155.00 04/29/2021 ug/L		105-44 Depth : 152.50 11/03/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.55	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.67	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	065-37 Depth : 76.00 04/09/2021 pCi/l				065-37 Depth : 77.00 10/28/2021 pCi/l				065-38 Depth : 63.00 04/05/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	3.52	U	23.7	14.1	4.48	U	15.8	11.8				
Beryllium-7	-28	U DL	71.2	60	-5.85	U	59.8	46.3				
Cesium-134	4.23	U DL	15.4	7.63	3.67	U DL	10.3	4.89				
Cesium-137	-0.793	U	9.93	8.44	-1.63	U	10.2	8.31				
Co-60	1.88	U	6.5	5.27	2.28	U	8.83	4.19				
Cobalt-57	-2.77	U DL	8.6	5.18	2.57	U DL	6.73	5.43				
Europium-152	28.7	U DL	109	53.8	30.3	U DL	94.8	36.4				
Europium-154	21.8	U DL	93.5	32	8.01	U DL	83.9	15.9				
Europium-155	8.03	U	31	18.7	5.87	U	23.8	11.6				
Manganese-54	-5.84	U DL	12.8	5.04	3.54	U DL	12.3	7.38				
Sodium-22	-2.11	U DL	11.3	6.4	**9.95**		3.86	4.71				
Strontium-90	**20.6**	DL	0.999	2.36	**25.4**		0.52	2.45	**0.705**		0.236	0.199
Tritium	-140	U	394	214	-76.6	U	381	208				
Zinc-65	0	U DL	25.9	4.06	4.68	U DL	17.9	10.3				

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	065-38 Depth : 64.45 10/20/2021 pCi/l				065-39 Depth : 87.40 04/12/2021 pCi/l				065-39 Depth : 87.40 10/20/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90	0.0279	U	0.8	0.455	**23.2**		0.271	2.08	**39.1**		0.656	3.65
Tritium												
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-11 Depth : 61.50 02/12/2021 pCi/l				075-11 Depth : 61.50 04/02/2021 pCi/l				075-11 Depth : 61.50 08/23/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90												
Tritium	-141	U	429	222	135	U	417	246	**428**		390	258
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-11 Depth : 61.50 10/04/2021 pCi/l				075-210 Depth : 58.00 04/12/2021 pCi/l				075-210 Depth : 58.00 10/22/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90					**0.556**		0.269	0.203	**0.468**	N2	0.357	0.242
Tritium	**622**		373	269								
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-288 Depth : 54.00 02/16/2021 pCi/l				075-288 Depth : 54.00 04/02/2021 pCi/l				075-288 Depth : 54.00 08/23/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90												
Tritium	13.5	U	420	235	21.6	U	308	175	-45	U	390	210
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-288 Depth : 48.81 10/04/2021 pCi/l				075-39 Depth : 52.00 10/21/2021 pCi/l				075-40 Depth : 122.50 02/17/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90					0.0571	U	0.587	0.334				
Tritium	-18	U	377	206					-216	U	420	210
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-40 Depth : 122.50 08/25/2021 pCi/l				075-40 Depth : 122.50 10/04/2021 pCi/l				075-41 Depth : 195.50 10/21/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90									-0.128	U	0.689	0.379
Tritium	279	U	369	234	126	U	375	221				
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-802 Depth : 54.00 02/17/2021 pCi/l				075-802 Depth : 52.00 04/02/2021 pCi/l				075-802 Depth : 53.91 08/24/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90												
Tritium	-124	U	410	216	-43.7	U	327	176	-4.5	U	383	211
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-802 Depth : 53.56 10/04/2021 pCi/l				075-803 Depth : 55.00 02/17/2021 pCi/l				075-803 Depth : 52.00 04/02/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90												
Tritium	-27	U	367	201	-81.1	U	425	227	218	U	326	205
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-803 Depth : 55.00 09/01/2021 pCi/l				075-803 Depth : 54.24 09/30/2021 pCi/l				075-804 Depth : 55.00 02/16/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90												
Tritium	**437**		374	256	252	U	388	239	**1290**		433	370
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-804 Depth : 52.00 04/05/2021 pCi/l				075-804 Depth : 54.95 08/24/2021 pCi/l				075-804 Depth : 54.52 10/01/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90												
Tritium	**4800**		341	654	**2850**		306	432	**3340**		364	517
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-805 Depth : 54.00 02/16/2021 pCi/l				075-805 Depth : 52.00 04/02/2021 pCi/l				075-805 Depth : 52.00 08/25/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90												
Tritium	**2840**		424	512	**2840**		308	455	81.1	U	365	211
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-805 Depth : 54.27 10/01/2021 pCi/l				075-806 Depth : 54.00 02/16/2021 pCi/l				075-806 Depth : 52.00 04/01/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90												
Tritium	**518**	N2	373	259	**784**		422	316	**1450**		419	381
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-806 Depth : 54.22 08/24/2021 pCi/l				075-806 Depth : 53.84 09/30/2021 pCi/l				075-807 Depth : 53.00 02/12/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90												
Tritium	189	U	390	234	234	U	398	242	18	U	422	236
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-807 Depth : 52.00 04/01/2021 pCi/l				075-807 Depth : 52.52 08/23/2021 pCi/l				075-807 Depth : 53.02 10/01/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90												
Tritium	4.5	U	415	230	-85.1	U	379	201	-4.5	U	377	208
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-808 Depth : 52.00 02/12/2021 pCi/l				075-808 Depth : 52.00 04/02/2021 pCi/l				075-808 Depth : 52.00 08/23/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90												
Tritium	-179	U	425	216	-54.1	U	430	230	9.01	U	380	211
Zinc-65												

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU III (AOC 29/HFBR Tritium)

	075-808 Depth : 51.58 09/30/2021 pCi/l				105-44 Depth : 152.50 11/03/2021 pCi/l							
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error				
Americium-241												
Beryllium-7												
Cesium-134												
Cesium-137												
Co-60												
Cobalt-57												
Europium-152												
Europium-154												
Europium-155												
Manganese-54												
Sodium-22												
Strontium-90												
Tritium	-31.5	U	360	198	108	U	388	229				
Zinc-65												

OU IV (AOC 6 Sr-90)

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU IV (AOC 6 Sr-90)

	066-189 Depth : 36.00 08/26/2021 pCi/l				076-04 Depth : 40.00 09/14/2021 pCi/l				076-06 Depth : 40.00 03/26/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	0.167	U	0.245	0.153	0.269	U	0.478	0.293	0.287		0.234	0.16

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU IV (AOC 6 Sr-90)

	076-06 Depth : 40.00 08/27/2021 pCi/l				076-07 Depth : 60.00 09/24/2021 pCi/l				076-13 Depth : 41.00 03/29/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	0.204	U	0.226	0.146	**4.67**	UJ(+)-B	2.39	1.84	**5.79**		0.231	0.637

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU IV (AOC 6 Sr-90)

	076-13 Depth : 41.00 11/19/2021 pCi/l				076-168 Depth : 46.00 03/29/2021 pCi/l				076-168 Depth : 46.00 08/26/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	**4.55**		0.286	0.56	**6.21**		0.218	0.658	**5.46**		0.343	0.666

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU IV (AOC 6 Sr-90)

	076-169 Depth : 46.00 03/29/2021 pCi/l				076-169 Depth : 46.00 08/26/2021 pCi/l				076-181 Depth : 65.00 09/14/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	**1.22**		0.229	0.24	**1.16**		0.387	0.318	0.203	U	0.213	0.138

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU IV (AOC 6 Sr-90)

	076-182 Depth : 85.00 09/14/2021 pCi/l				076-184 Depth : 65.00 03/24/2021 pCi/l				076-184 Depth : 65.00 08/27/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	0.0449	U	0.201	0.117	**49**		0.196	4.18	**52.6**		0.252	4.48

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU IV (AOC 6 Sr-90)

	076-22 Depth : 57.00 09/14/2021 pCi/l				076-24 Depth : 40.00 03/26/2021 pCi/l				076-24 Depth : 40.00 08/26/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	**4.01**		0.188	0.458	**1.72**		0.209	0.281	**5.12**		0.309	0.625

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU IV (AOC 6 Sr-90)

	076-25 Depth : 42.00 03/22/2021 pCi/l				076-25 Depth : 42.00 08/27/2021 pCi/l				076-262 Depth : 75.00 08/30/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	**1.89**		0.191	0.293	**2.94**		0.269	0.403	**3.19**		0.23	0.41

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU IV (AOC 6 Sr-90)

	076-28 Depth : 45.00 04/08/2021 pCi/l				076-28 Depth : 45.00 08/30/2021 pCi/l				076-317 Depth : 41.00 08/30/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	**15.8**		0.276	1.49	**17.3**		0.284	1.6	0.246		0.242	0.158

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU IV (AOC 6 Sr-90)

	076-373 Depth : 44.00 08/30/2021 pCi/l				076-415 Depth : 55.00 04/01/2021 pCi/l				076-415 Depth : 55.00 09/22/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	0.266		0.258	0.168	0.0889	U	0.27	0.159	0.0114	U	0.644	0.367

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU IV (AOC 6 Sr-90)

	076-416 Depth : 55.00 04/01/2021 pCi/l				076-416 Depth : 55.00 09/14/2021 pCi/l				076-418 Depth : 52.00 03/24/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	0.306	U	0.324	0.212	**0.482**		0.226	0.171	**12.1**		0.204	1.15

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU IV (AOC 6 Sr-90)

	076-418 Depth : 52.00 08/26/2021 pCi/l				076-419 Depth : 50.00 03/24/2021 pCi/l				076-419 Depth : 50.00 11/19/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	**10.9**		0.352	1.11	**23.6**		0.228	2.09	**17.3**		0.715	1.88

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU IV (AOC 6 Sr-90)

	076-420 Depth : 42.00 03/24/2021 pCi/l				076-420 Depth : 42.00 08/27/2021 pCi/l				076-421 Depth : 42.00 03/24/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Strontium-90	**0.955**		0.231	0.222	**1.4**		0.276	0.274	**0.81**		0.233	0.204

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: OU IV (AOC 6 Sr-90)

	076-421 Depth : 42.00 08/30/2021 pCi/l											
Analyte	Result	Qual	MDA	Error								
Strontium-90	**1.02**		0.249	0.23								

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: OU IV (AOC 6 Sr-90)

Analyte	076-25 Depth : 42.00 04/15/2021 ug/L		076-25 Depth : 42.00 05/05/2021 ug/L		076-25 Depth : 42.00 10/20/2021 ug/L							
1,1,1-Trichloroethane			5	U	5	U						
1,1,2,2-Tetrachloroethane			5	U	5	U						
1,1,2-Trichloroethane			5	U	5	U						
1,1-Dichloroethane			5	U	5	U						
1,1-Dichloroethylene			5	U	5	U						
1,2-Dichloroethane			5	U	5	U						
1,2-Dichloropropane			5	U	5	U						
2-Hexanone			10	U	10	U						
Acetone			10	U	10	U						
Benzene			5	U	5	U						
Bromodichloromethane			5	U	5	U						
Bromoform			5	U	5	U						
Carbon disulfide			5	U	5	U						
Carbon tetrachloride			5	U	5	U						
Chlorobenzene			5	U	5	U						
Chloroethane			10	U	10	U						
Chloroform			0.32	J	5	U						
cis-1,3-Dichloropropene			5	U	5	U						
Dibromochloromethane			5	U	5	U						
Ethene, 1,2-dichloro-, (E)-			5	U	5	U						
Ethylbenzene			5	U	5	U						
m-Dichlorobenzene	9.6	U	5	U	5	U						
Methyl bromide			10	U	10	U						
Methyl chloride			10	U	10	U						
Methyl ethyl ketone			10	U	10	U						
Methyl isobutyl ketone (MIBK)			10	U	10	U						
Methyl tert-butyl ether			10	U	10	U						
Methylene chloride			5	U	5	U						
o-Dichlorobenzene	9.6	U	5	U	5	U						
p-Dichlorobenzene	9.6	U	5	U	5	U						
Tetrachloroethylene			**11**		**6.8**							
Toluene			5	U	5	U						
trans-1,3-Dichloropropene			5	U	5	U						
Trichloroethylene			0.98	J	0.5	J						
Trichlorofluoromethane			5	U	5	U						
Vinyl acetate			10	U	10	U						
Vinyl chloride			10	U	10	U						

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU IV (AOC 6 Sr-90)

Analyte	076-25 Depth : 42.00 04/15/2021 ug/L		076-25 Depth : 42.00 10/20/2021 ug/L									
1,2,4-Trichlorobenzene	9.6	U	10	U								
2,4,6-Trichlorophenol	19	U	21	U								
2,4-Dichlorophenol	9.6	U	10	U								
2,4-Dimethylphenol	9.6	U	10	U								
2,4-Dinitrophenol	58	U	62	U								
2,4-Dinitrotoluene	9.6	U	10	U								
2,6-Dinitrotoluene	9.6	U	10	U								
2-Chloronaphthalene	9.6	U	10	U								
2-Chlorophenol	9.6	U	10	U								
3,3'-Dichlorobenzidine	48	U	52	U								
4,6-Dinitro-o-cresol	58	U	62	U								
4-Bromophenyl phenyl ether	9.6	U	10	U								
4-Chlorophenyl phenyl ether	9.6	U	10	U								
Acenaphthene	9.6	U	10	U								
Acenaphthylene	9.6	U	10	U								
Anthracene	9.6	U	10	U								
Benzo(a)anthracene	9.6	U	10	U								
Benzo(a)pyrene	9.6	U	10	U								
Benzo(b)fluoranthene	9.6	U	10	U								
Benzo(ghi)perylene	9.6	U	10	U								
Benzo(k)fluoranthene	9.6	U	10	U								
Bis(2-chloroethoxy)methane	9.6	U	10	U								
Bis(2-chloroethyl)ether	9.6	U	10	U								
Bis(2-ethylhexyl)phthalate	9.6	U	10	U								
bis-chloroisopropyl ether	9.6	U	10	U								
Butyl benzyl phthalate	9.6	U	10	U								
Chrysene	9.6	U	10	U								
Di-n-butyl phthalate	9.6	U	10	U								
Di-n-octyl phthalate	9.6	U	10	U								
Dibenzo(a,h)anthracene	9.6	U	10	U								
Diethyl phthalate	9.6	U	10	U								
Dimethyl phthalate	9.6	U	10	U								
Fluoranthene	9.6	U	10	U								
Fluorene	9.6	U	10	U								
Hexachlorobenzene	9.6	U	10	U								
Hexachlorobutadiene	9.6	U	10	U								
Hexachlorocyclopentadiene	48	U	52	U								
Hexachloroethane	9.6	U	10	U								
Indeno(1,2,3-cd)pyrene	9.6	U	10	U								
Isophorone	9.6	U	10	U								
N-Nitrosodimethylamine	9.6	U	10	U								
N-Nitrosodiphenylamine	9.6	U	10	U								
N-Nitrosodipropylamine	9.6	U	10	U								
Naphthalene	9.6	U	10	U								
Nitrobenzene	9.6	U	10	U								
o-Nitrophenol	19	U	21	U								
p-Chloro-m-cresol	9.6	U	10	U								
p-Nitrophenol	48	U	52	U								
PCP	58	U	62	U								
Phenanthrene	9.6	U	10	U								
Phenol	9.6	U	10	U								
Pyrene	9.6	U	10	U								

OU VI EDB

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU VI EDB

Analyte	000-173 Depth : 111.00 12/28/2021 ug/L		000-175 Depth : 105.00 12/29/2021 ug/L		000-178 Depth : 133.00 06/24/2021 ug/L		000-178 Depth : 133.00 12/28/2021 ug/L		000-283 Depth : 106.00 06/25/2021 ug/L		000-283 Depth : 107.00 12/28/2021 ug/L	
DBCP	0.0192	U	0.0192	U	0.019	U	0.0188	U	0.0191	U	0.0189	U
EDB	**0.0285**		0.0113	J	**0.167**		**0.156**		**0.0302**		**0.0235**	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU VI EDB

Analyte	000-284 Depth : 107.00 06/25/2021 ug/L		000-284 Depth : 107.00 12/28/2021 ug/L		000-498 Depth : 135.00 06/23/2021 ug/L		000-498 Depth : 135.00 12/29/2021 ug/L		000-499 Depth : 110.00 06/23/2021 ug/L		000-499 Depth : 110.00 12/21/2021 ug/L	
DBCP	0.0188	U	0.0186	U	0.0189	U	0.019	U	0.0189	U	0.0191	U
EDB	**0.0371**		**0.0265**		0.0189	U	0.019	U	0.0103	J	0.00991	J

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU VI EDB

Analyte	000-500 Depth : 135.00 03/18/2021 ug/L		000-500 Depth : 135.00 06/23/2021 ug/L		000-500 Depth : 135.00 09/28/2021 ug/L		000-500 Depth : 135.00 12/21/2021 ug/L		000-501 Depth : 125.00 06/23/2021 ug/L		000-501 Depth : 125.00 12/22/2021 ug/L	
DBCP	0.0188	U	0.0189	U	0.0188	U	0.0191	U	0.0188	U	0.0187	U
EDB	**0.0745**		**0.0785**		**0.0889**		**0.0945**		0.0188	U	0.0187	U

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU VI EDB

Analyte	000-507 Depth : 125.00 06/23/2021 ug/L		000-507 Depth : 125.00 12/21/2021 ug/L		000-508 Depth : 120.00 03/18/2021 ug/L		000-508 Depth : 120.00 06/24/2021 ug/L		000-508 Depth : 120.00 09/28/2021 ug/L		000-508 Depth : 120.00 12/22/2021 ug/L	
DBCP	0.019	U	0.0191	U	0.0188	U	0.0188	U	0.019	U	0.0187	U
EDB	**0.137**		0.0104	J	0.0188	U	0.0188	U	0.019	U	0.0187	U

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU VI EDB

Analyte	000-519 Depth : 130.00 03/18/2021 ug/L		000-519 Depth : 130.00 06/23/2021 ug/L		000-519 Depth : 130.00 09/28/2021 ug/L		000-519 Depth : 130.00 12/28/2021 ug/L		000-520 Depth : 140.00 06/25/2021 ug/L		000-520 Depth : 140.00 12/21/2021 ug/L	
DBCP	0.019	U	0.0188	U	0.0193	U	0.019	U	0.0189	U	0.0192	U
EDB	0.019	U	0.0188	U	0.0193	U	0.019	U	**0.223**		**0.238**	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU VI EDB

Analyte	000-524 Depth : 140.00 06/22/2021 ug/L		000-524 Depth : 140.00 12/30/2021 ug/L		000-527 Depth : 145.00 03/18/2021 ug/L		000-527 Depth : 145.00 06/23/2021 ug/L		000-527 Depth : 145.00 09/28/2021 ug/L		000-527 Depth : 145.00 12/28/2021 ug/L	
DBCP	0.0188	U	0.0192	U	0.0189	U	0.0188	U	0.0191	U	0.0189	U
EDB	0.0188	U	0.0192	U	0.0189	U	0.0188	U	0.0191	U	0.0189	U

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU VI EDB

Analyte	000-549 Depth : 145.00 03/17/2021 ug/L		000-549 Depth : 145.00 06/24/2021 ug/L		000-549 Depth : 145.00 09/28/2021 ug/L		000-549 Depth : 145.00 12/28/2021 ug/L		000-550 Depth : 130.00 03/19/2021 ug/L		000-550 Depth : 130.00 06/24/2021 ug/L	
DBCP	0.019	U	0.019	U	0.0191	U	0.019	U	0.0188	U	0.019	U
EDB	**0.298**		**0.266**		**0.321**		**0.287**		**0.11**		**0.0991**	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU VI EDB

Analyte	000-550 Depth : 130.00 09/29/2021 ug/L		000-550 Depth : 130.00 12/28/2021 ug/L		000-567 Depth : 145.00 03/17/2021 ug/L		000-567 Depth : 145.00 06/24/2021 ug/L		000-567 Depth : 145.00 09/28/2021 ug/L		000-567 Depth : 145.00 12/28/2021 ug/L	
DBCP	0.019	U	0.0191	U	0.038	DU	0.019	U	0.0187	U	0.0378	DU
EDB	**0.14**		**0.155**		**0.362**	D	**0.312**		**0.315**		**0.303**	D

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU VI EDB

Analyte	000-568 Depth : 160.00 03/17/2021 ug/L		000-568 Depth : 160.00 06/24/2021 ug/L		000-568 Depth : 160.00 09/28/2021 ug/L		000-568 Depth : 160.00 12/28/2021 ug/L		000-570 Depth : 160.00 12/27/2021 ug/L		000-571 Depth : 175.00 12/27/2021 ug/L	
DBCP	0.0952	DU	0.0952	DU	0.0974	DU	0.0952	DU	0.187	DU	0.188	DU
EDB	**0.511**	D	**0.494**	D	**0.502**	D	**0.471**	D	**1.25**	D	**1.46**	D

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: OU VI EDB

Analyte	000-572 Depth : 200.00 12/28/2021 ug/L											
DBCP	0.0943	DU										
EDB	**0.783**	D										

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: OU VI EDB

Analyte	000-524 Depth : 235.00 05/17/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U
Hexachlorobutadiene	0.5	U
Naphthalene	0.5	U

Site Background

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: Site Background

Analyte	017-01 Depth : 20.00 08/31/2021 ug/L		017-03 Depth : 120.00 08/31/2021 ug/L		017-04 Depth : 165.00 08/31/2021 ug/L		018-01 Depth : 25.00 08/31/2021 ug/L		018-02 Depth : 75.00 08/31/2021 ug/L		018-04 Depth : 145.00 08/31/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.31	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.37	J	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
8260 TVOC	0.31		0.37		0		0		0		0	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: Site Background

Analyte	018-05 Depth : 275.00 08/31/2021 ug/L		034-02 Depth : 135.00 09/02/2021 ug/L		034-03 Depth : 175.00 09/02/2021 ug/L							
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U						
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U						
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U						
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U						
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U						
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U						
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U						
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U						
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U						
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U						
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U						
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U						
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U						
Benzene	0.5	U	0.5	U	0.5	U						
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U						
Benzene, 1,3,5-trimethyl-	0.5	U	0.5	U	0.5	U						
Benzene, 1-methylethyl-	0.5	U	0.5	U	0.5	U						
Bromobenzene	0.5	U	0.5	U	0.5	U						
Bromodichloromethane	0.5	U	0.5	U	0.5	U						
Bromoform	0.5	U	0.5	U	0.5	U						
Carbon tetrachloride	0.5	U	0.5	U	0.5	U						
Chlorobenzene	0.5	U	0.5	U	0.5	U						
Chlorobromomethane	0.5	U	0.5	U	0.5	U						
Chloroethane	0.5	U	0.5	U	0.5	U						
Chloroform	0.5	U	0.5	U	0.5	U						
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U						
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U						
Cymene	0.5	U	0.5	U	0.5	U						
DBCP	0.5	U	0.5	U	0.5	U						
Dibromochloromethane	0.5	U	0.5	U	0.5	U						
Dibromomethane	0.5	U	0.5	U	0.5	U						
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U						
EDB	0.5	U	0.5	U	0.5	U						
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U						
Ethylbenzene	0.5	U	0.5	U	0.5	U						
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U						
m/p xylene	1	U	1	U	1	U						
Methyl bromide	0.5	U	0.5	U	0.5	U						
Methyl chloride	0.5	U	0.5	U	0.5	U						
Methyl tert-butyl ether	0.5	U	0.5	U	**0.82**							
Methylene chloride	0.5	U	0.5	U	0.5	U						
n-Butylbenzene	0.5	U	0.5	U	0.5	U						
n-Propylbenzene	0.5	U	0.5	U	0.5	U						
o-Chlorotoluene	0.5	U	0.5	U	0.5	U						
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U						
o-Xylene	0.5	U	0.5	U	0.5	U						
p-Chlorotoluene	0.5	U	0.5	U	0.5	U						
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U						
sec-Butylbenzene	0.5	U	0.5	U	0.5	U						
Styrene	0.5	U	0.5	U	0.5	U						
tert-Butylbenzene	0.5	U	0.5	U	0.5	U						
Tetrachloroethylene	0.5	U	0.5	U	0.5	U						
Toluene	0.5	U	0.5	U	0.5	U						
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U						
Trichloroethylene	0.5	U	0.5	U	0.5	U						
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U						
Vinyl chloride	0.5	U	0.5	U	0.5	U						
Xylene (total)	1.5	U	1.5	U	1.5	U						
8260 TVOC	0		0		0.82							

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: Site Background

Analyte	017-01 Depth : 20.00 08/31/2021 ug/L		017-03 Depth : 120.00 08/31/2021 ug/L		017-04 Depth : 165.00 08/31/2021 ug/L		018-01 Depth : 25.00 08/31/2021 ug/L		018-02 Depth : 75.00 08/31/2021 ug/L		018-04 Depth : 145.00 08/31/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: Site Background

Analyte	018-05 Depth : 275.00 08/31/2021 ug/L		034-02 Depth : 135.00 09/02/2021 ug/L		034-03 Depth : 175.00 09/02/2021 ug/L							
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U						
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U						
Naphthalene	0.5	U	0.5	U	0.5	U						

Current Landfill

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: Current Landfill

Analyte	087-09 Depth : 29.00 06/23/2021 ug/L		087-09 Depth : 29.00 07/28/2021 ug/L		087-09 Depth : 29.00 11/08/2021 ug/L		087-11 Depth : 16.00 06/24/2021 ug/L		087-11 Depth : 16.00 11/08/2021 ug/L		087-23 Depth : 32.50 06/24/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.22	J
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	**2.02**		**1.47**		**0.57**	
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	**0.9**		0.38	J	0.5	
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	**2.45**		**1.92**		**1.13**	
Chloroform	0.33	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	1	U	0.5	U	0.5	U	1	U	0.5	U	1	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	**1**	U	0.5	U	0.5	U	**1**	U	0.5	U	**1**	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.29	J	0.5	U	0.22	J
Methylene chloride	0.5	U	1.26	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.25	J	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	**0.71**		0.4	J	0.31	J
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
524.2 TVOC	0.55						6.62				5.99	
8260 TVOC			0		0				4.17			

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: Current Landfill

Analyte	087-23 Depth : 32.50 07/28/2021 ug/L		087-23 Depth : 32.50 11/08/2021 ug/L		087-24 Depth : 75.00 06/24/2021 ug/L		087-24 Depth : 75.00 11/09/2021 ug/L		087-26 Depth : 75.00 06/25/2021 ug/L		087-26 Depth : 75.00 11/08/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.47	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	**2.13**		**2.29**		**4.3**		**0.78**	J
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.5	U	0.5	U	1	U	0.5	U	1	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	0.5	U	0.5	U	**1**	U	0.5	U	**1**	U	0.5	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	1.18	U	0.5	U	0.5	U	1.46	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.21	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
524.2 TVOC					2.13				4.3			
8260 TVOC	0.68		0				2.29				0.78	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: Current Landfill

Analyte	087-27 Depth : 7.50 06/25/2021 ug/L		087-27 Depth : 7.50 11/08/2021 ug/L		088-109 Depth : 13.50 03/10/2021 ug/L		088-109 Depth : 13.50 06/23/2021 ug/L		088-109 Depth : 13.50 07/28/2021 ug/L		088-109 Depth : 13.50 11/08/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	**2.54**		**1.73**		0.5	U	**6.04**	
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	**0.57**		**0.82**	J	0.5	U	0.5	U	0.5	U	**0.72**	J
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.41	J	**0.93**	J	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	**0.82**	J	**3.89**		**2.46**		**0.79**	J	**19.8**	
Chloroform	**0.97**		0.5	U	0.2	J	0.3	J	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	1	U	0.5	U	1	U	1	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	**1**	U	0.5	U	1	U	**1**	U	0.5	U	0.5	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	0.5	U	0.5	U	0.5	U	1.24	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
524.2 TVOC	1.95				6.63		9.19					
8260 TVOC			2.57						0.79		26.56	

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: Current Landfill

Analyte	088-110 Depth : 17.50 06/23/2021 ug/L		088-110 Depth : 17.50 07/28/2021 ug/L		088-110 Depth : 17.50 11/08/2021 ug/L		088-21 Depth : 12.50 06/24/2021 ug/L		088-21 Depth : 125.00 11/09/2021 ug/L		088-22 Depth : 75.00 11/09/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	**4**		**1.37**		**1.33**		0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	**1.31**		**0.51**	J	**1.2**		0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.23	J	0.5	U	0.48	J	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	**5.87**		**2.56**		**6.05**		0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	**1**	U	0.5	U	0.5	U	**1**	U	0.5	U	0.5	U
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.5	U	1.23	U	0.5	U	0.5	U	1.46	U	1.47	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.41	J	0.5	U	0.44	J	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
524.2 TVOC	23.01						0					
8260 TVOC			4.44		9.5				0		0	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: Current Landfill

Analyte	088-23 Depth : 125.00 11/09/2021 ug/L		098-99 Depth : 44.50 03/10/2021 ug/L		098-99 Depth : 44.50 06/24/2021 ug/L		098-99 Depth : 44.50 11/09/2021 ug/L					
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1-Dichloroethane	0.5	U	**4.97**		**4.99**		0.5	U				
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U				
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U				
1,2,3-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
Benzene	0.5	U	0.5	U	0.5	U	0.5	U				
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U				
Benzene, 1,3,5-trimethyl-	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	0.5	U	0.5	U	0.5	U	0.5	U				
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U				
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U				
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U				
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U				
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U				
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.26	J	0.5	U				
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U				
Cymene	0.5	U	0.5	U	0.5	U	0.5	U				
DBCP	0.5	U	1	U	1	U	0.5	U				
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U				
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U				
Dichlorodifluoromethane	0.5	U	0.5	U	0.5	U	0.5	U				
EDB	0.5	U	0.5	U	0.5	U	0.5	U				
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U				
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
m/p xylene	0.5	U	1	U	**1**	U	0.5	U				
Methyl bromide	0.5	U	0.5	U	0.5	U	0.5	U				
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U				
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U				
Methylene chloride	1.29	U	0.5	U	0.5	U	1.24	U				
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U				
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U				
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U				
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
Styrene	0.5	U	0.5	U	0.5	U	0.5	U				
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U				
Toluene	0.5	U	0.5	U	0.5	U	0.5	U				
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U				
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U				
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U				
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U				
524.2 TVOC			4.97		5.25							
8260 TVOC	0						0					

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: Current Landfill

Analyte	087-09 Depth : 29.00 06/23/2021 ug/L		087-09 Depth : 29.00 07/28/2021 ug/L		087-09 Depth : 29.00 11/08/2021 ug/L		087-11 Depth : 16.00 06/24/2021 ug/L		087-11 Depth : 16.00 11/08/2021 ug/L		087-23 Depth : 32.50 06/24/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: Current Landfill

Analyte	087-23 Depth : 32.50 07/28/2021 ug/L		087-23 Depth : 32.50 11/08/2021 ug/L		087-24 Depth : 75.00 06/24/2021 ug/L		087-24 Depth : 75.00 11/09/2021 ug/L		087-26 Depth : 75.00 06/25/2021 ug/L		087-26 Depth : 75.00 11/08/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: Current Landfill

Analyte	087-27 Depth : 7.50 06/25/2021 ug/L		087-27 Depth : 7.50 11/08/2021 ug/L		088-109 Depth : 13.50 03/10/2021 ug/L		088-109 Depth : 13.50 06/23/2021 ug/L		088-109 Depth : 13.50 07/28/2021 ug/L		088-109 Depth : 13.50 11/08/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: Current Landfill

Analyte	088-110 Depth : 17.50 06/23/2021 ug/L		088-110 Depth : 17.50 07/28/2021 ug/L		088-110 Depth : 17.50 11/08/2021 ug/L		088-21 Depth : 12.50 06/24/2021 ug/L		088-21 Depth : 125.00 11/09/2021 ug/L		088-22 Depth : 75.00 11/09/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: Current Landfill

Analyte	088-23 Depth : 125.00 11/09/2021 ug/L		098-99 Depth : 44.50 03/10/2021 ug/L		098-99 Depth : 44.50 06/24/2021 ug/L		098-99 Depth : 44.50 11/09/2021 ug/L					
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U				
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U				

2021 Groundwater Data : Metals
Brookhaven National Laboratory
Project: Current Landfill

Analyte	087-09 Depth : 29.00 06/23/2021 ug/L		087-09 Depth : 29.00 11/08/2021 ug/L		087-11 Depth : 16.00 06/24/2021 ug/L		087-11 Depth : 16.00 11/08/2021 ug/L		087-23 Depth : 32.50 06/24/2021 ug/L		087-23 Depth : 32.50 11/08/2021 ug/L	
Aluminum	68	U	68	U	**508**		**221**		68	U	68	U
Antimony	1	U	1	U	1	U	1	U	1	U	1	U
Arsenic	2	U	2	U	**7.47**		**8.76**		**9.44**		**8.65**	
Barium	**20.3**	B	**18.9**		**44.5**	B	**28.4**		**26**	B	**18.7**	
Beryllium	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	1	U	1	U	1	U	1	U	1	U	1	U
Calcium	**17200**		**9610**		**29000**		**23500**		**7260**		**4360**	B
Chromium	**14.8**		**7.59**	B	1	U	1	U	1	U	1	U
Cobalt	1	U	1	U	1	U	1	U	**11.1**	B	**5.92**	B
Copper	**1.1**	B	**0.659**	B	**0.8**	B	**1.35**	B	**0.438**	B	**0.335**	B
Iron	30	U	30	U	**89100**		**83600**		**42400**		**20300**	
Lead	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Magnesium	**7410**		**4240**		**8330**		**4390**		**2290**		**1370**	
Manganese	**6.05**		**2.18**	B	**2160**		**1420**		**2240**		**2030**	
Mercury	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U
Nickel	**9.48**	B	**4.12**	B	1.5	U	1.5	U	1.5	U	1.5	U
Potassium	**982**	BE	**962**	B	**6440**		**4240**	B	**1050**	B	**857**	B
Selenium	2	U	1.5	U	2	U	1.5	U	2	U	1.5	U
Silver	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
Sodium	**15600**		**22800**		**8720**		**3470**	B	**4400**	B	**4520**	B
Thallium	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
Vanadium	1	U	1	U	**1.65**	B	1	U	1	U	1	U
Zinc	**3.36**	B	**48.5**	R	**7.06**	B	**13.4**	B	**7.23**	B	**16.8**	B

2021 Groundwater Data : Metals
Brookhaven National Laboratory
Project: Current Landfill

Analyte	087-24 Depth : 75.00 06/24/2021 ug/L		087-24 Depth : 75.00 11/09/2021 ug/L		087-26 Depth : 75.00 06/25/2021 ug/L		087-26 Depth : 75.00 11/08/2021 ug/L		087-27 Depth : 7.50 06/25/2021 ug/L		087-27 Depth : 7.50 11/08/2021 ug/L	
Aluminum	68	U	68	U	68	U	68	U	68	U	68	U
Antimony	1	U	1	U	1	U	1	U	1	U	1	U
Arsenic	2	U	5	U	2	U	2	U	**5.16**		**7.1**	
Barium	**19.8**	B	**19**	B	**38**	B	**61.5**		**24**	B	**38.3**	
Beryllium	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	1	U	1	U	1	U	1	U	1	U	1	U
Calcium	**11100**		**11100**		**8240**		**12800**		**18700**		**21600**	
Chromium	1	U	1	U	1	U	1	U	1	U	1	U
Cobalt	1	U	1	U	1	U	1	U	**6.64**	B	**8.31**	B
Copper	**0.364**	B	**0.494**	B	**2.16**		**1.87**	B	**0.639**	B	**0.46**	B
Iron	30	U	30	U	30	U	**131**		**44600**		**57600**	
Lead	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Magnesium	**6730**		**6480**		**5320**		**8240**		**5710**		**4550**	
Manganese	1	U	1	U	1	U	**3.7**	B	**1370**		**1410**	
Mercury	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U
Nickel	1.5	U	1.5	U	1.5	U	1.5	U	**2.41**	B	**2.21**	B
Potassium	**1530**	B	**1430**	B	**1710**	B	**2180**	B	**2540**	B	**3330**	B
Selenium	2	U	6	U	2	U	1.5	U	2	U	1.5	U
Silver	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
Sodium	**26200**		**25200**		**32000**		**38300**		**15100**		**19800**	
Thallium	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
Vanadium	1	U	1	U	1	U	1	U	1	U	1	U
Zinc	**4.23**	B	**3.51**	B	3.3	U	**14.8**	B	**4**	B	**15.1**	B

2021 Groundwater Data : Metals
Brookhaven National Laboratory
Project: Current Landfill

Analyte	088-109 Depth : 13.50 06/23/2021 ug/L		088-109 Depth : 13.50 11/08/2021 ug/L		088-110 Depth : 17.50 06/23/2021 ug/L		088-110 Depth : 17.50 11/08/2021 ug/L		088-21 Depth : 12.50 06/24/2021 ug/L		088-21 Depth : 125.00 11/09/2021 ug/L	
Aluminum	68	U	68	U	68	U	68	U	68	U	68	U
Antimony	1	U	1	U	1	U	1	U	1	U	1	U
Arsenic	**4.32**	B	**8.75**		**9.84**		**9.94**		2	U	5	U
Barium	**48.8**	B	**44**		**24.5**	B	**40.6**		**35.6**	B	**49**	B
Beryllium	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	1	U	1	U	1	U	1	U	1	U	1	U
Calcium	**24700**		**27800**		**18300**		**23000**		**13800**		**10500**	
Chromium	1	U	1	U	1	U	1	U	1	U	1	U
Cobalt	**5.54**	B	**2.31**	B	**4.16**	B	**4.65**	B	1	U	1	U
Copper	**3.28**		**2.3**	R	0.3	U	0.3	U	**0.468**	B	**0.897**	B
Iron	**35300**		**48400**		**59300**		**63800**		**75.1**	B	**79**	B
Lead	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Magnesium	**5150**		**6070**		**5070**		**6300**		**7620**		**5640**	
Manganese	**1640**		**1330**		**3680**		**3570**		**11.9**		**12.1**	
Mercury	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U
Nickel	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Potassium	**3670**	BE	**4520**	B	**2190**	BE	**3440**	B	**1780**	B	**2320**	B
Selenium	2	U	1.5	U	2	U	1.5	U	2	U	**8.66**	B
Silver	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
Sodium	**7650**		**13100**		**20700**		**18300**		**94700**		**89200**	
Thallium	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
Vanadium	**1.74**	B	1	U	**2.08**	B	1	U	1	U	1	U
Zinc	**9.78**	B	**53.9**	R	**3.38**	B	**63.1**	R	**5.49**	B	**6.65**	B

2021 Groundwater Data : Metals
Brookhaven National Laboratory
Project: Current Landfill

Analyte	088-22 Depth : 75.00 11/09/2021 ug/L		088-23 Depth : 125.00 11/09/2021 ug/L									
Aluminum	68	U	68	U								
Antimony	1	U	1	U								
Arsenic	5	U	5	U								
Barium	**47.3**	B	**3.96**	B								
Beryllium	1	U	1	U								
Cadmium	1	U	1	U								
Calcium	**10300**		**12300**									
Chromium	1	U	1	U								
Cobalt	1	U	1	U								
Copper	**0.757**	B	0.3	U								
Iron	**116**		**97.1**	B								
Lead	0.5	U	0.5	U								
Magnesium	**7890**		**3050**									
Manganese	**15**		**12.3**									
Mercury	0.067	U	0.067	U								
Nickel	1.5	U	1.5	U								
Potassium	**1850**	B	**662**	B								
Selenium	**14.9**	B	**6.26**	B								
Silver	0.3	U	0.3	U								
Sodium	**18300**		**12600**									
Thallium	0.6	U	0.6	U								
Vanadium	1	U	1	U								
Zinc	**4.92**	B	**3.73**	B								

2021 Groundwater Data : General Chemistry

Brookhaven National Laboratory

Project: Current Landfill

Analyte	087-09 Depth : 29.00 06/23/2021 ug/L		087-09 Depth : 29.00 11/08/2021 ug/L		087-11 Depth : 16.00 06/24/2021 ug/L		087-11 Depth : 16.00 11/08/2021 ug/L		087-23 Depth : 32.50 06/24/2021 ug/L		087-23 Depth : 32.50 11/08/2021 ug/L	
Alkalinity (as CaCO3)	**45.9**		**29.1**		**232**		**173**		**73.3**		**45.8**	
Ammonia (as N)	0.017	U	0.0534	U	**6.5**		**2.97**		**0.579**		**0.394**	
Chloride	**19.5**		**30.9**		**7.69**		**4.05**		**7.11**		**4.63**	
Cyanide	0.00167	U	0.00167	U	0.00167	U	0.00167	U	0.00167	U	0.00167	U
Nitrate (as N)	**3.78**		**1.3**		**0.184**	J	0.066	U	**0.814**		**0.15**	
Nitrite (as N)	0.033	U	0.033	U	0.033	U	0.033	U	**0.0402**	J	0.033	U
Nitrite + Nitrate-N	**4.67**		**1.46**		**0.0439**	J	0.17	U	**0.471**		**0.104**	
Nitrogen	**4.73**		**1.47**		**14.7**		**3.67**		**1.39**		**0.619**	
Sulfate	**19.5**		**14.8**		**0.517**		**0.45**		**5.23**		**5.62**	
TDS	**144**		**114**		**224**		**211**		**95.7**		**62.9**	
Total Kjeldahl Nitrogen	**0.0604**	J	0.033	U	**14.7**		**3.67**		**0.918**		**0.515**	
TSS	0.57	U	0.57	U	**57.3**		**21.1**		**7.1**		**3.2**	

2021 Groundwater Data : General Chemistry
Brookhaven National Laboratory
Project: Current Landfill

Analyte	087-24 Depth : 75.00 06/24/2021 ug/L		087-24 Depth : 75.00 11/09/2021 ug/L		087-26 Depth : 75.00 06/25/2021 ug/L		087-26 Depth : 75.00 11/08/2021 ug/L		087-27 Depth : 7.50 06/25/2021 ug/L		087-27 Depth : 7.50 11/08/2021 ug/L	
Alkalinity (as CaCO3)	**29.3**		**31.8**		**26.1**		**31.8**		**127**		**138**	
Ammonia (as N)	**0.0499**	J	**0.0328**	J	**0.0195**	J	0.0482	U	**1.35**		**2.02**	
Chloride	**48.6**		**42.8**		**55.6**		**75.8**		**20.9**		**28.6**	
Cyanide	0.00167	U	0.00167	U	0.00167	U	0.00167	U	0.00167	U	0.00167	U
Nitrate (as N)	**0.382**		**0.388**		**0.394**		**0.562**		**0.0529**	J	0.033	U
Nitrite (as N)	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U
Nitrite + Nitrate-N	**0.423**		**0.358**		**0.439**		**0.62**		**0.107**		0.17	U
Nitrogen	**0.423**		**0.55**		**0.449**		**0.639**		**2.44**		**2.28**	
Sulfate	**8.47**		**9.35**		**9.03**		**7.76**		**9.24**		**4.81**	
TDS	**137**		**141**		**144**		**204**		**167**		**236**	
Total Kjeldahl Nitrogen	0.033	U	**0.192**		0.033	U	0.033	U	**2.33**		**2.28**	
TSS	0.57	U	0.57	U	**1**	J	0.57	U	**26.8**		**11.6**	

2021 Groundwater Data : General Chemistry
Brookhaven National Laboratory
Project: Current Landfill

Analyte	088-109 Depth : 13.50 06/23/2021 ug/L		088-109 Depth : 13.50 11/08/2021 ug/L		088-110 Depth : 17.50 06/23/2021 ug/L		088-110 Depth : 17.50 11/08/2021 ug/L		088-21 Depth : 12.50 06/24/2021 ug/L		088-21 Depth : 125.00 11/09/2021 ug/L	
Alkalinity (as CaCO3)	**129**		**169**		**134**		**142**		**26.1**		**35.4**	
Ammonia (as N)	**1.46**		**2.35**		**0.245**		**1.12**		0.017	U	**0.12**	
Chloride	**8.45**		**15**		**30**		**24.2**		**173**		**141**	
Cyanide	0.00167	U	0.00167	U	0.00167	U	0.00167	U	0.00167	U	0.00167	U
Nitrate (as N)	**0.042**	J	**0.0964**	J	**0.0454**	J	0.033	U	**0.166**		**0.405**	
Nitrite (as N)	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U
Nitrite + Nitrate-N	**0.0611**		0.17	U	**0.0638**		0.17	U	**0.154**		**0.291**	
Nitrogen	**2.34**		**3.17**		**0.533**		**1.22**		**0.229**		**0.494**	
Sulfate	**9.19**		**5.2**		**11.8**		**9.86**		**4.13**		**5.26**	
TDS	**150**		**210**		**191**		**223**		**354**		**291**	
Total Kjeldahl Nitrogen	**2.28**		**3.17**		**0.469**		**1.22**		**0.0748**	J	**0.203**	
TSS	**14.4**		**18.4**		**16**		**18.9**		**1.1**	J	0.57	U

2021 Groundwater Data : General Chemistry

Brookhaven National Laboratory

Project: Current Landfill

Analyte	088-22 Depth : 75.00 11/09/2021 ug/L		088-23 Depth : 125.00 11/09/2021 ug/L									
Alkalinity (as CaCO3)	**21.7**		**33**									
Ammonia (as N)	**0.0194**	J	**0.043**	J								
Chloride	**44.5**		**14.8**									
Cyanide	0.00167	U	0.00167	U								
Nitrate (as N)	**0.426**		**0.441**									
Nitrite (as N)	0.033	U	0.033	U								
Nitrite + Nitrate-N	**0.453**		**0.467**									
Nitrogen	**0.512**		**0.483**									
Sulfate	**8.87**		**14.4**									
TDS	**151**		**75.7**									
Total Kjeldahl Nitrogen	**0.0591**	J	0.033	U								
TSS	0.57	U	1.14	U								

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: Current Landfill

	087-23 Depth : 32.50 11/08/2021 pCi/l				087-27 Depth : 7.50 11/08/2021 pCi/l				088-109 Depth : 13.50 11/08/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	-0.348	U	9.75	5.89	5.89	U	10.7	6.58	-0.199	U	17.2	10.3
Beryllium-7	-3.2	U	23.7	13.7	8.93	U	28.3	14.7	13.8	U	27	13.7
Cesium-134	-0.906	U	2.96	1.93	1.52	U	3.14	2.12	1.12	U	3.19	1.58
Cesium-137	-0.924	U	2.78	1.58	0.267	U	3.06	1.64	-0.503	U	2.79	1.63
Co-60	1.85	U	3.57	1.67	0.5	U	3.19	1.6	1.26	U	3.62	1.76
Cobalt-57	-1.25	U	2.07	1.28	-1.02	U	2.31	1.54	0.0537	U	2.41	1.39
Europium-152	1.57	U	7.9	4.3	0.235	U	8.46	4.85	-4.78	U	7.8	4.64
Europium-154	-3.86	U	7.85	4.61	0.0981	U	7.79	4.57	-4.12	U	7.59	4.74
Europium-155	-0.014	U	8.02	4.62	0.0186	U	9.33	5.17	0.575	U	9.73	5.52
Manganese-54	-0.349	U	2.84	1.59	0.252	U	2.64	1.59	0.181	U	2.78	1.44
Sodium-22	-1.22	U	2.72	1.58	0.188	U	2.72	1.56	-1.42	U	2.69	1.67
Strontium-90	0.0244	U	0.756	0.413	1.21	N2	0.708	0.524	0.656	U	0.678	0.438
Tritium	133	U	432	251	364	U	445	273	317	U	440	267
Zinc-65	3.42	U	6.86	2.75	1.31	U	5.53	3.15	-3.24	U	5.59	3.46

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: Current Landfill

	088-21 Depth : 125.00 11/09/2021 pCi/l											
Analyte	Result	Qual	MDA	Error								
Americium-241	-2.91	U	16.3	10								
Beryllium-7	-0.681	U	22.9	12.4								
Cesium-134	-1.54	U	2.68	1.65								
Cesium-137	0.104	U	2.76	1.49								
Co-60	0.103	U	2.8	1.41								
Cobalt-57	-1.05	U	2.36	1.42								
Europium-152	0.831	U	8.31	4.43								
Europium-154	1.92	U	8.71	4.24								
Europium-155	1.42	U	10.4	5.88								
Manganese-54	-0.251	U	2.7	1.52								
Sodium-22	0.724	U	3.09	1.5								
Strontium-90	**4.3**		0.909	0.828								
Tritium	79	U	444	254								
Zinc-65	-0.212	U	5.23	4.19								

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2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: g-2

	054-07 Depth : 35.00 04/08/2021 pCi/l				054-07 Depth : 35.00 10/27/2021 pCi/l				054-124 Depth : 32.50 04/08/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	**23200**		311	2260	333	U	369	240	378	U	399	257

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: g-2

	054-124 Depth : 32.50 10/27/2021 pCi/l				054-126 Depth : 35.00 04/08/2021 pCi/l				054-126 Depth : 35.00 10/25/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	**6390**		384	803	-27	U	388	220	144	U	364	218

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: g-2

	054-184 Depth : 32.50 04/08/2021 pCi/l				054-184 Depth : 32.50 10/27/2021 pCi/l				054-185 Depth : 32.50 04/08/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-113	U	404	219	167	U	357	217	22.5	U	396	227

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: g-2

	054-185 Depth : 32.50 10/27/2021 pCi/l				054-65 Depth : 25.20 04/08/2021 pCi/l				054-65 Depth : 25.20 10/25/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	284	U	367	234	419		400	260	171	U	365	221

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: g-2

	064-95 Depth : 32.50 04/08/2021 pCi/l				064-95 Depth : 32.50 10/27/2021 pCi/l				065-121 Depth : 26.50 12/01/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-176	U	415	219	428		348	240	-97.3	U	354	186

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: g-2

	065-122 Depth : 28.80 11/17/2021 pCi/l				065-123 Depth : 25.70 11/29/2021 pCi/l				065-124 Depth : 25.80 11/29/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	22.5	U	354	198	-50.5	U	348	188	131	U	347	206

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: g-2

	065-193 Depth : 55.00 12/01/2021 pCi/l				065-194 Depth : 50.00 11/29/2021 pCi/l				065-321 Depth : 32.00 11/17/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-27	U	348	191	9.01	U	353	196	-45.5	U	347	188

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: g-2

	065-322 Depth : 32.00 11/17/2021 pCi/l				065-323 Depth : 30.00 11/17/2021 pCi/l				065-324 Depth : 28.00 11/17/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-61.3	U	354	190	40.5	U	354	200	13.5	U	342	192

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BLIP Facility
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2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: BLIP Facility (BLIP)

	064-46 Depth : 54.50 10/25/2021 pCi/l				064-47 Depth : 55.50 04/28/2021 pCi/l				064-47 Depth : 55.50 10/25/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	288	U	371	236	-12.2	U	332	183	176	U	371	224

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: BLIP Facility (BLIP)

	064-48 Depth : 55.50 04/28/2021 pCi/l				064-48 Depth : 55.50 10/25/2021 pCi/l				064-67 Depth : 58.50 04/28/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	304	U	339	219	441		381	255	**1610**		328	338

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: BLIP Facility (BLIP)

	064-67 Depth : 58.50 10/25/2021 pCi/l											
Analyte	Result	Qual	MDA	Error								
Tritium	**806**		376	289								

William Floyd Wellfield Sentinel

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: William Floyd Wellfield Sentinel

Analyte	109-03 Depth : 135.00 03/30/2021 ug/L		109-03 Depth : 130.00 06/09/2021 ug/L		109-03 Depth : 130.00 06/30/2021 ug/L		109-03 Depth : 130.00 09/22/2021 ug/L		109-03 Depth : 130.00 10/11/2021 ug/L		109-03 Depth : 130.00 12/09/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U			0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethene												
1,2-Dichloropropane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane			0.2	U	0.2	U			0.2	U	0.2	U
2,2-Dichloropropane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone												
Acetone												
Benzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Carbon disulfide												
Carbon tetrachloride	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	**0.85**				**0.58**		0.5	U	**0.59**	J	**0.88**	J
cis-1,2-Dichloroethylene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U			0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U			0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U			1	U	1	U	0.5	U	0.5	U
Methyl bromide	0.57	U			0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U			0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U

Trichloroethylene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Vinyl acetate												
Vinyl chloride	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U			1.5	U	1.5	U				
524.2 TVOC	0.85				0.58							
8260 TVOC							0		0.59		0.88	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: William Floyd Wellfield Sentinel

Analyte	109-04 Depth : 212.50 03/30/2021 ug/L		109-04 Depth : 212.50 06/09/2021 ug/L		109-04 Depth : 212.50 06/30/2021 ug/L		109-04 Depth : 212.50 09/22/2021 ug/L		109-04 Depth : 212.50 10/11/2021 ug/L		109-04 Depth : 212.50 12/09/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U			0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethene												
1,2-Dichloropropane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dioxane			0.2	U	0.2	U			0.2	U	0.2	U
2,2-Dichloropropane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone												
Acetone												
Benzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Carbon disulfide												
Carbon tetrachloride	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U			0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U			0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U			1	U	1	U	0.5	U	0.5	U
Methyl bromide	0.57	U			0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U			0.5	U	0.5	U	0.5	U	0.5	U
n-Butylbenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U

Trichloroethylene	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Vinyl acetate												
Vinyl chloride	0.5	U			0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U			1.5	U	1.5	U				
524.2 TVOC	0				0							
8260 TVOC							0		0		0	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: William Floyd Wellfield Sentinel

Analyte	109-12 Depth : 265.00 02/25/2021 ug/L		109-12 Depth : 265.00 06/04/2021 ug/L		109-12 Depth : 265.00 06/09/2021 ug/L		109-12 Depth : 265.00 06/30/2021 ug/L		109-12 Depth : 265.00 09/22/2021 ug/L		109-12 Depth : 265.00 10/12/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U					0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U					0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U					0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U					0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U					0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U					0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U					0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U					0.5	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U					0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U					0.5	U	0.5	U
1,2-Dichloroethene												
1,2-Dichloropropane	0.5	U	0.5	U					0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U					0.5	U	0.5	U
1,4-Dioxane					0.2	U	0.2	U			0.2	U
2,2-Dichloropropane	0.5	U	0.5	U					0.5	U	0.5	U
2-Hexanone												
Acetone												
Benzene	0.5	U	0.5	U					0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U					0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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	0.5	U	0.5	U					0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U					0.5	U	0.5	U
Bromoform	0.5	U	0.5	U					0.5	U	0.5	U
Carbon disulfide												
Carbon tetrachloride	0.5	U	0.5	U					0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U					0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U					0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U					0.5	U	0.5	U
Chloroform	0.5	U	0.5	U					0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U					0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U					0.5	U	0.5	U
Cymene	0.5	U	0.5	U					0.5	U	0.5	U
DBCP	0.63	U	0.5	U					0.5	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U					0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U					0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U					0.5	U	0.5	U
EDB	0.5	U	0.5	U					0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U					0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U					0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U					0.5	U	0.5	U
m/p xylene	1	U	1	U					1	U	0.5	U
Methyl bromide	0.57	U	0.5	U					0.5	U	0.5	U
Methyl chloride	0.5	U	0.5	U					0.5	U	0.5	U
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether	0.5	U	0.5	U					0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U					0.5	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U					0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U					0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U					0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U					0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U					0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U					0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U					0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U					0.5	U	0.5	U
Styrene	0.5	U	0.5	U					0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U					0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U					0.5	U	0.5	U
Toluene	0.5	U	0.5	U					0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U					0.5	U	0.5	U

Trichloroethylene	0.5	U	0.5	U					0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U					0.5	U	0.5	U
Vinyl acetate												
Vinyl chloride	0.5	U	0.5	U					0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U					1.5	U		
524.2 TVOC	0		0									
8260 TVOC									0		0	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: William Floyd Wellfield Sentinel

Analyte	109-12 Depth : 265.00 12/29/2021 ug/L		109-13 Depth : 238.00 02/25/2021 ug/L		109-13 Depth : 238.00 06/04/2021 ug/L		109-13 Depth : 238.00 06/09/2021 ug/L		109-13 Depth : 238.00 06/30/2021 ug/L		109-13 Depth : 238.00 09/22/2021 ug/L	
1,1,1,2-Tetrachloroethane	1	U	0.5	U	0.5	U					0.5	U
1,1,1-Trichloroethane	1	U	0.5	U	0.5	U					0.5	U
1,1,2,2-Tetrachloroethane	1	U	0.5	U	0.5	U					0.5	U
1,1,2-Trichloroethane	1	U	0.5	U	0.5	U					0.5	U
1,1-Dichloroethane	1	U	0.5	U	0.5	U					0.5	U
1,1-Dichloroethylene	1	U	0.5	U	0.5	U					0.5	U
1,1-Dichloropropene	1	U	0.5	U	0.5	U					0.5	U
1,2,3-Trichlorobenzene	1	U	0.59	U	0.5	U					0.5	U
1,2,3-Trichloropropane	1	U	0.5	U	0.5	U					0.5	U
1,2-Dichloroethane	1	U	0.5	U	0.5	U					0.5	U
1,2-Dichloroethene	2	U										
1,2-Dichloropropane	1	U	0.5	U	0.5	U					0.5	U
1,3-Dichloropropane	1	U	0.5	U	0.5	U					0.5	U
1,4-Dioxane	0.8	U					0.2	U	0.2	U		
2,2-Dichloropropane	1	U	0.5	U	0.5	U					0.5	U
2-Hexanone	5	U										
Acetone	5	U										
Benzene	0.52	J	0.5	U	0.5	U					0.5	U
Benzene, 1,2,4-trimethyl	1	U	0.5	U	0.5	U					0.5	U
Benzene, 1,3,5-trimethyl-	2	U	0.5	U	0.5	U					0.5	U
Benzene, 1-methylethyl-	1	U	0.5	U	0.5	U					0.5	U
Bromobenzene	1	U	0.5	U	0.5	U					0.5	U
Bromodichloromethane	1	U	0.5	U	0.5	U					0.5	U
Bromoform	1	U	0.5	U	0.5	U					0.5	U
Carbon disulfide	5	U										
Carbon tetrachloride	1	U	0.5	U	0.5	U					0.5	U
Chlorobenzene	1	U	0.5	U	0.5	U					0.5	U
Chlorobromomethane	1	U	0.5	U	0.5	U					0.5	U
Chloroethane	1	U	0.5	U	0.5	U					0.5	U
Chloroform	1	U	0.5	U	0.5	U					0.5	U
cis-1,2-Dichloroethylene	1	U	0.5	U	0.5	U					0.5	U
cis-1,3-Dichloropropene	1	U	0.5	U	0.5	U					0.5	U
Cymene	1	U	0.5	U	0.5	U					0.5	U
DBCP	1	U	0.63	U	0.5	U					0.5	U
Dibromochloromethane	1	U	0.5	U	0.5	U					0.5	U
Dibromomethane	1	U	0.5	U	0.5	U					0.5	U
Dichlorodifluoromethane	1	U	0.66	U	0.5	U					0.5	U
EDB	1	U	0.5	U	0.5	U					0.5	U
Ethene, 1,2-dichloro-, (E)-	1	U	0.5	U	0.5	U					0.5	U
Ethylbenzene	1	U	0.5	U	0.5	U					0.5	U
m-Dichlorobenzene	1	U	0.5	U	0.5	U					0.5	U
m/p xylene	2	U	1	U	1	U					1	U
Methyl bromide	1	U	0.57	U	0.5	U					0.5	U
Methyl chloride	1	U	0.5	U	0.5	U					0.5	U
Methyl ethyl ketone	5	U										
Methyl isobutyl ketone (MIBK)	5	U										
Methyl tert-butyl ether	1	U	0.5	U	0.5	U					0.5	U
Methylene chloride	5	U	0.99	U	0.5	U					0.5	U
n-Butylbenzene	1	U	0.5	U	0.5	U					0.5	U
n-Propylbenzene	1	U	0.5	U	0.5	U					0.5	U
o-Chlorotoluene	1	U	0.5	U	0.5	U					0.5	U
o-Dichlorobenzene	1	U	0.5	U	0.5	U					0.5	U
o-Xylene	1	U	0.5	U	0.5	U					0.5	U
p-Chlorotoluene	1	U	0.5	U	0.5	U					0.5	U
p-Dichlorobenzene	1	U	0.5	U	0.5	U					0.5	U
sec-Butylbenzene	1	U	0.5	U	0.5	U					0.5	U
Styrene	1	U	0.5	U	0.5	U					0.5	U
tert-Butylbenzene	1	U	0.5	U	0.5	U					0.5	U
Tetrachloroethylene	1	U	0.5	U	0.5	U					0.5	U
Toluene	0.37	J	0.5	U	0.5	U					0.5	U
trans-1,3-Dichloropropene	1	U	0.5	U	0.5	U					0.5	U

Trichloroethylene	1	U	0.5	U	0.5	U					0.5	U
Trichlorofluoromethane	1	U	0.5	U	0.5	U					0.5	U
Vinyl acetate	5	U										
Vinyl chloride	1	U	0.5	U	0.5	U					0.5	U
Xylene (total)	3	U	0.5	U	1.5	U					1.5	U
524.2 TVOC			0		0							
8260 TVOC	0.89										0	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: William Floyd Wellfield Sentinel

Analyte	109-13 Depth : 238.00 10/12/2021 ug/L		109-13 Depth : 238.00 12/30/2021 ug/L		117-01 Depth : 85.00 10/21/2021 ug/L		117-02 Depth : 85.00 10/21/2021 ug/L		117-04 Depth : 135.00 10/07/2021 ug/L		117-05 Depth : 135.00 10/08/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U								
1,1,1-Trichloroethane	0.5	U	0.5	U								
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U								
1,1,2-Trichloroethane	0.5	U	0.5	U								
1,1-Dichloroethane	0.5	U	0.5	U								
1,1-Dichloroethylene	0.5	U	0.5	U								
1,1-Dichloropropene	0.5	U	0.5	U								
1,2,3-Trichlorobenzene	0.5	U	0.5	U								
1,2,3-Trichloropropane	0.5	U	0.5	U								
1,2-Dichloroethane	0.5	U	0.5	U								
1,2-Dichloroethene												
1,2-Dichloropropane	0.5	U	0.5	U								
1,3-Dichloropropane	0.5	U	0.5	U								
1,4-Dioxane	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
2,2-Dichloropropane	0.5	U	0.5	U								
2-Hexanone												
Acetone												
Benzene	0.5	U	0.5	U								
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U								
Benzene, 1,3,5-trimethyl-	0.5	U	0.5	U								
Benzene, 1-methylethyl-	0.5	U	0.5	U								
Bromobenzene	0.5	U	0.5	U								
Bromodichloromethane	0.5	U	0.5	U								
Bromoform	0.5	U	0.5	U								
Carbon disulfide												
Carbon tetrachloride	0.5	U	0.5	U								
Chlorobenzene	0.5	U	0.5	U								
Chlorobromomethane	0.5	U	0.5	U								
Chloroethane	0.5	U	0.5	U								
Chloroform	0.5	U	0.5	U								
cis-1,2-Dichloroethylene	0.5	U	0.5	U								
cis-1,3-Dichloropropene	0.5	U	0.5	U								
Cymene	0.5	U	0.5	U								
DBCP	0.5	U	0.5	U								
Dibromochloromethane	0.5	U	0.5	U								
Dibromomethane	0.5	U	0.5	U								
Dichlorodifluoromethane	0.5	U	0.5	U								
EDB	0.5	U	0.5	U								
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U								
Ethylbenzene	0.5	U	0.5	U								
m-Dichlorobenzene	0.5	U	0.5	U								
m/p xylene	0.5	U	0.5	U								
Methyl bromide	0.5	U	0.5	U								
Methyl chloride	0.5	U	0.5	U								
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether	0.5	U	0.5	U								
Methylene chloride	0.5	U	0.5	U								
n-Butylbenzene	0.5	U	0.5	U								
n-Propylbenzene	0.5	U	0.5	U								
o-Chlorotoluene	0.5	U	0.5	U								
o-Dichlorobenzene	0.5	U	0.5	U								
o-Xylene	0.5	U	0.5	U								
p-Chlorotoluene	0.5	U	0.5	U								
p-Dichlorobenzene	0.5	U	0.5	U								
sec-Butylbenzene	0.5	U	0.5	U								
Styrene	0.5	U	0.5	U								
tert-Butylbenzene	0.5	U	0.5	U								
Tetrachloroethylene	0.5	U	0.5	U								
Toluene	0.5	U	0.5	U								
trans-1,3-Dichloropropene	0.5	U	0.5	U								

Trichloroethylene	0.5	U	0.5	U								
Trichlorofluoromethane	0.5	U	0.5	U								
Vinyl acetate												
Vinyl chloride	0.5	U	0.5	U								
Xylene (total)												
524.2 TVOC												
8260 TVOC	0		0									

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: William Floyd Wellfield Sentinel

Analyte	117-05 Depth : 135.00 12/10/2021 ug/L		117-06 Depth : 135.00 10/07/2021 ug/L		117-06 Depth : 135.00 12/29/2021 ug/L							
1,1,1,2-Tetrachloroethane												
1,1,1-Trichloroethane												
1,1,2,2-Tetrachloroethane												
1,1,2-Trichloroethane												
1,1-Dichloroethane												
1,1-Dichloroethylene												
1,1-Dichloropropene												
1,2,3-Trichlorobenzene												
1,2,3-Trichloropropane												
1,2-Dichloroethane												
1,2-Dichloroethene												
1,2-Dichloropropane												
1,3-Dichloropropane												
1,4-Dioxane	0.2	U	0.2	U	0.8	U						
2,2-Dichloropropane												
2-Hexanone												
Acetone												
Benzene												
Benzene, 1,2,4-trimethyl												
Benzene, 1,3,5-trimethyl-												
Benzene, 1-methylethyl-												
Bromobenzene												
Bromodichloromethane												
Bromoform												
Carbon disulfide												
Carbon tetrachloride												
Chlorobenzene												
Chlorobromomethane												
Chloroethane												
Chloroform												
cis-1,2-Dichloroethylene												
cis-1,3-Dichloropropene												
Cymene												
DBCP												
Dibromochloromethane												
Dibromomethane												
Dichlorodifluoromethane												
EDB												
Ethene, 1,2-dichloro-, (E)-												
Ethylbenzene												
m-Dichlorobenzene												
m/p xylene												
Methyl bromide												
Methyl chloride												
Methyl ethyl ketone												
Methyl isobutyl ketone (MIBK)												
Methyl tert-butyl ether												
Methylene chloride												
n-Butylbenzene												
n-Propylbenzene												
o-Chlorotoluene												
o-Dichlorobenzene												
o-Xylene												
p-Chlorotoluene												
p-Dichlorobenzene												
sec-Butylbenzene												
Styrene												
tert-Butylbenzene												
Tetrachloroethylene												
Toluene												
trans-1,3-Dichloropropene												

Trichloroethylene												
Trichlorofluoromethane												
Vinyl acetate												
Vinyl chloride												
Xylene (total)												
524.2 TVOC												
8260 TVOC												

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: William Floyd Wellfield Sentinel

Analyte	109-03 Depth : 135.00 03/30/2021 ug/L		109-03 Depth : 130.00 06/30/2021 ug/L		109-03 Depth : 130.00 09/22/2021 ug/L		109-03 Depth : 130.00 10/11/2021 ug/L		109-03 Depth : 130.00 12/09/2021 ug/L		109-04 Depth : 212.50 03/30/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.5	U	0.5	U	0.5	U	0.55	U
bis-chloroisopropyl ether												
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.5	U	0.5	U	0.5	U	0.67	U
Perfluorooctanesulfonate (PFOS)			1.72	U	1.73	U	1.75	U	1.72	U		
Perfluorooctanoic acid (PFOA)			1.72	U	1.73	U	1.75	U	1.72	U		

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: William Floyd Wellfield Sentinel

Analyte	109-04 Depth : 212.50 06/30/2021 ug/L		109-04 Depth : 212.50 09/22/2021 ug/L		109-04 Depth : 212.50 10/11/2021 ug/L		109-04 Depth : 212.50 12/09/2021 ug/L		109-12 Depth : 265.00 02/25/2021 ug/L		109-12 Depth : 265.00 06/04/2021 ug/L	
1,2,4-Trichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.55	U	0.5	U
bis-chloroisopropyl ether												
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.5	U	0.5	U	0.5	U	0.5	U	0.67	U	0.5	U
Perfluorooctanesulfonate (PFOS)	1.82	U	1.85	U	1.87	U	2.05	U				
Perfluorooctanoic acid (PFOA)	1.82	U	1.85	U	1.87	U	2.05	U				

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: William Floyd Wellfield Sentinel

Analyte	109-12 Depth : 265.00 06/30/2021 ug/L		109-12 Depth : 265.00 09/22/2021 ug/L		109-12 Depth : 265.00 10/12/2021 ug/L		109-12 Depth : 265.00 12/29/2021 ug/L		109-13 Depth : 238.00 02/25/2021 ug/L		109-13 Depth : 238.00 06/04/2021 ug/L	
1,2,4-Trichlorobenzene			0.5	U	0.5	U	1	U	0.55	U	0.5	U
bis-chloroisopropyl ether							5	U				
Hexachlorobutadiene			0.5	U	0.5	U	1	U	0.5	U	0.5	U
Naphthalene			0.5	U	0.5	U	1	U	0.67	U	0.5	U
Perfluorooctanesulfonate (PFOS)	1.78	U	1.84	U	1.69	U	1.68	U				
Perfluorooctanoic acid (PFOA)	1.78	U	1.84	U	1.69	U	1.68	U				

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: William Floyd Wellfield Sentinel

Analyte	109-13 Depth : 238.00 06/30/2021 ug/L		109-13 Depth : 238.00 09/22/2021 ug/L		109-13 Depth : 238.00 10/12/2021 ug/L		109-13 Depth : 238.00 12/30/2021 ug/L		117-01 Depth : 85.00 10/21/2021 ug/L		117-01 Depth : 85.00 11/03/2021 ug/L	
1,2,4-Trichlorobenzene			0.5	U	0.5	U	0.5	U				
bis-chloroisopropyl ether												
Hexachlorobutadiene			0.5	U	0.5	U	0.5	U				
Naphthalene			0.5	U	0.5	U	0.5	U				
Perfluorooctanesulfonate (PFOS)	1.81	U	1.99	U	1.76	U	1.8	U	**7.47**		**5.36**	
Perfluorooctanoic acid (PFOA)	1.81	U	1.99	U	1.76	U	1.8	U	**6.48**		**4.21**	

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: William Floyd Wellfield Sentinel

Analyte	117-02 Depth : 85.00 10/21/2021 ug/L		117-02 Depth : 79.00 11/03/2021 ug/L		117-04 Depth : 135.00 10/07/2021 ug/L		117-05 Depth : 135.00 10/08/2021 ug/L		117-05 Depth : 135.00 12/10/2021 ug/L		117-06 Depth : 135.00 10/07/2021 ug/L	
1,2,4-Trichlorobenzene												
bis-chloroisopropyl ether												
Hexachlorobutadiene												
Naphthalene												
Perfluorooctanesulfonate (PFOS)	**4.86**		0.787	J	1.84	U	1.93	U	1.67	U	1.83	U
Perfluorooctanoic acid (PFOA)	1.35	J	1.91	U	1.84	U	1.93	U	1.67	U	1.83	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: William Floyd Wellfield Sentinel

Analyte	117-06 Depth : 135.00 12/29/2021 ug/L											
1,2,4-Trichlorobenzene												
bis-chloroisopropyl ether												
Hexachlorobutadiene												
Naphthalene												
Perfluorooctanesulfonate (PFOS)	1.8	U										
Perfluorooctanoic acid (PFOA)	1.8	U										

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: William Floyd Wellfield Sentinel

	109-03 Depth : 135.00 03/30/2021 pCi/l				109-03 Depth : 130.00 06/30/2021 pCi/l				109-03 Depth : 130.00 09/22/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	-2.83	U DL	26.6	15.8	-8.17	U DL	30.3	18.2	-7.03	U DL	25.3	15.2
Beryllium-7	2.67	U DL	86.1	66.4	-43	U DL	92.2	78.5	16.6	U DL	64.6	53.6
Cesium-134	6.84	U DL	17.6	5.72	5.31	U DL	20	10.8	10.2	U DL	13.8	12.7
Cesium-137	-0.629	U DL	14.3	10.1	0.719	U	11	9.3	-2.03	U	10.3	8.86
Co-60	-8.87	U	18.7	17.2	-4.48	U	12.9	8.98	1.23	U	10.2	9.31
Cobalt-57	-0.0921	U DL	7.97	4.65	2.76	U DL	7.71	4.65	3.16	U DL	7.26	5.83
Europium-152	22.5	U DL	84.2	39.8	-85.4	U DL	198	120	32.4	U	81.8	49.1
Europium-154	-21.5	U DL	137	40	17.3	U DL	113	19.7	14.2	U DL	88	33.9
Europium-155	8.2	U	22.2	16.5	2.91	U	37.9	22.4	2.39	U	32.1	7.14
Manganese-54	1.91	U DL	15.9	9.17	0.404	U DL	13.2	7.52	0.956	U DL	9.88	5.76
Potassium-40												
Radium-226												
Sodium-22	7.5	N2	5.53	4.82	6.87	U DL	7.12	5.18	0.151	U DL	11.3	6.11
Strontium-90	-0.0292	U	0.293	0.161	0.0242	U	0.225	0.128	-0.256	U	0.536	0.276
Thorium-228												
Tritium	-165	U	419	213	8.11	U	311	172	113	U	379	221
Zinc-65	6.45	U DL	23.7	13.7	-19.1	U DL	45.4	27.5	7.25	U DL	21.1	12.5

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: William Floyd Wellfield Sentinel

	109-03 Depth : 130.00 10/11/2021 pCi/l				109-03 Depth : 130.00 12/09/2021 pCi/l				109-04 Depth : 212.50 03/30/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241					-0.64	U	11.9	6.73	6.32	U DL	30.8	18.5
Beryllium-7	3.06	U	45.6	28.8	0.495	U	15.8	9.99	8	U DL	64.6	53.1
Cesium-134					-1.12	U	2.19	1.68	-2.23	U DL	16.9	4.51
Cesium-137	0.725	U	6.07	3.15	0.955	U	2.14	1.16	0.176	U	9.54	8.05
Co-60	-1.09	U	5.37	2.84	0.475	U	1.98	1.15	0.786	U	10.6	9.39
Cobalt-57	1.66	U	4.02	2.15	-0.12	U	1.6	0.945	0	U DL	8.15	2.68
Europium-152					0.097	U	5.93	3.32	-56.2	U DL	140	84.5
Europium-154					1.78	U	5.89	3.03	8.71	U DL	93.5	15.7
Europium-155					1.33	U	7.12	4.09	2.48	U	33.1	19.7
Manganese-54	0.154	U	5.61	2.98	0.157	U	2.05	1.11	-0.00388	U DL	9.56	5.44
Potassium-40	-33.1	U	88.3	46.5								
Radium-226	42	U	92.9	107								
Sodium-22	1.2	U	5.15	2.3	0.706	U	2.1	1.07	3.01	U DL	8.32	4.91
Strontium-90	-0.177	U	0.773	0.41	**0.979**	UJ(+)-B	0.307	0.211	-0.0148	U	0.251	0.136
Thorium-228	-5.22	U	10.9	7.28								
Tritium	124	U-DL	505	288	-89.8	U	382	211	-157	U	423	215
Zinc-65					-0.0494	U	3.58	2.23	-6.93	U DL	33.7	19.9

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: William Floyd Wellfield Sentinel

	109-04 Depth : 212.50 06/30/2021 pCi/l				109-04 Depth : 212.50 09/22/2021 pCi/l				109-04 Depth : 212.50 10/11/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	-7.5	U DL	27.2	16.4	5.22	U DL	26.3	15.7				
Beryllium-7	-38.6	U DL	82.8	70.3	17.1	U DL	62.3	51.7	16.9	U	48.4	26
Cesium-134	3.29	U DL	17.4	3.55	-4.82	U DL	17.3	10.3				
Cesium-137	-5.37	U	11.2	11.2	2.82	U	6.04	5.15	-1.53	U	5.39	3.07
Co-60	-2.03	U	12.1	8.39	3.93	U	7.59	7.05	1.25	U	6.69	3.45
Cobalt-57	4.19	N2	3.75	4.73	0	U DL	6.95	1.88	-3.64	U	4.25	3.04
Europium-152	41.4	U DL	128	23.7	-45.9	U DL	139	83.2				
Europium-154	5.93	U DL	101	15.8	30.4	U DL	82	64.5				
Europium-155	-11.1	U	36.3	21.8	5.43	U	34.2	17.5				
Manganese-54	-0.742	U DL	11.1	6.34	-5.43	U DL	11.3	7.75	1.1	U	6.13	3.15
Potassium-40									2	U	54.5	50.3
Radium-226									-42.3	U	155	91.1
Sodium-22	-2.26	U DL	12.1	6.86	0.452	U DL	9.91	5.35	0.762	U	6.83	3.3
Strontium-90	0.158	U	0.287	0.176	0.202	U	0.307	0.191	-0.167	U	0.773	0.413
Thorium-228									6.64	U	12.4	10.3
Tritium	-107	U	311	159	-4.5	U	369	204	202	U-DL	521	304
Zinc-65	-8.26	U DL	28.5	16.9	-10.3	U DL	28.5	17.1				

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: William Floyd Wellfield Sentinel

	109-04 Depth : 212.50 12/09/2021 pCi/l											
Analyte	Result	Qual	MDA	Error								
Americium-241	1.55	U	7.35	4.61								
Beryllium-7	0.662	U	15	8.53								
Cesium-134	1.04	U	2.03	1.01								
Cesium-137	0.385	U	1.9	1.91								
Co-60	0.212	U	1.94	1.04								
Cobalt-57	1.21	U	1.48	1.02								
Europium-152	0.0612	U	5.2	2.94								
Europium-154	-1.46	U	4.46	2.85								
Europium-155	-2.27	U	6.19	4.18								
Manganese-54	-0.936	U	1.6	0.95								
Potassium-40												
Radium-226												
Sodium-22	-0.474	U	1.58	1.01								
Strontium-90	-0.105	U	0.303	0.169								
Thorium-228												
Tritium	-3.7	U	384	217								
Zinc-65	-0.592	U	3.64	2.36								

2021 Groundwater Data : PFAS/PFOA

Brookhaven National Laboratory

Project: William Floyd Wellfield Sentinel

Analyte	109-03 Depth : 130.00 06/30/2021 ng/L		109-03 Depth : 130.00 09/22/2021 ng/L		109-03 Depth : 130.00 10/11/2021 ng/L		109-03 Depth : 130.00 12/09/2021 ng/L		109-04 Depth : 212.50 06/30/2021 ng/L		109-04 Depth : 212.50 09/22/2021 ng/L	
Fluorotelomer sulfonate 6:2 (6:2 FTS)	3.27	U	3.29	U	3.33	U	3.27	U	3.46	U	**3.66**	
Fluorotelomer sulfonate 8:2 (8:2 FTS)	3.3	U	3.33	U	3.37	U	3.31	U	3.5	U	**4.53**	
N-ethylperfluoro-1-octanesulfonamidoacetic acid	3.44	U	3.47	U	3.51	U	3.45	U	3.64	U	3.71	U
N-methylperfluoro-1-octanesulfonamidoacetic acid	3.44	U	3.47	U	3.51	U	3.45	U	3.64	U	3.71	U
Perfluorobutanesulfonate (PFBS)	1.53	U	1.54	U	1.56	U	1.53	U	1.62	U	1.65	U
Perfluorobutyric acid (PFBA)	1.72	U	1.73	U	1.75	U	1.72	U	1.82	U	1.85	U
Perfluorodecanesulfonate (PFDS)	1.67	U	1.68	U	1.7	U	1.67	U	1.77	U	1.8	U
Perfluorodecanoic acid (PFDA)	1.72	U	1.73	U	1.75	U	1.72	U	1.82	U	1.85	U
Perfluorododecanoic acid (PFDoA)	1.72	U	1.73	U	1.75	U	1.72	U	1.82	U	1.85	U
Perfluoroheptanesulfonate (PFHpS)	1.63	U	1.65	U	1.67	U	1.64	U	1.73	U	1.76	U
Perfluoroheptanoic acid (PFHpA)	1.72	U	1.73	U	1.75	U	1.72	U	1.82	U	1.85	U
Perfluorohexanesulfonate (PFHxS)	1.57	U	1.58	U	0.82	J	0.762	J	1.66	U	1.69	U
Perfluorohexanoic acid (PFHxA)	1.72	U	1.73	U	1.75	U	1.72	U	1.82	U	1.85	U
Perfluorononanesulfonate (PFNS)	1.65	U	1.66	U	1.68	U	1.65	U	1.75	U	1.78	U
Perfluorononanoic acid (PFNA)	1.72	U	1.73	U	1.75	U	1.72	U	1.82	U	1.85	U
Perfluorooctanesulfonamide (PFOSA)	1.72	U	1.73	U	1.75	U	1.72	U	1.82	U	1.85	U
Perfluorooctanesulfonate (PFOS)	1.72	U	1.73	U	1.75	U	1.72	U	1.82	U	1.85	U
Perfluorooctanoic acid (PFOA)	1.72	U	1.73	U	1.75	U	1.72	U	1.82	U	1.85	U
Perfluoropentanesulfonate (PFPeS)	1.62	U	1.63	U	1.65	U	1.62	U	1.71	U	1.74	U
Perfluoropentanoic acid (PFPeA)	1.72	U	1.73	U	1.75	U	1.72	U	1.82	U	1.85	U
Perfluorotetradecanoic acid (PFTeDA)	1.72	U	1.73	U	1.75	U	1.72	U	1.82	U	1.85	U
Perfluorotridecanoic acid (PFTrDA)	1.72	U	1.73	U	1.75	U	1.72	U	1.82	U	1.85	U
Perfluoroundecanoic acid (PFUdA)	1.72	U	1.73	U	1.75	U	1.72	U	1.82	U	1.85	U

2021 Groundwater Data : PFAS/PFOA

Brookhaven National Laboratory

Project: William Floyd Wellfield Sentinel

Analyte	109-04 Depth : 212.50 10/11/2021 ng/L		109-04 Depth : 212.50 12/09/2021 ng/L		109-12 Depth : 265.00 06/30/2021 ng/L		109-12 Depth : 265.00 09/22/2021 ng/L		109-12 Depth : 265.00 10/12/2021 ng/L		109-12 Depth : 265.00 12/29/2021 ng/L	
Fluorotelomer sulfonate 6:2 (6:2 FTS)	3.55	U	3.89	U	3.37	U	3.5	U	3.22	U	3.2	U
Fluorotelomer sulfonate 8:2 (8:2 FTS)	3.59	U	3.93	U	3.41	U	3.54	U	3.25	U	3.23	U
N-ethylperfluoro-1-octanesulfonamidoacetic acid	3.74	U	4.1	U	3.55	U	3.69	U	3.39	U	3.37	U
N-methylperfluoro-1-octanesulfonamidoacetic acid	3.74	U	4.1	U	3.55	U	3.69	U	3.39	U	3.37	U
Perfluorobutanesulfonate (PFBS)	1.66	U	1.82	U	1.58	U	1.64	U	1.51	U	1.5	U
Perfluorobutyric acid (PFBA)	1.87	U	2.05	U	1.78	U	1.84	U	1.69	U	1.68	U
Perfluorodecanesulfonate (PFDS)	1.81	U	1.99	U	1.72	U	1.79	U	1.64	U	1.63	U
Perfluorodecanoic acid (PFDA)	1.87	U	2.05	U	1.78	U	1.84	U	1.69	U	1.68	U
Perfluorododecanoic acid (PFDoA)	1.87	U	2.05	U	1.78	U	1.84	U	1.69	U	1.68	U
Perfluoroheptanesulfonate (PFHpS)	1.77	U	1.95	U	1.69	U	1.75	U	1.61	U	1.6	U
Perfluoroheptanoic acid (PFHpA)	1.87	U	2.05	U	1.78	U	1.84	U	1.69	U	1.68	U
Perfluorohexanesulfonate (PFHxS)	1.7	U	1.86	U	1.62	U	1.68	U	1.54	U	1.53	U
Perfluorohexanoic acid (PFHxA)	1.87	U	2.05	U	1.78	U	1.84	U	1.69	U	1.68	U
Perfluorononanesulfonate (PFNS)	1.79	U	1.97	U	1.7	U	1.77	U	1.63	U	1.62	U
Perfluorononanoic acid (PFNA)	1.87	U	2.05	U	1.78	U	1.84	U	1.69	U	1.68	U
Perfluorooctanesulfonamide (PFOSA)	1.87	U	2.05	U	1.78	U	1.84	U	1.69	U	1.68	U
Perfluorooctanesulfonate (PFOS)	1.87	U	2.05	U	1.78	U	1.84	U	1.69	U	1.68	U
Perfluorooctanoic acid (PFOA)	1.87	U	2.05	U	1.78	U	1.84	U	1.69	U	1.68	U
Perfluoropentanesulfonate (PFPeS)	1.76	U	1.92	U	1.67	U	1.73	U	1.59	U	1.58	U
Perfluoropentanoic acid (PFPeA)	1.87	U	2.05	U	1.78	U	1.84	U	1.69	U	1.68	U
Perfluorotetradecanoic acid (PFTeDA)	1.87	U	2.05	U	1.78	U	1.84	U	1.69	U	1.68	U
Perfluorotridecanoic acid (PFTrDA)	1.87	U	2.05	U	1.78	U	1.84	U	1.69	U	1.68	U
Perfluoroundecanoic acid (PFUdA)	1.87	U	2.05	U	1.78	U	1.84	U	1.69	U	1.68	U

2021 Groundwater Data : PFAS/PFOA

Brookhaven National Laboratory

Project: William Floyd Wellfield Sentinel

Analyte	109-13 Depth : 238.00 06/30/2021 ng/L		109-13 Depth : 238.00 09/22/2021 ng/L		109-13 Depth : 238.00 10/12/2021 ng/L		109-13 Depth : 238.00 12/30/2021 ng/L		117-01 Depth : 85.00 10/21/2021 ng/L		117-01 Depth : 85.00 11/03/2021 ng/L	
Fluorotelomer sulfonate 6:2 (6:2 FTS)	3.44	U	3.78	U	3.35	U	3.42	U	3.54	U	3.57	U
Fluorotelomer sulfonate 8:2 (8:2 FTS)	3.48	U	3.82	U	3.39	U	3.46	U	3.57	U	3.6	U
N-ethylperfluoro-1-octanesulfonamidoacetic acid	3.62	U	3.98	U	3.53	U	3.6	U	3.72	U	3.76	U
N-methylperfluoro-1-octanesulfonamidoacetic acid	3.62	U	3.98	U	3.53	U	3.6	U	3.72	U	3.76	U
Perfluorobutanesulfonate (PFBS)	1.61	U	1.77	U	1.57	U	1.6	U	1.48	J	1.24	J
Perfluorobutyric acid (PFBA)	1.81	U	1.99	U	1.76	U	1.8	U	1.77	J	0.829	J
Perfluorodecanesulfonate (PFDS)	1.76	U	1.93	U	1.71	U	1.75	U	1.81	U	1.82	U
Perfluorodecanoic acid (PFDA)	1.81	U	1.99	U	1.76	U	1.8	U	1.86	U	1.88	U
Perfluorododecanoic acid (PFDoA)	1.81	U	1.99	U	1.76	U	1.8	U	1.86	U	1.88	U
Perfluoroheptanesulfonate (PFHpS)	1.72	U	1.89	U	1.68	U	1.71	U	1.77	U	1.78	U
Perfluoroheptanoic acid (PFHpA)	1.81	U	1.99	U	1.76	U	1.8	U	1.84	J	1.05	J
Perfluorohexanesulfonate (PFHxS)	1.65	U	1.81	U	1.6	U	1.64	U	**3.55**		**3.37**	
Perfluorohexanoic acid (PFHxA)	1.81	U	1.99	U	1.76	U	1.8	U	**3.45**		1.43	J
Perfluorononanesulfonate (PFNS)	1.74	U	1.91	U	1.69	U	1.73	U	1.79	U	1.8	U
Perfluorononanoic acid (PFNA)	1.81	U	1.99	U	1.76	U	1.8	U	1.86	U	1.88	U
Perfluorooctanesulfonamide (PFOSA)	1.81	U	1.99	U	1.76	U	1.8	U	1.86	U	1.88	U
Perfluorooctanesulfonate (PFOS)	1.81	U	1.99	U	1.76	U	1.8	U	**7.47**		**5.36**	
Perfluorooctanoic acid (PFOA)	1.81	U	1.99	U	1.76	U	1.8	U	**6.48**		**4.21**	
Perfluoropentanesulfonate (PFPeS)	1.7	U	1.87	U	1.66	U	1.69	U	0.895	J	0.686	J
Perfluoropentanoic acid (PFPeA)	1.81	U	1.99	U	1.76	U	1.8	U	**2.2**		1.17	J
Perfluorotetradecanoic acid (PFTeDA)	1.81	U	1.99	U	1.76	U	1.8	U	1.86	U	1.88	U
Perfluorotridecanoic acid (PFTrDA)	1.81	U	1.99	U	1.76	U	1.8	U	1.86	U	1.88	U
Perfluoroundecanoic acid (PFUdA)	1.81	U	1.99	U	1.76	U	1.8	U	1.86	U	1.88	U

2021 Groundwater Data : PFAS/PFOA

Brookhaven National Laboratory

Project: William Floyd Wellfield Sentinel

Analyte	117-02 Depth : 85.00 10/21/2021 ng/L		117-02 Depth : 79.00 11/03/2021 ng/L		117-04 Depth : 135.00 10/07/2021 ng/L		117-05 Depth : 135.00 10/08/2021 ng/L		117-05 Depth : 135.00 12/10/2021 ng/L		117-06 Depth : 135.00 10/07/2021 ng/L	
Fluorotelomer sulfonate 6:2 (6:2 FTS)	1.91	J	3.63	U	3.49	U	3.66	U	3.18	U	3.47	U
Fluorotelomer sulfonate 8:2 (8:2 FTS)	3.61	U	3.67	U	3.53	U	3.7	U	3.22	U	3.51	U
N-ethylperfluoro-1-octanesulfonamidoacetic acid	3.76	U	3.82	U	3.68	U	3.86	U	3.35	U	3.66	U
N-methylperfluoro-1-octanesulfonamidoacetic acid	3.76	U	3.82	U	3.68	U	3.86	U	3.35	U	3.66	U
Perfluorobutanesulfonate (PFBS)	0.802	J	1.7	U	1.64	U	1.72	U	1.49	U	1.63	U
Perfluorobutyric acid (PFBA)	1.88	U	1.91	U	1.84	U	1.93	U	1.67	U	1.83	U
Perfluorodecanesulfonate (PFDS)	1.82	U	1.85	U	1.78	U	1.87	U	1.62	U	1.77	U
Perfluorodecanoic acid (PFDA)	1.88	U	1.91	U	1.84	U	1.93	U	1.67	U	1.83	U
Perfluorododecanoic acid (PFDoA)	1.88	U	1.91	U	1.84	U	1.93	U	1.67	U	1.83	U
Perfluoroheptanesulfonate (PFHpS)	1.79	U	1.82	U	1.75	U	1.83	U	1.59	U	1.74	U
Perfluoroheptanoic acid (PFHpA)	1.88	U	1.91	U	1.84	U	1.93	U	1.67	U	1.83	U
Perfluorohexanesulfonate (PFHxS)	1.62	J	1.74	U	1.67	U	1.75	U	1.52	U	1.66	U
Perfluorohexanoic acid (PFHxA)	1.88	U	1.91	U	1.84	U	1.93	U	1.67	U	1.83	U
Perfluorononanesulfonate (PFNS)	1.81	U	1.83	U	1.77	U	1.85	U	1.61	U	1.75	U
Perfluorononanoic acid (PFNA)	1.88	U	1.91	U	1.84	U	1.93	U	1.67	U	1.83	U
Perfluorooctanesulfonamide (PFOSA)	1.88	U	1.91	U	1.84	U	1.93	U	1.67	U	1.83	U
Perfluorooctanesulfonate (PFOS)	**4.86**		0.787	J	1.84	U	1.93	U	1.67	U	1.83	U
Perfluorooctanoic acid (PFOA)	1.35	J	1.91	U	1.84	U	1.93	U	1.67	U	1.83	U
Perfluoropentanesulfonate (PFPeS)	1.77	U	1.8	U	1.73	U	1.81	U	1.57	U	1.72	U
Perfluoropentanoic acid (PFPeA)	1.88	U	1.91	U	1.84	U	1.93	U	1.67	U	1.83	U
Perfluorotetradecanoic acid (PFTeDA)	1.88	U	1.91	U	1.84	U	1.93	U	1.67	U	1.83	U
Perfluorotridecanoic acid (PFTrDA)	1.88	U	1.91	U	1.84	U	1.93	U	1.67	U	1.83	U
Perfluoroundecanoic acid (PFUdA)	1.88	U	1.91	U	1.84	U	1.93	U	1.67	U	1.83	U

2021 Groundwater Data : PFAS/PFOA

Brookhaven National Laboratory

Project: William Floyd Wellfield Sentinel

Analyte	117-06 Depth : 135.00 12/29/2021 ng/L											
Fluorotelomer sulfonate 6:2 (6:2 FTS)	3.42	U										
Fluorotelomer sulfonate 8:2 (8:2 FTS)	3.46	U										
N-ethylperfluoro-1-octanesulfonamidoacetic acid	3.6	U										
N-methylperfluoro-1-octanesulfonamidoacetic acid	3.6	U										
Perfluorobutanesulfonate (PFBS)	1.6	U										
Perfluorobutyric acid (PFBA)	1.8	U										
Perfluorodecanesulfonate (PFDS)	1.75	U										
Perfluorodecanoic acid (PFDA)	1.8	U										
Perfluorododecanoic acid (PFDoA)	1.8	U										
Perfluoroheptanesulfonate (PFHpS)	1.71	U										
Perfluoroheptanoic acid (PFHpA)	1.8	U										
Perfluorohexanesulfonate (PFHxS)	1.64	U										
Perfluorohexanoic acid (PFHxA)	1.8	U										
Perfluorononanesulfonate (PFNS)	1.73	U										
Perfluorononanoic acid (PFNA)	1.8	U										
Perfluorooctanesulfonamide (PFOSA)	1.8	U										
Perfluorooctanesulfonate (PFOS)	1.8	U										
Perfluorooctanoic acid (PFOA)	1.8	U										
Perfluoropentanesulfonate (PFPeS)	1.69	U										
Perfluoropentanoic acid (PFPeA)	1.8	U										
Perfluorotetradecanoic acid (PFTeDA)	1.8	U										
Perfluorotridecanoic acid (PFTrDA)	1.8	U										
Perfluoroundecanoic acid (PFUdA)	1.8	U										

Appendix D
2021 Facility Monitoring
Groundwater Results

AGS Research Areas
Analytical Results

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	054-07 Depth : 35.00 04/08/2021 pCi/l				054-07 Depth : 35.00 10/27/2021 pCi/l				054-08 Depth : 47.50 12/29/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	**23200**		311	2260	333	U	369	240	-38.3	U	411	220

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	054-124 Depth : 32.50 04/08/2021 pCi/l				054-124 Depth : 32.50 10/27/2021 pCi/l				054-125 Depth : 32.50 11/04/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	378	U	399	257	**6390**		384	803	131	U	365	216

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	054-126 Depth : 35.00 04/08/2021 pCi/l				054-126 Depth : 35.00 10/25/2021 pCi/l				054-127 Depth : 29.50 11/04/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-27	U	388	220	144	U	364	218	18	U	355	201

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	054-128 Depth : 29.50 11/04/2021 pCi/l				054-129 Depth : 28.50 11/04/2021 pCi/l				054-130 Depth : 29.50 11/04/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	167	U	369	221	**1260**		361	317	-27	U	367	202

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	054-168 Depth : 25.00 11/04/2021 pCi/l				054-169 Depth : 25.00 11/04/2021 pCi/l				054-184 Depth : 32.50 04/08/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	**1180**		358	309	18	U	362	204	-113	U	404	219

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	054-184 Depth : 32.50 10/27/2021 pCi/l				054-185 Depth : 32.50 04/08/2021 pCi/l				054-185 Depth : 32.50 10/27/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	167	U	357	217	22.5	U	396	227	284	U	367	234

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	054-191 Depth : 28.00 12/21/2021 pCi/l				054-62 Depth : 25.70 12/21/2021 pCi/l				054-63 Depth : 49.80 12/29/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	81.1	U	412	235	283	U	382	243	117	U	395	229

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	054-64 Depth : 49.50 12/29/2021 pCi/l				054-65 Depth : 25.20 04/08/2021 pCi/l				054-65 Depth : 25.20 10/25/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	167	U	395	237	419		400	260	171	U	365	221

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	054-66 Depth : 25.50 11/16/2021 pCi/l				054-67 Depth : 25.10 11/16/2021 pCi/l				054-68 Depth : 24.80 11/16/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-110	U	355	189	243	U	355	222	374	N2	358	235

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	054-69 Depth : 24.80 11/04/2021 pCi/l				055-14 Depth : 24.70 11/04/2021 pCi/l				055-15 Depth : 25.50 12/21/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	216	U	356	220	171	U	358	217	229	U	377	234

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	055-16 Depth : 25.20 12/21/2021 pCi/l				055-29 Depth : 52.00 12/21/2021 pCi/l				055-30 Depth : 27.50 12/20/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	423	N2	390	263	85.1	U	395	225	144	U	375	223

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	055-31 Depth : 50.00 11/18/2021 pCi/l				055-32 Depth : 47.50 12/21/2021 pCi/l				064-03 Depth : 48.00 12/29/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	36	U	350	198	202	U	382	233	382	U	395	260

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	064-51 Depth : 46.00 12/29/2021 pCi/l				064-53 Depth : 39.80 12/29/2021 pCi/l				064-54 Depth : 40.50 12/29/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	18	U	393	220	315	U	395	253	297	U	380	243

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	064-55 Depth : 33.00 11/16/2021 pCi/l				064-56 Depth : 29.50 11/16/2021 pCi/l				064-80 Depth : 29.50 11/16/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-54.1	U	349	192	320	U	362	232	135	U	358	213

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	064-95 Depth : 32.50 04/08/2021 pCi/l				064-95 Depth : 32.50 10/27/2021 pCi/l				065-120 Depth : 29.90 12/20/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-176	U	415	219	428		348	240	194	U	405	245

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	065-121 Depth : 26.50 12/01/2021 pCi/l				065-122 Depth : 28.80 11/17/2021 pCi/l				065-123 Depth : 25.70 11/29/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-97.3	U	354	186	22.5	U	354	198	-50.5	U	348	188

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	065-124 Depth : 25.80 11/29/2021 pCi/l				065-125 Depth : 26.50 11/23/2021 pCi/l				065-126 Depth : 26.00 11/18/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	131	U	347	206	81.1	U	347	201	-82	U	348	185

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	065-192 Depth : 52.50 12/20/2021 pCi/l				065-193 Depth : 55.00 12/01/2021 pCi/l				065-194 Depth : 50.00 11/29/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	270	U	402	252	-27	U	348	191	9.01	U	353	196

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	065-195 Depth : 50.00 11/23/2021 pCi/l				065-321 Depth : 32.00 11/17/2021 pCi/l				065-322 Depth : 32.00 11/17/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	31.5	U	353	198	-45.5	U	347	188	-61.3	U	354	190

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: AGS Research Areas (AGS)

	065-323 Depth : 30.00 11/17/2021 pCi/l				065-324 Depth : 28.00 11/17/2021 pCi/l							
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error				
Tritium	40.5	U	354	200	13.5	U	342	192				

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Motor Pool Area
Analytical Results

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: Motor Pool Area (MTP)

Analyte	102-05 Depth : 56.74 12/14/2021 ug/L		102-06 Depth : 56.20 12/14/2021 ug/L									
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U								
1,1,1-Trichloroethane	0.5	U	0.5	U								
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U								
1,1,2-Trichloroethane	0.5	U	0.5	U								
1,1-Dichloroethane	0.5	U	0.5	U								
1,1-Dichloroethylene	0.5	U	0.5	U								
1,1-Dichloropropene	0.5	U	0.5	U								
1,2,3-Trichlorobenzene	0.5	U	0.5	U								
1,2,3-Trichloropropane	0.5	U	0.5	U								
1,2-Dichloroethane	0.5	U	0.5	U								
1,2-Dichloropropane	0.5	U	0.5	U								
1,3-Dichloropropane	0.5	U	0.5	U								
2,2-Dichloropropane	0.5	U	0.5	U								
Benzene	0.5	U	0.5	U								
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U								
Benzene, 1,3,5-trimethyl-	0.5	U	0.5	U								
Benzene, 1-methylethyl-	0.5	U	0.5	U								
Bromobenzene	0.5	U	0.5	U								
Bromodichloromethane	0.5	U	0.5	U								
Bromoform	0.5	U	0.5	U								
Carbon tetrachloride	0.5	U	0.5	U								
Chlorobenzene	0.5	U	0.5	U								
Chlorobromomethane	0.5	U	0.5	U								
Chloroethane	0.5	U	0.5	U								
Chloroform	0.5	U	0.5	U								
cis-1,2-Dichloroethylene	0.5	U	0.5	U								
cis-1,3-Dichloropropene	0.5	U	0.5	U								
Cymene	0.5	U	0.5	U								
DBCP	0.5	U	0.5	U								
Dibromochloromethane	0.5	U	0.5	U								
Dibromomethane	0.5	U	0.5	U								
Dichlorodifluoromethane	0.5	U	0.5	U								
EDB	0.5	U	0.5	U								
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U								
Ethylbenzene	0.5	U	0.5	U								
m-Dichlorobenzene	0.5	U	0.5	U								
m/p xylene	1	U	1	U								
Methyl bromide	0.5	U	0.5	U								
Methyl chloride	0.5	U	0.5	U								
Methyl tert-butyl ether	0.5	U	0.5	U								
Methylene chloride	0.5	U	0.5	U								
n-Butylbenzene	0.5	U	0.5	U								
n-Propylbenzene	0.5	U	0.5	U								
o-Chlorotoluene	0.5	U	0.5	U								
o-Dichlorobenzene	0.5	U	0.5	U								
o-Xylene	0.5	U	0.5	U								
p-Chlorotoluene	0.5	U	0.5	U								
p-Dichlorobenzene	0.5	U	0.5	U								
sec-Butylbenzene	0.5	U	0.5	U								
Styrene	0.5	U	0.5	U								
tert-Butylbenzene	0.5	U	0.5	U								
Tetrachloroethylene	0.5	U	0.5	U								
Toluene	0.5	U	0.5	U								
trans-1,3-Dichloropropene	0.5	U	0.5	U								
Trichloroethylene	0.5	U	0.5	U								
Trichlorofluoromethane	0.5	U	0.5	U								
Vinyl chloride	0.5	U	0.5	U								
Xylene (total)	1.5	U	1.5	U								
524.2 TVOC	0		0									

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: Motor Pool Area (MTP)

Analyte	102-05 Depth : 56.74 12/14/2021 ug/L		102-06 Depth : 56.20 12/14/2021 ug/L									
1,2,4-Trichlorobenzene	0.5	U	0.5	U								
Hexachlorobutadiene	0.5	U	0.5	U								
Naphthalene	0.5	U	0.5	U								

Major Petroleum Facility

Analytical Results

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: Major Petroleum Facility (MPF)

Analyte	076-16 Depth : 35.00 04/15/2021 ug/L		076-16 Depth : 35.00 10/20/2021 ug/L		076-16 Depth : 35.00 11/09/2021 ug/L		076-17 Depth : 35.00 04/15/2021 ug/L		076-17 Depth : 35.00 10/20/2021 ug/L		076-18 Depth : 30.00 04/14/2021 ug/L	
1,1,1-Trichloroethane	5	U	5	U			5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	5	U	5	U			5	U	5	U	5	U
1,1,2-Trichloroethane	5	U	5	U			5	U	5	U	5	U
1,1-Dichloroethane	5	U	5	U			5	U	5	U	5	U
1,1-Dichloroethylene	5	U	5	U			5	U	5	U	5	U
1,2-Dichloroethane	5	U	5	U			5	U	5	U	5	U
1,2-Dichloropropane	5	U	5	U			5	U	5	U	5	U
2-Hexanone	10	U	10	U			10	U	10	U	10	U
Acetone	10	U	10	U			10	U	10	U	10	U
Benzene	5	U	5	U			5	U	5	U	5	U
Bromodichloromethane	5	U	5	U			5	U	5	U	5	U
Bromoform	5	U	5	U			5	U	5	U	5	U
Carbon disulfide	5	U	5	U			5	U	5	U	5	U
Carbon tetrachloride	5	U	5	U			5	U	5	U	5	U
Chlorobenzene	5	U	5	U			5	U	5	U	5	U
Chloroethane	10	U	10	U			10	U	10	U	10	U
Chloroform	5	U	5	U			5	U	5	U	5	U
cis-1,3-Dichloropropene	5	U	5	U			5	U	5	U	5	U
Dibromochloromethane	5	U	5	U			5	U	5	U	5	U
Ethene, 1,2-dichloro-, (E)-	5	U	5	U			5	U	5	U	5	U
Ethylbenzene	5	U	5	U			5	U	5	U	5	U
m-Dichlorobenzene	5	U	5	U	39	U D	5	U	5	U	5	U
Methyl bromide	10	U	10	U			10	U	10	U	10	U
Methyl chloride	10	U	10	U			10	U	10	U	10	U
Methyl ethyl ketone	10	U	10	U			10	U	10	U	10	U
Methyl isobutyl ketone (MIBK)	10	U	10	U			10	U	10	U	10	U
Methyl tert-butyl ether	10	U	10	U			10	U	10	U	10	U
Methylene chloride	5	U	5	U			5	U	5	U	5	U
o-Dichlorobenzene	5	U	5	U	39	U D	5	U	5	U	5	U
p-Dichlorobenzene	5	U	5	U	39	U D	5	U	5	U	5	U
Tetrachloroethylene	5	U	5	U			5	U	5	U	5	U
Toluene	5	U	5	U			5	U	5	U	5	U
trans-1,3-Dichloropropene	5	U	5	U			5	U	5	U	5	U
Trichloroethylene	5	U	5	U			5	U	5	U	5	U
Trichlorofluoromethane	5	U	5	U			5	U	5	U	5	U
Vinyl acetate	10	U	10	U			10	U	10	U	10	U
Vinyl chloride	10	U	10	U			10	U	10	U	10	U

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: Major Petroleum Facility (MPF)

Analyte	076-18 Depth : 30.00 10/20/2021 ug/L		076-19 Depth : 30.00 04/14/2021 ug/L		076-19 Depth : 30.00 10/21/2021 ug/L		076-25 Depth : 42.00 04/15/2021 ug/L		076-25 Depth : 42.00 05/05/2021 ug/L		076-25 Depth : 42.00 10/20/2021 ug/L	
1,1,1-Trichloroethane	5	U	5	U	5	U			5	U	5	U
1,1,2,2-Tetrachloroethane	5	U	5	U	5	U			5	U	5	U
1,1,2-Trichloroethane	5	U	5	U	5	U			5	U	5	U
1,1-Dichloroethane	5	U	5	U	5	U			5	U	5	U
1,1-Dichloroethylene	5	U	5	U	5	U			5	U	5	U
1,2-Dichloroethane	5	U	5	U	5	U			5	U	5	U
1,2-Dichloropropane	5	U	5	U	5	U			5	U	5	U
2-Hexanone	10	U	10	U	10	U			10	U	10	U
Acetone	10	U	10	U	10	U			10	U	10	U
Benzene	5	U	5	U	5	U			5	U	5	U
Bromodichloromethane	5	U	5	U	5	U			5	U	5	U
Bromoform	5	U	5	U	5	U			5	U	5	U
Carbon disulfide	5	U	5	U	5	U			5	U	5	U
Carbon tetrachloride	5	U	5	U	5	U			5	U	5	U
Chlorobenzene	5	U	5	U	5	U			5	U	5	U
Chloroethane	10	U	10	U	10	U			10	U	10	U
Chloroform	5	U	5	U	5	U			0.32	J	5	U
cis-1,3-Dichloropropene	5	U	5	U	5	U			5	U	5	U
Dibromochloromethane	5	U	5	U	5	U			5	U	5	U
Ethene, 1,2-dichloro-, (E)-	5	U	5	U	5	U			5	U	5	U
Ethylbenzene	5	U	5	U	5	U			5	U	5	U
m-Dichlorobenzene	5	U	5	U	5	U	9.6	U	5	U	5	U
Methyl bromide	10	U	10	U	10	U			10	U	10	U
Methyl chloride	10	U	10	U	10	U			10	U	10	U
Methyl ethyl ketone	10	U	10	U	10	U			10	U	10	U
Methyl isobutyl ketone (MIBK)	10	U	10	U	10	U			10	U	10	U
Methyl tert-butyl ether	10	U	10	U	10	U			10	U	10	U
Methylene chloride	5	U	5	U	5	U			5	U	5	U
o-Dichlorobenzene	5	U	5	U	5	U	9.6	U	5	U	5	U
p-Dichlorobenzene	5	U	5	U	5	U	9.6	U	5	U	5	U
Tetrachloroethylene	5	U	5	U	5	U			**11**		**6.8**	
Toluene	5	U	5	U	5	U			5	U	5	U
trans-1,3-Dichloropropene	5	U	5	U	5	U			5	U	5	U
Trichloroethylene	5	U	5	U	5	U			0.98	J	0.5	J
Trichlorofluoromethane	5	U	5	U	5	U			5	U	5	U
Vinyl acetate	10	U	10	U	10	U			10	U	10	U
Vinyl chloride	10	U	10	U	10	U			10	U	10	U

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: Major Petroleum Facility (MPF)

Analyte	076-378 Depth : 34.50 04/15/2021 ug/L		076-378 Depth : 34.50 10/20/2021 ug/L		076-379 Depth : 35.50 04/14/2021 ug/L		076-379 Depth : 35.50 10/20/2021 ug/L		076-380 Depth : 34.50 04/15/2021 ug/L		076-380 Depth : 34.50 05/05/2021 ug/L	
1,1,1-Trichloroethane	5	U	5	U	5	U	5	U			5	U
1,1,2,2-Tetrachloroethane	5	U	5	U	5	U	5	U			5	U
1,1,2-Trichloroethane	5	U	5	U	5	U	5	U			5	U
1,1-Dichloroethane	5	U	5	U	5	U	5	U			5	U
1,1-Dichloroethylene	5	U	5	U	5	U	5	U			5	U
1,2-Dichloroethane	5	U	5	U	5	U	5	U			5	U
1,2-Dichloropropane	5	U	5	U	5	U	5	U			5	U
2-Hexanone	10	U	10	U	10	U	10	U			10	U
Acetone	10	U	10	U	10	U	10	U			10	U
Benzene	5	U	5	U	5	U	5	U			5	U
Bromodichloromethane	5	U	5	U	5	U	5	U			5	U
Bromoform	5	U	5	U	5	U	5	U			5	U
Carbon disulfide	5	U	5	U	5	U	5	U			5	U
Carbon tetrachloride	5	U	5	U	5	U	5	U			5	U
Chlorobenzene	5	U	5	U	5	U	5	U			5	U
Chloroethane	10	U	10	U	10	U	10	U			10	U
Chloroform	5	U	5	U	5	U	5	U			5	U
cis-1,3-Dichloropropene	5	U	5	U	5	U	5	U			5	U
Dibromochloromethane	5	U	5	U	5	U	5	U			5	U
Ethene, 1,2-dichloro-, (E)-	5	U	5	U	5	U	5	U			5	U
Ethylbenzene	5	U	5	U	5	U	5	U			5	U
m-Dichlorobenzene	5	U	5	U	5	U	5	U	10	U	5	U
Methyl bromide	10	U	10	U	10	U	10	U			10	U
Methyl chloride	10	U	10	U	10	U	10	U			10	U
Methyl ethyl ketone	10	U	10	U	10	U	10	U			10	U
Methyl isobutyl ketone (MIBK)	10	U	10	U	10	U	10	U			10	U
Methyl tert-butyl ether	10	U	10	U	10	U	10	U			10	U
Methylene chloride	5	U	5	U	5	U	5	U			5	U
o-Dichlorobenzene	5	U	5	U	5	U	5	U	10	U	5	U
p-Dichlorobenzene	5	U	5	U	5	U	5	U	10	U	5	U
Tetrachloroethylene	5	U	5	U	5	U	5	U			1.2	J
Toluene	5	U	5	U	5	U	5	U			5	U
trans-1,3-Dichloropropene	5	U	5	U	5	U	5	U			5	U
Trichloroethylene	5	U	5	U	5	U	5	U			5	U
Trichlorofluoromethane	5	U	5	U	5	U	5	U			5	U
Vinyl acetate	10	U	10	U	10	U	10	U			10	U
Vinyl chloride	10	U	10	U	10	U	10	U			10	U

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: Major Petroleum Facility (MPF)

Analyte	076-380 Depth : 34.50 10/20/2021 ug/L											
1,1,1-Trichloroethane	5	U										
1,1,2,2-Tetrachloroethane	5	U										
1,1,2-Trichloroethane	5	U										
1,1-Dichloroethane	5	U										
1,1-Dichloroethylene	5	U										
1,2-Dichloroethane	5	U										
1,2-Dichloropropane	5	U										
2-Hexanone	10	U										
Acetone	10	U										
Benzene	5	U										
Bromodichloromethane	5	U										
Bromoform	5	U										
Carbon disulfide	5	U										
Carbon tetrachloride	5	U										
Chlorobenzene	5	U										
Chloroethane	10	U										
Chloroform	5	U										
cis-1,3-Dichloropropene	5	U										
Dibromochloromethane	5	U										
Ethene, 1,2-dichloro-, (E)-	5	U										
Ethylbenzene	5	U										
m-Dichlorobenzene	5	U										
Methyl bromide	10	U										
Methyl chloride	10	U										
Methyl ethyl ketone	10	U										
Methyl isobutyl ketone (MIBK)	10	U										
Methyl tert-butyl ether	10	U										
Methylene chloride	5	U										
o-Dichlorobenzene	5	U										
p-Dichlorobenzene	5	U										
Tetrachloroethylene	1.7	J										
Toluene	5	U										
trans-1,3-Dichloropropene	5	U										
Trichloroethylene	5	U										
Trichlorofluoromethane	5	U										
Vinyl acetate	10	U										
Vinyl chloride	10	U										

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: Major Petroleum Facility (MPF)

Analyte	076-16 Depth : 35.00 04/15/2021 ug/L		076-16 Depth : 35.00 11/09/2021 ug/L		076-17 Depth : 35.00 04/15/2021 ug/L		076-17 Depth : 35.00 10/20/2021 ug/L		076-18 Depth : 30.00 04/14/2021 ug/L		076-18 Depth : 30.00 10/20/2021 ug/L	
1,2,4-Trichlorobenzene	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
2,4,6-Trichlorophenol	20	U	77	U D	20	U	19	U	19	U	20	U
2,4-Dichlorophenol	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
2,4-Dimethylphenol	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
2,4-Dinitrophenol	60	U	230	U D	59	U	57	U	57	U	59	U
2,4-Dinitrotoluene	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
2,6-Dinitrotoluene	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
2-Chloronaphthalene	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
2-Chlorophenol	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
3,3'-Dichlorobenzidine	50	U	190	U D	49	U	48	U	48	U	49	U
4,6-Dinitro-o-cresol	60	U	230	U D	59	U	57	U	57	U	59	U
4-Bromophenyl phenyl ether	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
4-Chlorophenyl phenyl ether	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Acenaphthene	9.9	U	5.4	J D	9.9	U	9.5	U	9.6	U	9.8	U
Acenaphthylene	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Anthracene	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Benzo(a)anthracene	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Benzo(a)pyrene	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Benzo(b)fluoranthene	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Benzo(ghi)perylene	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Benzo(k)fluoranthene	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Bis(2-chloroethoxy)methane	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Bis(2-chloroethyl)ether	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Bis(2-ethylhexyl)phthalate	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
bis-chloroisopropyl ether	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Butyl benzyl phthalate	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Chrysene	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Di-n-butyl phthalate	9.9	U	39	U	9.9	U	9.5	U	9.6	U	9.8	U
Di-n-octyl phthalate	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Dibenzo(a,h)anthracene	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Diethyl phthalate	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Dimethyl phthalate	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Fluoranthene	9.9	U	1.7	J D	9.9	U	9.5	U	9.6	U	9.8	U
Fluorene	9.9	U	4.1	J D	9.9	U	9.5	U	9.6	U	9.8	U
Hexachlorobenzene	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Hexachlorobutadiene	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Hexachlorocyclopentadiene	50	U	190	U D	49	U	48	U	48	U	49	U
Hexachloroethane	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Indeno(1,2,3-cd)pyrene	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Isophorone	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
N-Nitrosodimethylamine	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
N-Nitrosodiphenylamine	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
N-Nitrosodipropylamine	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
Naphthalene	9.9	U	24	J D	9.9	U	9.5	U	9.6	U	9.8	U
Nitrobenzene	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
o-Nitrophenol	20	U	77	U D	20	U	19	U	19	U	20	U
p-Chloro-m-cresol	9.9	U	39	U D	9.9	U	9.5	U	9.6	U	9.8	U
p-Nitrophenol	50	U	190	U D	49	U	48	U	48	U	49	U
PCP	60	U	230	U D	59	U	57	U	57	U	59	U
Phenanthrene	9.9	U	5.6	J D	9.9	U	9.5	U	9.6	U	9.8	U
Phenol	9.9	U	7.9	J D	9.9	U	9.5	U	9.6	U	9.8	U
Pyrene	9.9	U	1.5	J D	9.9	U	9.5	U	9.6	U	9.8	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: Major Petroleum Facility (MPF)

Analyte	076-19 Depth : 30.00 04/14/2021 ug/L		076-19 Depth : 30.00 10/21/2021 ug/L		076-25 Depth : 42.00 04/15/2021 ug/L		076-25 Depth : 42.00 10/20/2021 ug/L		076-378 Depth : 34.50 04/15/2021 ug/L		076-378 Depth : 34.50 10/20/2021 ug/L	
1,2,4-Trichlorobenzene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
2,4,6-Trichlorophenol	19	U	20	U	19	U	21	U	19	U	21	U
2,4-Dichlorophenol	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
2,4-Dimethylphenol	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
2,4-Dinitrophenol	58	U	61	U	58	U	62	U	57	U	62	U
2,4-Dinitrotoluene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
2,6-Dinitrotoluene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
2-Chloronaphthalene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
2-Chlorophenol	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
3,3'-Dichlorobenzidine	48	U	51	U	48	U	52	U	47	U	51	U
4,6-Dinitro-o-cresol	58	U	61	U	58	U	62	U	57	U	62	U
4-Bromophenyl phenyl ether	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
4-Chlorophenyl phenyl ether	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Acenaphthene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Acenaphthylene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Anthracene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Benzo(a)anthracene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Benzo(a)pyrene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Benzo(b)fluoranthene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Benzo(ghi)perylene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Benzo(k)fluoranthene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Bis(2-chloroethoxy)methane	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Bis(2-chloroethyl)ether	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Bis(2-ethylhexyl)phthalate	9.6	U	0.61	J	9.6	U	10	U	9.5	U	10	U
bis-chloroisopropyl ether	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Butyl benzyl phthalate	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Chrysene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Di-n-butyl phthalate	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Di-n-octyl phthalate	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Dibenzo(a,h)anthracene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Diethyl phthalate	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Dimethyl phthalate	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Fluoranthene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Fluorene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Hexachlorobenzene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Hexachlorobutadiene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Hexachlorocyclopentadiene	48	U	51	U	48	U	52	U	47	U	51	U
Hexachloroethane	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Indeno(1,2,3-cd)pyrene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Isophorone	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
N-Nitrosodimethylamine	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
N-Nitrosodiphenylamine	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
N-Nitrosodipropylamine	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Naphthalene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Nitrobenzene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
o-Nitrophenol	19	U	20	U	19	U	21	U	19	U	21	U
p-Chloro-m-cresol	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
p-Nitrophenol	48	U	51	U	48	U	52	U	47	U	51	U
PCP	58	U	61	U	58	U	62	U	57	U	62	U
Phenanthrene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Phenol	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U
Pyrene	9.6	U	10	U	9.6	U	10	U	9.5	U	10	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: Major Petroleum Facility (MPF)

Analyte	076-379 Depth : 35.50 04/14/2021 ug/L		076-379 Depth : 35.50 10/20/2021 ug/L		076-380 Depth : 34.50 04/15/2021 ug/L		076-380 Depth : 34.50 10/20/2021 ug/L					
1,2,4-Trichlorobenzene	9.6	U	10	U	10	U	10	U				
2,4,6-Trichlorophenol	19	U	20	U	20	U	20	U				
2,4-Dichlorophenol	9.6	U	10	U	10	U	10	U				
2,4-Dimethylphenol	9.6	U	10	U	10	U	10	U				
2,4-Dinitrophenol	58	U	60	U	60	U	60	U				
2,4-Dinitrotoluene	9.6	U	10	U	10	U	10	U				
2,6-Dinitrotoluene	9.6	U	10	U	10	U	10	U				
2-Chloronaphthalene	9.6	U	10	U	10	U	10	U				
2-Chlorophenol	9.6	U	10	U	10	U	10	U				
3,3'-Dichlorobenzidine	48	U	50	U	50	U	50	U				
4,6-Dinitro-o-cresol	58	U	60	U	60	U	60	U				
4-Bromophenyl phenyl ether	9.6	U	10	U	10	U	10	U				
4-Chlorophenyl phenyl ether	9.6	U	10	U	10	U	10	U				
Acenaphthene	9.6	U	10	U	10	U	10	U				
Acenaphthylene	9.6	U	10	U	10	U	10	U				
Anthracene	9.6	U	10	U	10	U	10	U				
Benzo(a)anthracene	9.6	U	10	U	10	U	10	U				
Benzo(a)pyrene	9.6	U	10	U	10	U	10	U				
Benzo(b)fluoranthene	9.6	U	10	U	10	U	10	U				
Benzo(ghi)perylene	9.6	U	10	U	10	U	10	U				
Benzo(k)fluoranthene	9.6	U	10	U	10	U	10	U				
Bis(2-chloroethoxy)methane	9.6	U	10	U	10	U	10	U				
Bis(2-chloroethyl)ether	9.6	U	10	U	10	U	10	U				
Bis(2-ethylhexyl)phthalate	9.6	U	10	U	10	U	10	U				
bis-chloroisopropyl ether	9.6	U	10	U	10	U	10	U				
Butyl benzyl phthalate	9.6	U	10	U	10	U	10	U				
Chrysene	9.6	U	10	U	10	U	10	U				
Di-n-butyl phthalate	9.6	U	10	U	10	U	10	U				
Di-n-octyl phthalate	9.6	U	10	U	10	U	10	U				
Dibenzo(a,h)anthracene	9.6	U	10	U	10	U	10	U				
Diethyl phthalate	9.6	U	10	U	10	U	10	U				
Dimethyl phthalate	9.6	U	10	U	10	U	10	U				
Fluoranthene	9.6	U	10	U	10	U	10	U				
Fluorene	9.6	U	10	U	10	U	10	U				
Hexachlorobenzene	9.6	U	10	U	10	U	10	U				
Hexachlorobutadiene	9.6	U	10	U	10	U	10	U				
Hexachlorocyclopentadiene	48	U	50	U	50	U	50	U				
Hexachloroethane	9.6	U	10	U	10	U	10	U				
Indeno(1,2,3-cd)pyrene	9.6	U	10	U	10	U	10	U				
Isophorone	9.6	U	10	U	10	U	10	U				
N-Nitrosodimethylamine	9.6	U	10	U	10	U	10	U				
N-Nitrosodiphenylamine	9.6	U	10	U	10	U	10	U				
N-Nitrosodipropylamine	9.6	U	10	U	10	U	10	U				
Naphthalene	9.6	U	10	U	10	U	10	U				
Nitrobenzene	9.6	U	10	U	10	U	10	U				
o-Nitrophenol	19	U	20	U	20	U	20	U				
p-Chloro-m-cresol	9.6	U	10	U	10	U	10	U				
p-Nitrophenol	48	U	50	U	50	U	50	U				
PCP	58	U	60	U	60	U	60	U				
Phenanthrene	9.6	U	10	U	10	U	10	U				
Phenol	9.6	U	10	U	10	U	10	U				
Pyrene	9.6	U	10	U	10	U	10	U				

RHIC Facility
Analytical Results

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2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: RHIC Facility (RHIC)

	025-03 Depth : 45.70 03/03/2021 pCi/l				025-03 Depth : 45.70 08/18/2021 pCi/l				025-04 Depth : 45.80 03/03/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	89.5	U	269	153	-58.1	U	328	170	-65.3	U	271	126

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: RHIC Facility (RHIC)

	025-04 Depth : 45.80 08/18/2021 pCi/l				025-05 Depth : 11.80 02/25/2021 pCi/l				025-05 Depth : 11.80 08/19/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-55	U	331	171	78.2	U	269	151	189	U	329	203

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: RHIC Facility (RHIC)

	025-06 Depth : 12.40 02/25/2021 pCi/l				025-06 Depth : 12.40 08/19/2021 pCi/l				025-07 Depth : 13.30 02/25/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	38.3	U	273	146	-21.6	U	319	171	172	U	277	170

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: RHIC Facility (RHIC)

	025-07 Depth : 13.30 08/19/2021 pCi/l				025-08 Depth : 12.30 02/25/2021 pCi/l				025-08 Depth : 12.30 08/19/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	34.7	U	322	180	51.9	U	273	149	20.7	U	329	181

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: RHIC Facility (RHIC)

	034-05 Depth : 42.50 03/03/2021 pCi/l				034-05 Depth : 42.50 08/18/2021 pCi/l				034-06 Depth : 41.80 03/03/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	24.8	U	281	148	-40.5	U	322	169	38.4	U	274	147

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: RHIC Facility (RHIC)

	034-06 Depth : 41.80 08/18/2021 pCi/l				043-01 Depth : 41.30 02/25/2021 pCi/l				043-01 Depth : 41.30 08/18/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	157	U	322	195	118	U	274	159	-27	U	329	175

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: RHIC Facility (RHIC)

	043-02 Depth : 63.80 02/25/2021 pCi/l				043-02 Depth : 63.80 08/18/2021 pCi/l				044-13 Depth : 38.30 02/25/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-40.4	U	271	131	16.2	U	328	180	24.8	U	276	146

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: RHIC Facility (RHIC)

	044-13 Depth : 38.30 08/18/2021 pCi/l				044-14 Depth : 59.00 02/25/2021 pCi/l				044-14 Depth : 59.00 08/18/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-25.2	U	325	173	24.8	U	271	143	33.8	U	320	179

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: RHIC Facility (RHIC)

	044-29 Depth : 35.00 02/25/2021 pCi/l				044-29 Depth : 35.00 08/19/2021 pCi/l							
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error				
Tritium	**893**		282	257	24.3	U	307	173				

Service Station
Analytical Results

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Sewage Treatment Plant and Peconic River
Analytical Results

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2021 Groundwater Data : Metals
Brookhaven National Laboratory
Project: STP and Peconic River (STP)

Analyte	039-115 Depth : 17.50 11/01/2021 ug/L		039-87 Depth : 17.50 11/03/2021 ug/L		039-88 Depth : 24.50 11/01/2021 ug/L		039-89 Depth : 22.50 11/01/2021 ug/L		048-08 Depth : 17.50 11/03/2021 ug/L		048-09 Depth : 17.50 11/03/2021 ug/L	
Aluminum	68	U	**81.9**	B	68	U	68	U	68	U	**82.7**	B
Antimony	1	U	5	U	1	U	1	U	1	U	1	U
Arsenic	5	U	5	U	5	U	5	U	5	U	5	U
Barium	**19.9**		**21.6**		**37.9**		**69.9**		**24.8**		**28.9**	
Beryllium	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	1	U	1	U	1	U	1	U	1	U	1	U
Calcium	**20000**		**3370**	B	**13900**		**15300**		**6840**		**2960**	B
Chromium	1	U	1	U	1	U	1	U	1	U	1	U
Cobalt	1	U	1	U	1	U	1	U	1	U	1	U
Copper	**10.3**	B	3	U	**5.94**	B	**7.19**	B	3	U	3	U
Iron	**34.3**	B	30	U	30	U	30	U	30	U	30	U
Lead	**9.89**	B	**6.21**	B	**10.9**	B	**9.87**	B	**5.84**	B	**9.87**	B
Magnesium	**8710**		**467**		**3870**		**5720**		**2220**		**1220**	
Manganese	2	U	**23.1**		**2.88**	B	2	U	**64.7**		**12.7**	
Mercury	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U	0.067	U
Nickel	1.5	U	**2.93**	B	1.5	U	1.5	U	**1.55**	B	1.5	U
Potassium	**4120**	B	**555**	B	**5080**		**4600**	B	**937**	B	**637**	B
Selenium	**14.7**	B	**9.4**	B	**7.77**	B	**14**	B	6	U	**7.56**	B
Silver	1	U	1	U	1	U	1	U	1	U	1	U
Sodium	**116000**		**1970**	B	**95400**		**85500**		**48300**		**16600**	
Thallium	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
Vanadium	**6.32**	B	1	U	1	U	**1.05**	B	1	U	1	U
Zinc	**53.2**	R	**113**	R	**48.7**	R	**48.4**	R	**48.2**	R	**49.1**	R

2021 Groundwater Data : Metals
Brookhaven National Laboratory
Project: STP and Peconic River (STP)

Analyte	048-10 Depth : 17.50 11/03/2021 ug/L											
Aluminum	**222**											
Antimony	1	U										
Arsenic	5	U										
Barium	**16.3**											
Beryllium	1	U										
Cadmium	1	U										
Calcium	**397**	B										
Chromium	1	U										
Cobalt	1	U										
Copper	3	U										
Iron	**174**											
Lead	**10.8**	B										
Magnesium	**388**											
Manganese	**30.9**											
Mercury	0.067	U										
Nickel	1.5	U										
Potassium	**546**	B										
Selenium	**11.4**	B										
Silver	1	U										
Sodium	**4660**	B										
Thallium	0.6	U										
Vanadium	1	U										
Zinc	**49.5**	R										

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Waste Management Facility

Analytical Results

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: New Waste Mgt Facility (WMF)

Analyte	055-03 Depth : 50.00 02/17/2021 ug/L		055-03 Depth : 50.00 08/11/2021 ug/L		055-10 Depth : 94.00 02/17/2021 ug/L		055-10 Depth : 94.00 08/11/2021 ug/L		056-21 Depth : 51.00 02/17/2021 ug/L		056-21 Depth : 51.00 08/11/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.59	U	0.5	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	**0.67**		**1.9**		**0.55**		0.2	J	**0.73**	
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.63	U	0.5	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.66	U	0.5	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.57	U	0.5	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.99	U	0.5	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	0.5	U	1.5	U	0.5	U	1.5	U
524.2 TVOC	0		0.67		1.9		0.55		0.2		0.73	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: New Waste Mgt Facility (WMF)

Analyte	056-22 Depth : 51.00 02/17/2021 ug/L		056-22 Depth : 51.00 08/12/2021 ug/L		066-220 Depth : 46.00 02/17/2021 ug/L		066-220 Depth : 46.00 08/11/2021 ug/L		066-221 Depth : 47.00 02/17/2021 ug/L		066-221 Depth : 47.00 08/12/2021 ug/L	
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.59	U	0.5	U	0.59	U	0.5	U
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	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
Bromobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	0.5	U	0.18	J	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.63	U	0.5	U	0.63	U	0.5	U	0.63	U	0.5	U
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	0.66	U	0.5	U	0.66	U	0.5	U	0.66	U	0.5	U
EDB	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	1	U	1	U	1	U	1	U	1	U	1	U
Methyl bromide	0.57	U	0.5	U	0.57	U	0.5	U	0.57	U	0.5	U
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	0.99	U	0.5	U	0.99	U	0.5	U	0.99	U	0.5	U
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	0.5	U	1.5	U	0.5	U	1.5	U	0.5	U	1.5	U
524.2 TVOC	0		0.18		0		0		0		0	

2021 Groundwater Data : Volatile Organic Compounds

Brookhaven National Laboratory

Project: New Waste Mgt Facility (WMF)

Analyte	066-222 Depth : 48.00 02/17/2021 ug/L		066-222 Depth : 48.00 08/12/2021 ug/L		066-223 Depth : 48.00 02/17/2021 ug/L		066-223 Depth : 48.00 08/11/2021 ug/L					
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1,1-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1,2,2-Tetrachloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1,2-Trichloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,1-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U				
1,1-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U				
1,2,3-Trichlorobenzene	0.59	U	0.5	U	0.59	U	0.5	U				
1,2,3-Trichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
1,2-Dichloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
1,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
1,3-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
2,2-Dichloropropane	0.5	U	0.5	U	0.5	U	0.5	U				
Benzene	0.5	U	0.5	U	0.5	U	0.5	U				
Benzene, 1,2,4-trimethyl	0.5	U	0.5	U	0.5	U	0.5	U				
Benzene, 1,3,5-trimethyl-	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	0.5	U	0.5	U	0.5	U	0.5	U				
Bromodichloromethane	0.5	U	0.5	U	0.5	U	0.5	U				
Bromoform	0.5	U	0.5	U	0.5	U	0.5	U				
Carbon tetrachloride	0.5	U	0.5	U	0.5	U	0.5	U				
Chlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
Chlorobromomethane	0.5	U	0.5	U	0.5	U	0.5	U				
Chloroethane	0.5	U	0.5	U	0.5	U	0.5	U				
Chloroform	0.5	U	0.5	U	0.5	U	0.5	U				
cis-1,2-Dichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U				
cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U				
Cymene	0.5	U	0.5	U	0.5	U	0.5	U				
DBCP	0.63	U	0.5	U	0.63	U	0.5	U				
Dibromochloromethane	0.5	U	0.5	U	0.5	U	0.5	U				
Dibromomethane	0.5	U	0.5	U	0.5	U	0.5	U				
Dichlorodifluoromethane	0.66	U	0.5	U	0.66	U	0.5	U				
EDB	0.5	U	0.5	U	0.5	U	0.5	U				
Ethene, 1,2-dichloro-, (E)-	0.5	U	0.5	U	0.5	U	0.5	U				
Ethylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
m-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
m/p xylene	1	U	1	U	1	U	1	U				
Methyl bromide	0.57	U	0.5	U	0.57	U	0.5	U				
Methyl chloride	0.5	U	0.5	U	0.5	U	0.5	U				
Methyl tert-butyl ether	0.5	U	0.5	U	0.5	U	0.5	U				
Methylene chloride	0.99	U	0.5	U	0.99	U	0.5	U				
n-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
n-Propylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
o-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U				
o-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
o-Xylene	0.5	U	0.5	U	0.5	U	0.5	U				
p-Chlorotoluene	0.5	U	0.5	U	0.5	U	0.5	U				
p-Dichlorobenzene	0.5	U	0.5	U	0.5	U	0.5	U				
sec-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
Styrene	0.5	U	0.5	U	0.5	U	0.5	U				
tert-Butylbenzene	0.5	U	0.5	U	0.5	U	0.5	U				
Tetrachloroethylene	0.5	U	0.5	U	0.5	U	0.5	U				
Toluene	0.5	U	0.5	U	0.5	U	0.5	U				
trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U	0.5	U				
Trichloroethylene	0.5	U	0.5	U	0.5	U	0.5	U				
Trichlorofluoromethane	0.5	U	0.5	U	0.5	U	0.5	U				
Vinyl chloride	0.5	U	0.5	U	0.5	U	0.5	U				
Xylene (total)	0.5	U	1.5	U	0.5	U	1.5	U				
524.2 TVOC	0		0		0		0					

2021 Groundwater Data : Semivolatile Organic Compounds
Brookhaven National Laboratory
Project: New Waste Mgt Facility (WMF)

Analyte	055-03 Depth : 50.00 02/17/2021 ug/L		055-03 Depth : 50.00 08/11/2021 ug/L		055-10 Depth : 94.00 02/17/2021 ug/L		055-10 Depth : 94.00 08/11/2021 ug/L		056-21 Depth : 51.00 02/17/2021 ug/L		056-21 Depth : 51.00 08/11/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.55	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.67	U	0.5	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds
Brookhaven National Laboratory
Project: New Waste Mgt Facility (WMF)

Analyte	056-22 Depth : 51.00 02/17/2021 ug/L		056-22 Depth : 51.00 08/12/2021 ug/L		066-220 Depth : 46.00 02/17/2021 ug/L		066-220 Depth : 46.00 08/11/2021 ug/L		066-221 Depth : 47.00 02/17/2021 ug/L		066-221 Depth : 47.00 08/12/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.55	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.67	U	0.5	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds
Brookhaven National Laboratory
Project: New Waste Mgt Facility (WMF)

Analyte	066-222 Depth : 48.00 02/17/2021 ug/L		066-222 Depth : 48.00 08/12/2021 ug/L		066-223 Depth : 48.00 02/17/2021 ug/L		066-223 Depth : 48.00 08/11/2021 ug/L					
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.55	U	0.5	U				
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U				
Naphthalene	0.67	U	0.5	U	0.67	U	0.5	U				

2021 Groundwater Data : Metals
Brookhaven National Laboratory
Project: New Waste Mgt Facility (WMF)

Analyte	055-03 Depth : 50.00 08/11/2021 ug/L		055-10 Depth : 94.00 08/11/2021 ug/L		056-21 Depth : 51.00 08/11/2021 ug/L		056-22 Depth : 51.00 08/12/2021 ug/L		066-220 Depth : 46.00 08/11/2021 ug/L		066-221 Depth : 47.00 08/12/2021 ug/L	
Aluminum	**250**		50	U	50	U	40	B	50	U	50	U
Antimony	5	U	5	U	5	U	5	U	5	U	5	U
Arsenic	5	U	5	U	5	U	5	U	5	U	5	U
Barium	**23**		**34**		15	B	**33**		11	B	**24**	
Beryllium	2	U	2	U	2	U	2	U	2	U	2	U
Cadmium	2	U	2	U	2	U	2	U	2	U	2	U
Calcium	**7200**		**9000**		**5400**		**11000**		**5200**		**12000**	
Chromium	10	U	10	U	10	U	10	U	4.5	B	10	U
Cobalt	5	U	5	U	5	U	5	U	5	U	5	U
Copper	10	U	10	U	10	U	10	U	10	U	10	U
Iron	**300**		50	U	50	U	50	U	43	B	50	U
Lead	3	U	3	U	3	U	3	U	3	U	3	U
Magnesium	**2000**		**3100**		**1000**		**3700**		**990**		**2000**	
Manganese	**12**		4	U	4	U	4		2.2	B	3.2	B
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Nickel	10	U	10	U	10	U	10	U	3.3	B	4.3	B
Potassium	940	B	1600	B	670	B	1300	B	700	B	1000	B
Selenium	5	U	5	U	5	U	5	U	5	U	5	U
Silver	2	U	2	U	2	U	2	U	2	U	2	U
Sodium	**50000**		**47000**		**16000**		**28000**		**4300**		**35000**	
Thallium	5	U	5	U	5	U	5	U	5	U	5	U
Vanadium	7	U	7	U	7	U	7	U	7	U	7	U
Zinc	20	U	20	U	20	U	20	U	20	U	9.4	B

2021 Groundwater Data : Metals
Brookhaven National Laboratory
Project: New Waste Mgt Facility (WMF)

Analyte	066-222 Depth : 48.00 08/12/2021 ug/L		066-223 Depth : 48.00 08/11/2021 ug/L									
Aluminum	50	U	37	B								
Antimony	5	U	5	U								
Arsenic	5	U	5	U								
Barium	17	B	12	B								
Beryllium	2	U	2	U								
Cadmium	2	U	2	U								
Calcium	**8700**		**7100**									
Chromium	10	U	10	U								
Cobalt	5	U	5	U								
Copper	10	U	10	U								
Iron	50	U	32	B								
Lead	3	U	3	U								
Magnesium	**1500**		**1900**									
Manganese	4	U	4	U								
Mercury	0.2	U	0.2	U								
Nickel	10	U	10	U								
Potassium	1100	B	780	B								
Selenium	5	U	5	U								
Silver	2	U	2	U								
Sodium	**15000**		**5700**									
Thallium	5	U	5	U								
Vanadium	7	U	7	U								
Zinc	20	U	20	U								

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: New Waste Mgt Facility (WMF)

Analyte	055-03 Depth : 50.00 02/17/2021 ug/L		055-03 Depth : 50.00 08/11/2021 ug/L		055-10 Depth : 94.00 02/17/2021 ug/L		055-10 Depth : 94.00 08/11/2021 ug/L		056-21 Depth : 51.00 02/17/2021 ug/L		056-21 Depth : 51.00 08/11/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.55	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.67	U	0.5	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: New Waste Mgt Facility (WMF)

Analyte	056-22 Depth : 51.00 02/17/2021 ug/L		056-22 Depth : 51.00 08/12/2021 ug/L		066-220 Depth : 46.00 02/17/2021 ug/L		066-220 Depth : 46.00 08/11/2021 ug/L		066-221 Depth : 47.00 02/17/2021 ug/L		066-221 Depth : 47.00 08/12/2021 ug/L	
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.55	U	0.5	U	0.55	U	0.5	U
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	0.67	U	0.5	U	0.67	U	0.5	U	0.67	U	0.5	U

2021 Groundwater Data : Semivolatile Organic Compounds

Brookhaven National Laboratory

Project: New Waste Mgt Facility (WMF)

Analyte	066-222 Depth : 48.00 02/17/2021 ug/L		066-222 Depth : 48.00 08/12/2021 ug/L		066-223 Depth : 48.00 02/17/2021 ug/L		066-223 Depth : 48.00 08/11/2021 ug/L					
1,2,4-Trichlorobenzene	0.55	U	0.5	U	0.55	U	0.5	U				
Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	0.5	U				
Naphthalene	0.67	U	0.5	U	0.67	U	0.5	U				

2021 Groundwater Data : General Chemistry
Brookhaven National Laboratory
Project: New Waste Mgt Facility (WMF)

Analyte	055-03 Depth : 50.00 08/11/2021 ug/L		055-10 Depth : 94.00 08/11/2021 ug/L		056-21 Depth : 51.00 08/11/2021 ug/L		056-22 Depth : 51.00 08/12/2021 ug/L		066-220 Depth : 46.00 08/11/2021 ug/L		066-221 Depth : 47.00 08/12/2021 ug/L	
Chloride	**71**		**69**		**17**		**40**		2.8	B	**34**	
Nitrite + Nitrate-N	**0.68**		0.1	U	**5.4**		**2**		**1.9**		**3.1**	
Sulfate	**8**		**8.1**		**8**		**13**		4	B	**24**	

2021 Groundwater Data : General Chemistry

Brookhaven National Laboratory

Project: New Waste Mgt Facility (WMF)

Analyte	066-222 Depth : 48.00 08/12/2021 ug/L		066-223 Depth : 48.00 08/11/2021 ug/L									
Chloride	**7.1**		**3.6**									
Nitrite + Nitrate-N	**2.7**		**2.2**									
Sulfate	**11**		4.3	B								

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: New Waste Mgt Facility (WMF)

	055-03 Depth : 50.00 02/17/2021 pCi/l				055-03 Depth : 50.00 08/11/2021 pCi/l				055-10 Depth : 94.00 02/17/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	1.23	U DL	25.1	15.1	-3.44	U	24.7	14.7	-0.146	U DL	28	16.5
Beryllium-7	14.4	U DL	60.3	48	-25.7	U DL	75.2	63.3	-0.391	U DL	82.2	61.8
Cesium-134	5.96	U DL	13	7.57	7.67	U DL	15.8	6.28	1	U DL	19	4.34
Cesium-137	0.572	U	7.39	5.94	-0.617	U	9.54	8.08	0	U DL	13.6	1.71
Co-60	4.85	N2	3.53	3.27	0.675	U	10.2	2.4	4.39	U	9.43	8.16
Cobalt-57	3.62	U DL	6.97	5.18	0	U DL	7	2.18	-2.64	U DL	8.95	5.36
Europium-152	57.8	U	73	47.5	32	U DL	106	35.6	-78.4	U DL	215	129
Europium-154	-52.5	U DL	105	92	5.53	U DL	82	10.6	6.86	U DL	118	14.4
Europium-155	-6.72	U	33.6	23.7	9.64	U	30.8	18.5	-9.93	U	36.3	21.7
Gross Alpha	0.655	U	1.48	0.889	2.16	U DL	2.54	1.67	0.687	U	1.86	1.09
Gross Beta	0.453	U	0.657	0.413	0.416	U	0.86	0.544	0.737	U	0.955	0.613
Manganese-54	2.89	U DL	8.35	5.02	-2.12	U DL	10.5	6.11	-2.95	U DL	15.7	9.12
Potassium-40												
Sodium-22	3.61	U DL	10.1	5.99	-4.07	U DL	13.5	7.95	-2.25	U DL	13.1	7.2
Strontium-90												
Tritium	244	U	343	217	-58.6	U	389	212	136	U	352	208
Zinc-65	0	U DL	21.1	2.35	2.12	U DL	26.2	15	-19.3	U DL	55.4	33.2

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: New Waste Mgt Facility (WMF)

	055-10 Depth : 94.00 08/11/2021 pCi/l				056-21 Depth : 51.00 02/17/2021 pCi/l				056-21 Depth : 51.00 08/11/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	6.42	U	23	13.8	-6.47	U DL	25.2	15.2	-6.94	U DL	27.4	16.4
Beryllium-7	-6.29	U DL	66.9	54.9	-1.67	U DL	67.3	55.1	-18.9	U DL	75.2	62.9
Cesium-134	12.1	U DL	12.4	10.9	2.07	U DL	16	5.86	7.52	U DL	13.2	12
Cesium-137	0.617	U	9.13	7.7	-2.64	U	10.3	8.91	1.5	U	8.24	6.97
Co-60	-2.17	U	11.2	10.4	0.372	U	9.63	0.64	0.208	U	11.2	1.21
Cobalt-57	0.0587	U DL	6.99	4.1	0	U DL	6.44	2.51	4.14	U DL	6.85	5.42
Europium-152	34.9	U DL	98.7	40.7	105	N2	82.4	58	16.1	U DL	95.4	22.5
Europium-154	27.8	U DL	82	35.4	11.3	U DL	65.4	38.1	19.1	U DL	88	35.4
Europium-155	-10.4	U	33.4	20.1	-7.97	U	33	19.8	9.73	U	32.4	19.5
Gross Alpha	-0.637	U DL	2.92	1.49	-0.0239	U	1.05	0.524	1.01	U	1.86	1.14
Gross Beta	1.47	UJ(+)-B	0.892	0.652	0.248	U	0.867	0.507	1.3	UJ(+)-B	0.904	0.645
Manganese-54	-1.59	U DL	13.5	7.88	4.1	U DL	11	6.58	2.18	U DL	6.08	3.6
Potassium-40												
Sodium-22	-4.97	U DL	13.5	8.06	2.86	U DL	7.91	4.67	6.48		6.24	4.64
Strontium-90					0.349	N2	0.21	0.152	0.292	U	0.303	0.197
Tritium	-58.6	U	378	207	226	U	347	216	-94.6	U	400	213
Zinc-65	5.12	U DL	24.7	14.4	0	U DL	26.1	8.8	0	U DL	22.9	5.74

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: New Waste Mgt Facility (WMF)

	056-22 Depth : 51.00 02/17/2021 pCi/l				056-22 Depth : 51.00 08/12/2021 pCi/l				066-220 Depth : 46.00 02/17/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	-5.78	U DL	25.4	14.8	-7.56	U DL	27.7	16.7	-6.03	U DL	25.1	15.1
Beryllium-7	-1.6	U DL	60.3	47.1	9.14	U DL	66.9	55.1	24.4	U	55.8	46.8
Cesium-134	4.47	U DL	14.5	9.11	11.9	UDL	11.9	11.5	-0.241	U DL	14	8.1
Cesium-137	-4	U	10.2	8.58	-3.61	U	10.3	8.96	3.74	U	7.96	6.91
Co-60	1.95	U	7.25	3.3	-0.816	U	8.94	7.97	3.66	U	7.12	5.21
Cobalt-57	1.29	U DL	7.22	4.9	0	U DL	7.52	2.08	3.06	U DL	6.39	3.44
Europium-152	8.85	U DL	115	9.57	11.4	U	83.6	38.2	6.21	U DL	108	11.8
Europium-154	15.2	U DL	83.7	25.1	14.4	U DL	93.5	34.3	-22.2	U DL	84.1	74
Europium-155	7.52	U	30	18.1	-10.3	U	36	21.7	-10.1	U	34.5	20.8
Gross Alpha	-0.0181	U	1.63	0.819	0.291	U DL	2.41	1.31	-0.142	U	1.21	0.569
Gross Beta	**1.83**		0.844	0.664	**2.13**	UJ(+)-B	0.934	0.738	0.202	U	0.751	0.435
Manganese-54	-0.0851	U DL	8.35	5.5	0.708	U DL	11.6	6.64	-1.2	U DL	9.47	5.44
Potassium-40									**139**		25.7	47.1
Sodium-22	0.417	U DL	8.9	4.79	3.77	U DL	11.3	6.64	5.73	U	5.93	4.32
Strontium-90	0.186	U	0.211	0.136					0.184	U	0.238	0.151
Tritium	**757**		351	278	-31.5	U	395	217	122	U	351	206
Zinc-65	0	U DL	25.5	2.35	-3.84	U DL	26.2	15.2	0	U DL	23.9	5.98

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: New Waste Mgt Facility (WMF)

	066-220 Depth : 46.00 08/11/2021 pCi/l				066-221 Depth : 47.00 02/17/2021 pCi/l				066-221 Depth : 47.00 08/12/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	-7.26	U DL	26.6	16	2.84	U DL	28.7	17.1	2.61	U	22	13.1
Beryllium-7	-30.3	U DL	84.4	71.4	-31.5	U DL	97.7	87.8	-31.8	U DL	67.6	57.5
Cesium-134	3.37	U DL	15.8	6.07	14	N2	11.2	13.2	2.99	U DL	14.1	3.26
Cesium-137	-5.82	U	11.7	10.3	-2.82	U	12	10.9	-5.38	U	10.7	9.45
Co-60	0.544	U	10.2	9.16	3.78	U	9.31	6.91	0.104	U	8.35	0.426
Cobalt-57	3.87	U DL	6.72	5.69	0	U DL	9.17	2.51	0.416	U DL	7.5	2.44
Europium-152	14.1	U DL	108	24.7	69.5	U DL	112	37.4	-0.618	U DL	107	2.85
Europium-154	3.3	U DL	82	16	14	U DL	104	39.5	4.61	U DL	69.5	8.02
Europium-155	-4.86	U	33.3	19.8	4.58	U	30.1	17.9	1.42	U	23.6	18.3
Gross Alpha	1.65	U	1.73	1.16	-0.216	U	1.8	0.92	1.33	U DL	2.27	1.41
Gross Beta	1.35	UJ(+)-B	0.915	0.663	1.06	N2	0.835	0.578	**1.86**	UJ(+)-B	0.948	0.724
Manganese-54	0.0886	U DL	12	6.87	-0.407	U DL	14.5	11.2	-3.23	U DL	9.37	5.6
Potassium-40												
Sodium-22	-8.81	U DL	15.4	9.55	-6.14	U DL	17.2	10.2	3.82	U DL	7.23	4.49
Strontium-90	0.324	U	0.33	0.215	0.185	U	0.209	0.135	0.435		0.261	0.187
Tritium	140	U	395	235	591	N2	358	263	-36	U	407	222
Zinc-65	0	U DL	24.3	7.7	2.11	U DL	29.7	16.7	0	U DL	22.3	3.3

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: New Waste Mgt Facility (WMF)

	066-222 Depth : 48.00 02/17/2021 pCi/l				066-222 Depth : 48.00 08/12/2021 pCi/l				066-223 Depth : 48.00 02/17/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Americium-241	-6.91	U DL	30.1	18.1	-7.17	U DL	28.6	17.2	1.61	U DL	27.8	16.5
Beryllium-7	-3.07	U DL	77.9	57.9	19.4	U	59.8	49.7	-11.1	U DL	90	80.7
Cesium-134	1.63	U DL	22.2	2.5	4.6	U DL	13.7	8.21	2.75	U DL	22.9	5.18
Cesium-137	3.43	U	11.3	9.25	-0.264	U	8.7	7.29	-2.14	U DL	13.6	11.1
Co-60	-6.54	U	17	15.3	0.136	U	10.2	9.12	3.5	U	5.16	3.16
Cobalt-57	0.353	U DL	7.76	4.54	2.38	U DL	6.61	3.98	-0.245	U DL	9.57	0.361
Europium-152	-50.8	U DL	178	105	12.6	U DL	126	13.2	-48	U DL	179	105
Europium-154	22.9	U DL	94	54.8	17.8	U DL	88	31.9	-70	U DL	145	126
Europium-155	1.26	U	30.5	17.8	6.42	U	32.1	19.2	7.9	U	28.7	17.1
Gross Alpha	-0.544	U	1.78	0.831	0.496	U	1.92	1.09	0.731	U	1.14	0.723
Gross Beta	0.47	U	0.892	0.544	**1.75**	UJ(+)-B	0.784	0.635	0.635	U	0.838	0.534
Manganese-54	-7.3	U DL	19.3	11.6	4.08	U DL	10.1	6.1	-2.58	U DL	13.5	7.79
Potassium-40												
Sodium-22	-0.75	U DL	13.1	6.87	-0.603	U DL	12.4	6.89	0.75	U DL	13.1	6.87
Strontium-90	0.288	N2	0.208	0.145	0.165	U	0.243	0.152	0.263	N2	0.218	0.147
Tritium	127	U	345	204	31.5	U	374	215	154	U	354	211
Zinc-65	-17.1	U DL	46.5	27.9	0	U DL	26.4	5.45	-1.01	U DL	37.9	21.3

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: New Waste Mgt Facility (WMF)

	066-223 Depth : 48.00 08/11/2021 pCi/l											
Analyte	Result	Qual	MDA	Error								
Americium-241	-6.39	U DL	26.6	16								
Beryllium-7	23.4	U	55.9	47.1								
Cesium-134	1.84	U DL	16.5	3.34								
Cesium-137	2.69	U	7.54	6.52								
Co-60	3.46	U	6.17	5.73								
Cobalt-57	-2.43	U DL	6.85	4.13								
Europium-152	7.39	U DL	113	8.38								
Europium-154	27.5	U DL	74.5	28.2								
Europium-155	1.17	U	28.6	17.1								
Gross Alpha	0.0551	U	1.74	0.94								
Gross Beta	1.22	UJ(+)-B	0.944	0.645								
Manganese-54	2.86	U DL	7.42	4.45								
Potassium-40												
Sodium-22	-0.758	U DL	11.3	6.34								
Strontium-90	0.31		0.288	0.189								
Tritium	-4.5	U	397	220								
Zinc-65	0	U DL	24.3	5.89								

NSLS II

Analytical Results

2021 Groundwater Data : Volatile Organic Compounds
Brookhaven National Laboratory
Project: NSLS II (NSLS)

Analyte	076-18 Depth : 30.00 04/14/2021 ug/L		076-18 Depth : 30.00 10/20/2021 ug/L		076-19 Depth : 30.00 04/14/2021 ug/L		076-19 Depth : 30.00 10/21/2021 ug/L					
1,1,1-Trichloroethane	5	U	5	U	5	U	5	U				
1,1,2,2-Tetrachloroethane	5	U	5	U	5	U	5	U				
1,1,2-Trichloroethane	5	U	5	U	5	U	5	U				
1,1-Dichloroethane	5	U	5	U	5	U	5	U				
1,1-Dichloroethylene	5	U	5	U	5	U	5	U				
1,2-Dichloroethane	5	U	5	U	5	U	5	U				
1,2-Dichloropropane	5	U	5	U	5	U	5	U				
2-Hexanone	10	U	10	U	10	U	10	U				
Acetone	10	U	10	U	10	U	10	U				
Benzene	5	U	5	U	5	U	5	U				
Bromodichloromethane	5	U	5	U	5	U	5	U				
Bromoform	5	U	5	U	5	U	5	U				
Carbon disulfide	5	U	5	U	5	U	5	U				
Carbon tetrachloride	5	U	5	U	5	U	5	U				
Chlorobenzene	5	U	5	U	5	U	5	U				
Chloroethane	10	U	10	U	10	U	10	U				
Chloroform	5	U	5	U	5	U	5	U				
cis-1,3-Dichloropropene	5	U	5	U	5	U	5	U				
Dibromochloromethane	5	U	5	U	5	U	5	U				
Ethene, 1,2-dichloro-, (E)-	5	U	5	U	5	U	5	U				
Ethylbenzene	5	U	5	U	5	U	5	U				
m-Dichlorobenzene	5	U	5	U	5	U	5	U				
Methyl bromide	10	U	10	U	10	U	10	U				
Methyl chloride	10	U	10	U	10	U	10	U				
Methyl ethyl ketone	10	U	10	U	10	U	10	U				
Methyl isobutyl ketone (MIBK)	10	U	10	U	10	U	10	U				
Methyl tert-butyl ether	10	U	10	U	10	U	10	U				
Methylene chloride	5	U	5	U	5	U	5	U				
o-Dichlorobenzene	5	U	5	U	5	U	5	U				
p-Dichlorobenzene	5	U	5	U	5	U	5	U				
Tetrachloroethylene	5	U	5	U	5	U	5	U				
Toluene	5	U	5	U	5	U	5	U				
trans-1,3-Dichloropropene	5	U	5	U	5	U	5	U				
Trichloroethylene	5	U	5	U	5	U	5	U				
Trichlorofluoromethane	5	U	5	U	5	U	5	U				
Vinyl acetate	10	U	10	U	10	U	10	U				
Vinyl chloride	10	U	10	U	10	U	10	U				

2021 Groundwater Data : Semivolatile Organic Compounds
Brookhaven National Laboratory
Project: NSLS II (NSLS)

Analyte	076-18 Depth : 30.00 04/14/2021 ug/L		076-18 Depth : 30.00 10/20/2021 ug/L		076-19 Depth : 30.00 04/14/2021 ug/L		076-19 Depth : 30.00 10/21/2021 ug/L					
1,2,4-Trichlorobenzene	9.6	U	9.8	U	9.6	U	10	U				
2,4,6-Trichlorophenol	19	U	20	U	19	U	20	U				
2,4-Dichlorophenol	9.6	U	9.8	U	9.6	U	10	U				
2,4-Dimethylphenol	9.6	U	9.8	U	9.6	U	10	U				
2,4-Dinitrophenol	57	U	59	U	58	U	61	U				
2,4-Dinitrotoluene	9.6	U	9.8	U	9.6	U	10	U				
2,6-Dinitrotoluene	9.6	U	9.8	U	9.6	U	10	U				
2-Chloronaphthalene	9.6	U	9.8	U	9.6	U	10	U				
2-Chlorophenol	9.6	U	9.8	U	9.6	U	10	U				
3,3'-Dichlorobenzidine	48	U	49	U	48	U	51	U				
4,6-Dinitro-o-cresol	57	U	59	U	58	U	61	U				
4-Bromophenyl phenyl ether	9.6	U	9.8	U	9.6	U	10	U				
4-Chlorophenyl phenyl ether	9.6	U	9.8	U	9.6	U	10	U				
Acenaphthene	9.6	U	9.8	U	9.6	U	10	U				
Acenaphthylene	9.6	U	9.8	U	9.6	U	10	U				
Anthracene	9.6	U	9.8	U	9.6	U	10	U				
Benzo(a)anthracene	9.6	U	9.8	U	9.6	U	10	U				
Benzo(a)pyrene	9.6	U	9.8	U	9.6	U	10	U				
Benzo(b)fluoranthene	9.6	U	9.8	U	9.6	U	10	U				
Benzo(ghi)perylene	9.6	U	9.8	U	9.6	U	10	U				
Benzo(k)fluoranthene	9.6	U	9.8	U	9.6	U	10	U				
Bis(2-chloroethoxy)methane	9.6	U	9.8	U	9.6	U	10	U				
Bis(2-chloroethyl)ether	9.6	U	9.8	U	9.6	U	10	U				
Bis(2-ethylhexyl)phthalate	9.6	U	9.8	U	9.6	U	0.61	J				
bis-chloroisopropyl ether	9.6	U	9.8	U	9.6	U	10	U				
Butyl benzyl phthalate	9.6	U	9.8	U	9.6	U	10	U				
Chrysene	9.6	U	9.8	U	9.6	U	10	U				
Di-n-butyl phthalate	9.6	U	9.8	U	9.6	U	10	U				
Di-n-octyl phthalate	9.6	U	9.8	U	9.6	U	10	U				
Dibenzo(a,h)anthracene	9.6	U	9.8	U	9.6	U	10	U				
Diethyl phthalate	9.6	U	9.8	U	9.6	U	10	U				
Dimethyl phthalate	9.6	U	9.8	U	9.6	U	10	U				
Fluoranthene	9.6	U	9.8	U	9.6	U	10	U				
Fluorene	9.6	U	9.8	U	9.6	U	10	U				
Hexachlorobenzene	9.6	U	9.8	U	9.6	U	10	U				
Hexachlorobutadiene	9.6	U	9.8	U	9.6	U	10	U				
Hexachlorocyclopentadiene	48	U	49	U	48	U	51	U				
Hexachloroethane	9.6	U	9.8	U	9.6	U	10	U				
Indeno(1,2,3-cd)pyrene	9.6	U	9.8	U	9.6	U	10	U				
Isophorone	9.6	U	9.8	U	9.6	U	10	U				
N-Nitrosodimethylamine	9.6	U	9.8	U	9.6	U	10	U				
N-Nitrosodiphenylamine	9.6	U	9.8	U	9.6	U	10	U				
N-Nitrosodipropylamine	9.6	U	9.8	U	9.6	U	10	U				
Naphthalene	9.6	U	9.8	U	9.6	U	10	U				
Nitrobenzene	9.6	U	9.8	U	9.6	U	10	U				
o-Nitrophenol	19	U	20	U	19	U	20	U				
p-Chloro-m-cresol	9.6	U	9.8	U	9.6	U	10	U				
p-Nitrophenol	48	U	49	U	48	U	51	U				
PCP	57	U	59	U	58	U	61	U				
Phenanthrene	9.6	U	9.8	U	9.6	U	10	U				
Phenol	9.6	U	9.8	U	9.6	U	10	U				
Pyrene	9.6	U	9.8	U	9.6	U	10	U				

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: NSLS II (NSLS)

	076-18 Depth : 30.00 10/20/2021 pCi/l				076-19 Depth : 30.00 10/21/2021 pCi/l				086-123 Depth : 34.50 12/21/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-131	U	440	239	188	U	328	203	-122	U	388	213

2021 Groundwater Data : Radionuclides
Brookhaven National Laboratory
Project: NSLS II (NSLS)

	086-124 Depth : 47.00 12/21/2021 pCi/l				086-125 Depth : 37.00 12/21/2021 pCi/l				086-126 Depth : 36.50 12/21/2021 pCi/l			
Analyte	Result	Qual	MDA	Error	Result	Qual	MDA	Error	Result	Qual	MDA	Error
Tritium	-49.5	U	386	216	-63.8	U	379	211	-39.8	U	388	218

APPENDIX E
SAMPLE COLLECTION, TRACKING, AND QA/QC RESULTS

APPENDIX E SAMPLE COLLECTION, TRACKING, AND QA/QC RESULTS

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1.0 GROUNDWATER SAMPLING

This section describes the tracking system, quality assurance, and quality control (QA/QC) for samples collected for the CERCLA and Facility Monitoring (FM) Groundwater Monitoring Programs, and contains the procedures used to collect groundwater samples from monitoring wells. QA/QC issues and the procedures for collecting groundwater samples were formalized during 1999 into BNL Standard Operating Procedures (SOPs). The SOPs are thoroughly reviewed on a 5-year schedule, and revisions are made as necessary. These SOPs will be discussed in the appropriate sections below.

1.1 Sample Collection

Groundwater samples were collected during CY 2021 by the BNL Field Sampling Team for the Facility Monitoring (FM) program and treatment system samples and by a combination of J.R. Holzmacher P.E., LLC and the BNL Field Sampling Team for the CERCLA program.

Groundwater samples are collected using dedicated bladder pumps that have been installed in all routinely monitored wells. To collect the samples, BNL uses a low flow purge technique that is defined in BNL EM-SOP-302, "*Low Flow Purging and Sampling Using Dedicated Bladder Pumps"*. A minimum of two times the volume of the sample pump and tubing are purged from the wells, and samples are collected once water quality parameters (pH, specific conductance, and dissolved oxygen) stabilize or when an amount of groundwater equal to 25 percent of a casing volume has been purged. Depending on the parameter, purge flow rates are adjusted to approximately 100 milliliters per minute for sample collection. Groundwater samples are collected from the pump's discharge tubing into laboratory-supplied bottles and preserved according to analysis requirements. A typical low flow sampling produces 1.5 to 5 gallons of purge water waste per sampling event as compared to 25 to 200 gallons of purge water waste using the three-purge volume technique.

The collection of groundwater samples from temporary wells is dependent on the drilling method used. When using an auger rig, hollow stem augers are advanced to the deepest sampling interval. A stainless-steel well screen is connected to two-inch diameter steel well pipe and lowered through the center of the augers to the required sampling depth. The augers are then withdrawn above the well screen. A submersible pump is lowered to the well screen and three well volumes of groundwater are purged prior to sampling. Groundwater samples are collected

from the operating pump discharge tubing into laboratory-supplied bottles and preserved according to analysis requirements. This procedure is repeated at each depth interval required by the work plan.

When collecting groundwater samples via a Geoprobe, a screen is placed inside a sampler sheath and an expendable drive point is attached to the bottom of the sheath and then threaded onto a steel rod. The probe is advanced to the deepest sample collection level and the screen is released using a trip rod. A length of low-density polyethylene tubing (or high-density polyethylene tubing required for PFAS sampling) sized to fit inside the probe rods is attached to a check valve. The check valve and tubing are sent down the probe rod until they reach the bottom of the screen, and then withdrawn 12 inches. An inertial pump (e.g., Waterra) is used to purge the Geoprobe well. Three casing volumes of groundwater are typically removed prior to sampling. Samples are collected with the inertial pump running continuously.

Purge water from groundwater samples is disposed of by one of three methods as described in BNL EM-SOP-802, "*Well Development, Purge and Decontamination Water Handling Procedures"*. If the groundwater does not contain any contaminants above action levels, NYSDEC and Federal drinking water standards and DOE groundwater screening levels, the purge water is discharged to the ground surface approximately 20 feet down gradient from the wellhead. If the groundwater contains chemical contaminants above action levels, the purge water is run through activated carbon and discharged at least 20 feet downgradient of the wellhead. Purge water which contains radiological contaminants above action levels is containerized and normally processed by an on-site treatment system.

1.1.1 Decontamination

All groundwater sampling equipment is dedicated to each well and was decontaminated by the manufacturer. No additional decontamination is required.

1.2 Sample Tracking System

Samples are tracked using the Environmental Information Management System (EIMS). Tracking is started when a sample is recorded on a chain-of-custody form. Sampling personnel submit these forms to the sampling coordinator, and the information is entered into the EIMS.

1.2.1 Sample Identification

Samples are identified using a code consisting of the chain-of-custody (COC) number and the unique ID number. This ID is written on the sampling logs along with the BNL well ID. BNL well IDs are placed on the COC forms in the Site ID column. QA/QC samples are identified in the same manner as environmental samples. The blind duplicate samples are recorded as BD in the sample ID column of the COC. The location ID of the BD sample is documented on an internal copy of the COC form and subsequently entered into EIMS. BNL EM-SOP-109 details *BNL's Chain of Custody, "Storage, Packaging, and Shipment of Samples"*. COC records are maintained by BNL and are available for review.

1.2.2 Sample Tracking

The COC forms are provided to the BNL Field Sampling Team supervisor and EIMS personnel for entry into EIMS. The status of each sample is updated when:

1. The sample is assigned to a Sample Delivery Group (SDG) and the analytical laboratory communicates this information to the Sampling Coordinator.

2. The Project Manager receives the electronic, PDF version of the analytical report.

3. The Electronic Data Deliverable (EDD) analytical results are received and entered into the EIMS.

4. The Project Manager or designee receives a hard copy of the analytical laboratory cover letter, original chain of custody and sample receipt log for archiving.

5. The Project Manager receives an electronic copy of the data validation package (when applicable).

6. The results of the EDD data-validation results are received and entered (when applicable) into the EIMS.

1.2.3 Sample Packaging and Shipping

Samples are placed inside a plastic bag, sealed inside a cooler, then shipped to external contractor analytical laboratories. The bottles with VOC samples are placed in protective foam inserts. Glass bottles are wrapped with protective packaging to protect against breakage during shipment. Plastic bags are filled with ice (no blue-ice) and sealed, then placed inside each cooler with the samples to ensure that they arrive at the analytical laboratory at four degrees Celsius (plus or minus two degrees). A BNL chain-of-custody form completed by the sampling team accompanies the samples to the laboratory. The form is placed in a plastic bag, sealed, and put inside the cooler with the samples. The samples are shipped to the analytical laboratory via an overnight mail carrier.

1.2.4 Sample Documentation

The sample teams maintain electronic tablets and field notebooks (bound weatherproof logbooks) that are filled out at the location where the sample is collected. They contain the sample's designation, collection time, description, collection method, and the weather conditions, field measurements, and other site-specific observations.

The sample teams also complete collection logs for every sample that is collected. The completed Groundwater Sample Logs are submitted to the BNL Field Sampling Team supervisor weekly.

1.3 Analytical Methods

The following sections describe the analytical methods used for the BNL Groundwater Monitoring Program.

1.3.1 Chemical Analytical Methods

The CERCLA and FM samples collected during CY 2021 were analyzed by organic, inorganic, and various wet-chemical methods. FM and CERCLA chemical analyses were performed by GEL Laboratories, and Eurofins-Test America. Table 1-5 summarizes the analytes and/or methods used for specific CERCLA monitoring programs and samples. Table 1-6 summarizes this information for the FM program.

The following inorganic, organic, and wet chemical methods were used: United States Environmental Protection Agency (USEPA) methods including 200 and 500 Series methods (40 Code of Federal Regulations (CFR) 141); 600 Series methods (40 CFR 136); and SW-846

methods (40 CFR 261). Other standard methods include those listed in *Standard Methods for the Analysis of Wastewater* (latest edition) and those in the American Society for Testing and Materials (ASTM) publications (latest revision).

1.3.2 Radiological Analytical Methods

Unlike organic and inorganic chemical analytical methods, few standard methods are available for the radiological analysis of environmental samples. There are no standard established QA/QC requirements and acceptance criteria for environmental radiological methods; therefore, different USEPA, U.S. Department of Energy (DOE), and commercial laboratories may have different methods of preparing samples preparing and analytical techniques for specific radiological analytes. Hence, laboratory-reported detection limits may vary. Nonetheless, multi-laboratory validation studies and inter-laboratory comparisons have demonstrated that accurate, comparable, radiological data are obtainable even when different procedures are used.

Tables 1-5 and 1-6 provide the analytical parameters and/or methods used for specific monitoring programs and samples. Radiological analyses were undertaken for onsite and offsite locations. The radiological analyses enable BNL to monitor radiological water-quality status throughout the site.

1.4 Quality Assurance and Quality Control

This section describes the QA/QC requirements for field work conducted under the CERCLA and FM Groundwater Monitoring Programs. In general, the quality of the analytical results from groundwater samples collected during CY 2021 met data quality objectives.

1.4.1 Calibration and Preventive Maintenance of Field Instruments

Sampling team personnel are responsible for assuring that the Daily Water Quality and the Monthly Calibration Logs are maintained for each water quality meter (i.e., pH, conductivity, turbidity meters, etc.).

1.4.2 QA/QC Sample Collection

Guidance on collecting the QA/QC samples is given in *BNL EM-SOP-200 "Collection and Frequency of Field Quality Control Samples."* Sample-specific requirements are listed separately, below.

The collection of QA/QC samples is dependent on the data quality objectives of each project. The following is a general breakdown of the QA/QC samples collected by project type:

CERCLA Groundwater Monitoring: trip blanks, field blanks, equipment blanks, matrix spike/matrix spike duplicates (MS/MSDs), and blind duplicates.

Remediation Treatment System Sampling: trip blanks.

FM Groundwater Monitoring: trip blanks, field blanks, equipment blanks, and blind duplicates.

1.4.2.1 Equipment Blanks

Equipment blanks are collected to evaluate any potential cross-contamination of samples due to the sampling equipment. They are collected by pouring laboratory grade water over the sampling equipment which comes in contact to the groundwater sample. Equipment blanks are only collected for projects that require the use on non-dedicated sampling equipment. The frequency of collecting equipment blanks is one for every 20 groundwater samples shipped to the analytical laboratory. Equipment blanks are typically not collected during routine monitoring efforts when dedicated sampling equipment was used. Equipment blanks are collected when non-dedicated sampling equipment is used (e.g., sampling of temporary Geoprobe wells).

1.4.2.2 Field Blanks

Field blanks are obtained by pouring laboratory grade water into clean sample bottles containing preservatives. The field blanks are collected in the field and accompany field personnel to the sampling location. They are analyzed for the same parameters that the groundwater is being analyzed for on that day. The frequency of collecting equipment blanks is one for every 20 groundwater samples shipped to the analytical laboratory. For projects with less than 20 monitoring wells, a minimum of one field blank is collected per project for each sampling event. Field blank results are summarized on Table E-1. The only constituents found in field blanks collected for VOCs in 2021 were Styrene (detected in 1 of 23 samples) and Naphthalene (detected in 1 of 25 samples). The highest concentration of any organic compound in a field blank was 2-Chloronaphthalene, a semi-volatile analyte, detected at 0.47 µg/L. The 2-Chloronaphthalene was not detected in any of the groundwater sampled, and maybe due to trace laboratory contamination.

1.4.2.3 Trip Blanks

A trip blank is an aliquot of deionized water that is sealed in a sample bottle (glass vials (40 ml) with Teflon septa). It is used to determine if there is any cross-contamination between aqueous samples during shipment. Trip blanks are analyzed for aqueous VOCs only. A trip blank is generated by BNL using a specialized deionized/RO water system and shipped to the analytical laboratory with each set of samples submitted for VOC analyses. Upon arrival at BNL, the sealed trip blank bottles are placed in a cooler and brought to the field by the sampling team. If several coolers are required, each cooler must contain an individual trip blank. Trip blank detections are summarized on Table E-2. Total number of trip blanks collected in 2021 was 89. The constituent detected most frequently in the Trip blanks was Styrene which was detected 13 times. The Styrene detections are most likely due to trace laboratory contamination. The highest concentration of any organic compound in the Trip blanks was Methylene chloride detected at 1.25 µg/L.

1.4.2.4 Duplicate Samples

Field duplicate samples are analyzed to check the reproducibility of the laboratory's analytical results. Duplicates are either blind (the laboratory doesn't know the identity of the sample location) or field (the laboratory is told the identity of the sampling location). The specific type of duplicate used on a project is dependent on the project data quality objectives. At least 5 percent (one out of every 20 samples) of the total number of collected groundwater samples are duplicated to evaluate the precision of the methods. For projects with less than 20 monitoring wells, a minimum of one blind duplicate sample is collected per project for each sampling event. USEPA Region II USEPA Region II data validation criteria were used for field duplicate interpretation. For detects above 5 times the contract required detection limit (CRDL), a relative percent difference (RPD) was calculated. An acceptable RPD was 50% or below. For detects below 5 times the CRDL, the QC requirement is that the difference between the duplicate results must be less than or equal to the CRDL. A total of 54 duplicate samples were collected for non-radiological analyses and 43 duplicates were collected for radiologic analyses. Not all parameters were analyzed in every duplicate. The parameters in each duplicate were consistent with those required for the specific program the duplicate was monitoring. Of the 2772 non-radiologic parameters analyzed, 121 parameters (4.4%) were above 50% RPD. For the radiologic parameters 31 of the 291 parameters (10.6%) failed to meet QA criteria. The results are indicative of consistency with the laboratory and sampling team that is resulting in valid, reproducible data.

1.4.2.5 Requirements for Matrix Spike/Matrix Spike Duplicate Volumes

MS/MSDs for organic analysis are performed at a frequency of one MS/MSD for every 20 groundwater samples in an SDG. Reanalysis may be necessary in certain situations. To ensure that the laboratory has sufficient volume for MS/MSD analysis, triple the sample volume must be collected.

1.4.3 Data Verification

Data verification is the process by which contract laboratory results are checked to ensure that the proper quality control steps were performed. These steps checked in data verification include, but are not limited to, data package deliverable completeness, review of the chain-of-custody, review of analytical holding times, blank contaminants, duplicate results, and matrix spike results. All groundwater data collected at BNL undergoes data verification. The procedures for data verification are given in BNL EM-SOP-203, *Chemical Data Verification* and BNL EM-SOP-204, *Radiochemical Data Verification*. This is BNL's internal process to verify the accuracy and/or completeness of analytical data. For calendar year 2021, over 1000 data verifications were completed.

1.4.4 Data Usability

Data usability is the process by which data that does not meet the expected results, but which has been deemed acceptable by a data validation or verification, is reviewed.

Determining the usability of chemical data is relatively straightforward. The data is assessed according to BNL's *Chemical Data Usability* (BNL EM-SOP-211). Laboratory analytical data are validated or verified, and validation qualifiers are assigned to them. Table E-3 defines the qualifiers placed on the data by the analytical laboratory and Table E-4 defines the data validation, verification, and usability qualifiers.

The usability of radiological data for the 2021 data was determined through a two-step process. The project manager initially reviewed all groundwater monitoring data. Data were considered acceptable for use if they were not significantly different than expected for a particular well, based on historical trends and were not qualified as unusable during the validation and/or

verification procedures. Results for a particular well that were not expected, based on historical trends, were referred to the EPD chemist. The data then were assessed according to BNL's *Radiochemical Data Usability* (BNL EM-SOP-210). The data subsequently were assigned (if applicable) a revised qualifier and a data-usability code. A usability code of "N3" was assigned if the data were not usable based on the lack of expected daughter products. A
usability code of "N2" was assigned if the data were not usable because the results and the propagated error are indistinguishable from background (i.e., the result minus the 2 sigma error is less than the detection limit). Data identified as being "not usable" were not considered in characterizing the presence or extent of contamination. Data usability report summaries are included as Appendix G.

1.4.5 Data Qualification

During the data validation, verification and/or usability processes, the data may be qualified to alert the user to limitations in the use of the data based on QA/QC violations. Table E-3 defines the qualifiers placed on the data by the analytical laboratory and Table E-4 defines the data validation, verification, and usability qualifiers. For organic and inorganic analytes, three primary qualifiers may be applied to laboratory data: "U," "J," and "R." In addition, there may be no qualifier if QA/QC issues are not identified. For radiological data, in addition to the "U," "J," and "R" qualifiers, qualifiers such as "DL," "N2,", and "N3" were also applied to the results.

A "U" qualifier, which is a laboratory qualifier, indicates that the analyte was a target of the method but was not detected. The "U" qualifier also may be used in conjunction with the "J" qualifier, which indicates that the reported concentration is an estimated value because the reported value is lower than the required reporting limit, or because one or more analytical deficiencies were noted during the data validation review. Thus, the designation "UJ" indicates that the analyte was not detected, and the reported quantitation or detection limit is an estimate due to QA/QC deficiencies. The "R" qualifier indicates that the datum is rejected. An "R" qualifier can be reported for analytes that either were, or were not, detected. In other words, an "R" qualifier may be assessed upon a reported concentration, or a result reported with a "U" qualifier.

Data reported as either unqualified, or with “U” or “J” qualifiers are typically usable, in assessments of the extent of contamination or effectiveness of remedial actions. Data qualified by “R” are considered unusable.

Table F-1
Extraction Wells Radiological and VOC Data
OU I South Boundary System

2021 BNL Groundwater Status Report

The extraction wells did not operate in 2021.

Table F-2
Air Stripper Influent Radiological and VOC Data
OU I South Boundary System

2021 BNL Groundwater Status Report

OU I South Boundary Treatment System was in standby mode during 2021.

Table F-3
Air Stripper Effluent Radiological and VOC Data
OU I South Boundary System

2021 BNL Groundwater Status Report

OU I South Boundary Treatment System was in standby mode during 2021.

Table F-4
Cumulative Mass Removal
OU I South Boundary System

2021 BNL Groundwater Status Report

Date Sampled		Cumulative VOC's (lbs)
6/3/2013	Final mass removal	368.97

Table F-5
Influent VOC Data
OU III Building 96 System

2021 BNL Groundwater Status Report

Site ID : 095-151 (RTW-1 Influent)

Chemical Name	Sample Date	Value	Detlim	Units	Depth	Qual
524.2 TVOC	01/06/21	4.42	0	UG/L	0	
Tetrachloroethylene	01/06/21	4.1	0.5	UG/L	0	
Trichlorofluoromethane	01/06/21	0.32	0.5	UG/L	0	J
524.2 TVOC	01/21/21	4.6	0	UG/L	0	
Chloroform	01/21/21	0.58	0.5	UG/L	0	
Tetrachloroethylene	01/21/21	3.7	0.5	UG/L	0	
Trichlorofluoromethane	01/21/21	0.32	0.5	UG/L	0	J
524.2 TVOC	02/10/21	4.72	0	UG/L	0	
Chloroform	02/10/21	0.56	0.5	UG/L	0	
Tetrachloroethylene	02/10/21	3.8	0.5	UG/L	0	
Trichlorofluoromethane	02/10/21	0.36	0.5	UG/L	0	J
524.2 TVOC	02/22/21	4.61	0	UG/L	0	
Chloroform	02/22/21	0.57	0.5	UG/L	0	
Tetrachloroethylene	02/22/21	3.7	0.5	UG/L	0	
Trichlorofluoromethane	02/22/21	0.34	0.5	UG/L	0	J
524.2 TVOC	03/01/21	4.62	0	UG/L	0	
Chloroform	03/01/21	0.62	0.5	UG/L	0	
Tetrachloroethylene	03/01/21	4	0.5	UG/L	0	
524.2 TVOC	03/17/21	4.26	0	UG/L	0	
Chloroform	03/17/21	0.56	0.5	UG/L	0	
Tetrachloroethylene	03/17/21	3.7	0.5	UG/L	0	
524.2 TVOC	04/06/21	3.91	0	UG/L	0	
Chloroform	04/06/21	0.51	0.5	UG/L	0	
Tetrachloroethylene	04/06/21	3.4	0.5	UG/L	0	
524.2 TVOC	04/19/21	3.42	0	UG/L	0	
Chloroform	04/19/21	0.62	0.5	UG/L	0	
Tetrachloroethylene	04/19/21	2.8	0.5	UG/L	0	
524.2 TVOC	05/04/21	4.42	0	UG/L	0	
Tetrachloroethylene	05/04/21	4.2	0.5	UG/L	0	
Trichlorofluoromethane	05/04/21	0.22	0.5	UG/L	0	J
524.2 TVOC	05/17/21	3.7	0	UG/L	0	
Tetrachloroethylene	05/17/21	3.7	0.5	UG/L	0	
524.2 TVOC	06/03/21	4.31	0	UG/L	0	
Chloroform	06/03/21	0.53	0.5	UG/L	0	
Tetrachloroethylene	06/03/21	3.6	0.5	UG/L	0	
Trichlorofluoromethane	06/03/21	0.18	0.5	UG/L	0	J
524.2 TVOC	06/14/21	3.76	0	UG/L	0	
Chloroform	06/14/21	0.49	0.5	UG/L	0	J
Tetrachloroethylene	06/14/21	3.1	0.5	UG/L	0	
Trichlorofluoromethane	06/14/21	0.17	0.5	UG/L	0	J
8260 TVOC	07/09/21	3.9	0	UG/L	0	
Chloroform	07/09/21	0.5	0.5	UG/L	0	
Tetrachloroethylene	07/09/21	3.4	0.5	UG/L	0	
8260 TVOC	07/19/21	3.55	0	UG/L	0	
Chloroform	07/19/21	0.45	0.5	UG/L	0	J
Tetrachloroethylene	07/19/21	3.1	0.5	UG/L	0	
8260 TVOC	08/03/21	3.34	0	UG/L	0	
Chloroform	08/03/21	0.44	0.5	UG/L	0	J
Tetrachloroethylene	08/03/21	2.9	0.5	UG/L	0	
8260 TVOC	08/16/21	3.24	0	UG/L	0	
Chloroform	08/16/21	0.44	0.5	UG/L	0	J
Tetrachloroethylene	08/16/21	2.8	0.5	UG/L	0	
1,2,4-Trichlorobenzene	09/01/21	0.17	0.5	UG/L	0	J
8260 TVOC	09/01/21	3.84	0	UG/L	0	
Chloroform	09/01/21	0.49	0.5	UG/L	0	J
Naphthalene	09/01/21	0.38	0.5	UG/L	0	J
Tetrachloroethylene	09/01/21	2.8	0.5	UG/L	0	
8260 TVOC	09/14/21	3.23	0	UG/L	0	
Chloroform	09/14/21	0.43	0.5	UG/L	0	J
Tetrachloroethylene	09/14/21	2.8	0.5	UG/L	0	
8260 TVOC	10/05/21	4.28	0	UG/L	0	
Chloroform	10/05/21	0.57	0.5	UG/L	0	
Tetrachloroethylene	10/05/21	3.5	0.5	UG/L	0	
Trichlorofluoromethane	10/05/21	0.21	0.5	UG/L	0	J
8260 TVOC	10/25/21	3.65	0	UG/L	0	
Chloroform	10/25/21	0.55	0.5	UG/L	0	

Table F-5
Influent VOC Data
OU III Building 96 System

2021 BNL Groundwater Status Report

Site ID : 095-151 (RTW-1 Influent)

Chemical Name	Sample Date	Value	Detlim	Units	Depth	Qual
Tetrachloroethylene	10/25/21	3.1	0.5	UG/L	0	
8260 TVOC	11/05/21	3.21	0	UG/L	0	
Chloroform	11/05/21	0.51	0.5	UG/L	0	
Tetrachloroethylene	11/05/21	2.7	0.5	UG/L	0	
8260 TVOC	11/15/21	3.36	0	UG/L	0	
Chloroform	11/15/21	0.56	0.5	UG/L	0	
Tetrachloroethylene	11/15/21	2.8	0.5	UG/L	0	
8260 TVOC	12/03/21	3.12	0	UG/L	0	
Chloroform	12/03/21	0.32	0.5	UG/L	0	J
Tetrachloroethylene	12/03/21	2.8	0.5	UG/L	0	
8260 TVOC	12/13/21	3.55	0	UG/L	0	
Chloroform	12/13/21	0.45	0.5	UG/L	0	J
Tetrachloroethylene	12/13/21	3.1	0.5	UG/L	0	

Site ID : 095-153 (RTW-2 Influent)

Chemical Name	Sample Date	Value	Detlim	Units	Depth	Qual
524.2 TVOC	01/06/21	2.29	0	UG/L	0	
Tetrachloroethylene	01/06/21	0.39	0.5	UG/L	0	J
Trichlorofluoromethane	01/06/21	1.9	0.5	UG/L	0	
524.2 TVOC	04/06/21	1	0	UG/L	0	
Chloroform	04/06/21	0.38	0.5	UG/L	0	J
Tetrachloroethylene	04/06/21	0.3	0.5	UG/L	0	J
Trichlorofluoromethane	04/06/21	0.32	0.5	UG/L	0	J
8260 TVOC	07/19/21	1.61	0	UG/L	0	
Chloroform	07/19/21	1.3	0.5	UG/L	0	
Tetrachloroethylene	07/19/21	0.31	0.5	UG/L	0	J
8260 TVOC	10/05/21	1.45	0	UG/L	0	
Chloroform	10/05/21	1.1	0.5	UG/L	0	
Tetrachloroethylene	10/05/21	0.35	0.5	UG/L	0	J

Site ID : 095-155 (RTW-3 Influent)

Chemical Name	Sample Date	Value	Detlim	Units	Depth	Qual
524.2 TVOC	01/06/21	0.19	0	UG/L	0	
Tetrachloroethylene	01/06/21	0.19	0.5	UG/L	0	J
524.2 TVOC	04/06/21	1.64	0	UG/L	0	
Chloroform	04/06/21	1.5	0.5	UG/L	0	
Tetrachloroethylene	04/06/21	0.14	0.5	UG/L	0	J
8260 TVOC	07/19/21	1	0	UG/L	0	
Chloroform	07/19/21	1	0.5	UG/L	0	
8260 TVOC	10/05/21	0.92	0	UG/L	0	
Chloroform	10/05/21	0.92	0.5	UG/L	0	

Site ID : 095-157 (RTW-4 Influent)

Chemical Name	Sample Date	Value	Detlim	Units	Depth	Qual
524.2 TVOC	01/06/21	0.15	0	UG/L	0	
Tetrachloroethylene	01/06/21	0.15	0.5	UG/L	0	J
524.2 TVOC	04/06/21	0.36	0	UG/L	0	
Chloroform	04/06/21	0.13	0.5	UG/L	0	J
Tetrachloroethylene	04/06/21	0.23	0.5	UG/L	0	J
8260 TVOC	07/19/21	0	0	UG/L	0	
8260 TVOC	10/05/21	0	0	UG/L	0	

J = Estimated Value below the method detection limit of 0.50 UG/L
B = Compound was found in both the sample and associated laboratory blank.

Table F-6
Source Control Air Sampling Results (Hits Only)
OU III Building 96 System

2021 BNL Groundwater Status Report

Wells 2,3,4 on Sand-By, No Air Data 2021.

Table F-7
Pumpage and Mass Removal
OU III Building 96 System
2021 BNL Groundwater Status Report

Date	RTW-1		RTW-2		RTW-3		RTW-4	
	Total Pumped* *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*
1/18/2001	0	0.00	0	0.00	0	0.00	1,320	0.00
2/6/2001	39,960	0.05	22,680	0.00	25,920	0.21	25,080	0.00
2/7/2001	91,020	0.09	50,400	0.00	59,040	0.29	54,120	0.00
2/8/2001	142,080	0.26	80,640	0.00	92,160	0.22	85,800	0.01
2/9/2001	199,800	0.34	113,400	0.00	129,600	0.26	120,120	0.01
2/10/2001	304,140	0.66	172,620	0.01	197,280	0.37	180,840	0.02
2/12/2001	357,420	0.32	176,400	0.00	231,840	0.18	213,840	0.01
3/9/2001	768,120	2.65	322,560	0.01	498,240	1.33	458,040	0.10
3/28/2001	1,582,860	5.20	728,280	0.03	1,026,720	2.71	941,160	0.07
4/4/2001	1,762,680	0.61	830,340	0.08	1,143,360	0.20	1,048,080	0.09
5/7/2001	1,973,580	0.68	956,340	0.08	1,280,160	0.21	1,176,120	0.08
6/12/2001	3,053,580	1.86	1,676,340	0.26	2,000,160	1.07	1,896,120	0.54
7/16/2001	3,698,700	0.91	2,482,740	0.39	2,806,560	0.79	2,702,520	1.18
8/13/2001	4,343,820	0.98	3,208,500	0.53	3,612,960	0.57	3,468,600	0.88
9/5/2001	4,873,740	0.52	3,804,660	0.45	4,275,360	0.50	4,097,880	0.62
10/2/2001	5,397,345	0.67	4,405,393	0.51	4,945,772	0.36	4,749,934	0.38
11/1/2001	6,033,079	1.05	5,133,686	0.68	5,759,659	0.40	5,547,867	0.24
12/7/2001	6,281,676	0.39	5,605,726	0.37	6,283,103	0.20	6,067,911	0.09
1/2/2002	6,953,724	1.00	6,337,777	0.23	7,088,353	0.14	6,873,161	0.04
2/1/2002	8,138,324	1.36	7,097,468	0.17	7,852,723	0.00	7,630,802	0.03
3/1/2002	9,438,485	1.07	7,933,881	0.18	8,682,452	0.08	8,464,356	0.04
4/1/2002	10,738,646	0.96	8,770,294	0.08	9,512,181	0.06	9,297,910	0.03
5/1/2002	11,994,906	0.70	9,590,008	0.07	10,321,344	0.06	10,114,663	0.02
6/3/2002	13,418,012	0.85	10,544,112	0.07	11,253,969	0.06	11,081,608	0.03
7/1/2002	14,637,525	0.53	11,361,779	0.05	12,049,136	0.05	11,908,916	0.03
8/1/2002	15,838,038	0.58	12,145,419	0.04	12,835,173	0.05	12,713,560	0.03
9/3/2002	17,244,306	0.67	13,101,051	0.04	13,752,178	0.06	13,664,127	0.03
10/1/2002	18,421,996	0.43	13,907,894	0.03	14,519,888	0.03	14,430,693	0.02
11/1/2002	19,824,678	0.54	14,802,436	0.03	15,437,805	0.03	15,287,459	0.03
12/2/2002	21,150,755	0.45	15,685,023	0.02	16,209,167	0.02	16,137,219	0.02
1/3/2003	22,296,027	0.41	16,448,088	0.02	16,964,154	0.04	16,880,317	0.01
2/4/2003	23,723,049	0.52	17,399,860	0.03	17,920,702	0.07	17,825,363	0.01
3/3/2003	24,881,283	0.51	18,171,948	0.02	18,696,672	0.06	18,588,383	0.02
4/1/2003	25,982,363	0.37	18,895,607	0.01	19,427,732	0.03	19,278,997	0.02
5/1/2003	27,252,775	0.53	19,719,678	0.06	20,264,804	0.03	20,056,403	0.02
5/18/2003	27,905,079	NA	20,135,774	NA	20,681,555	NA	20,446,633	NA
7/1/2003	27,905,079	0.31	20,135,774	0.00	20,681,555	0.002	20,446,633	0.01
7/15/2003	28,284,425	NA	20,534,396	NA	21,080,269	NA	20,762,535	NA
9/15/2003	28,284,425	2.15	20,534,396	0.01	21,080,269	0.02	20,762,535	0.005
10/1/2003	28,853,917	1.60	20,890,592	0.01	21,498,423	0.02	21,091,161	0.004

Table F-7
Pumpage and Mass Removal
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Date	RTW-1		RTW-2		RTW-3		RTW-4	
	Total Pumped* *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*
11/3/2003	30,118,477	0.68	21,733,662	0.02	22,425,833	0.03	21,805,409	0.005
12/1/2003	31,256,257	1.57	21,949,542	0.00	23,260,139	0.02	22,430,473	0.004
1/6/2004	32,446,597	1.53	21,949,542	0.00	24,132,989	0.03	23,086,025	0.003
2/2/2004	33,267,247	1.01	21,949,542	0.00	24,734,997	0.06	23,220,645	0.000
3/1/2004	34,384,807	1.30	21,949,542	0.00	25,553,353	0.09	23,220,645	0.000
4/2/2004	35,460,667	0.85	21,949,542	0.00	26,342,251	0.36	23,220,645	0.000
5/4/2004	36,837,217	0.91	22,161,956	0.02	27,351,809	0.36	23,436,889	0.007
6/2/2004	38,082,937	0.72	23,056,442	0.08	28,265,337	0.27	24,348,877	0.024
7/1/2004	39,276,293	0.80	23,953,258	0.12	29,088,351	0.15	25,261,235	0.016
7/13/04*	39,740,085	NA	24,151,174	NA	29,419,431	NA	25,625,291	NA
8/3/2004	40,583,081	0.83	24,151,174	0.00	29,419,431	0.00	25,625,291	0.000
9/1/2004	41,748,693	0.70	24,151,174	0.00	29,419,431	0.00	25,625,291	0.000
10/4/2004	43,144,141	0.70	24,151,174	0.00	29,419,431	0.00	25,625,291	0.000
11/3/2004	44,528,109	0.60	24,151,174	0.00	29,419,431	0.00	25,625,291	0.000
12/2/2004	45,556,469	0.52	24,151,174	0.00	29,419,431	0.00	25,625,291	0.000
1/4/2005	47,065,453	0.91	24,151,174	0.00	29,419,431	0.00	25,625,291	0.000
2/2/2005	48,275,053	0.55	24,151,174	0.00	29,419,431	0.00	25,625,291	0.000
3/4/2005	49,614,253	0.37	24,151,174	0.00	29,419,431	0.00	25,625,291	0.000
4/21/2005	51,687,853	0.48	24,151,174	0.00	29,419,431	0.00	25,625,291	0.000
5/19/2005	52,897,853	0.24	24,151,174	0.00	29,419,431	0.00	25,625,291	0.000
6/1/2005	53,373,053	0.13	24,151,174	0.00	29,419,431	0.00	25,625,291	0.000
7/1/2005	53,373,053	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
8/30/2005	53,373,053	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
9/30/2005	53,373,053	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
10/31/2005	53,621,149	0.11	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
11/30/2005	54,435,113	0.16	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
12/30/2005	55,249,077	0.03	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
1/31/2006	55,766,745	0.15	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
2/28/2006	55,766,745	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
3/31/2006	55,947,421	0.05	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
4/30/2006	55,956,057	0.23	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
5/31/2006	58,190,277	0.20	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
6/30/2006	58,190,277	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
7/31/2006	58,190,277	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
8/31/2006	58,190,277	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
9/30/2006	58,190,277	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
10/31/2006	58,190,277	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
11/30/2006	58,190,277	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
12/31/2006	58,190,277	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
1/31/2007	58,190,277	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00

Table F-7
Pumpage and Mass Removal
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Date	RTW-1		RTW-2		RTW-3		RTW-4	
	Total Pumped* *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*
2/28/2007	58,190,277	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
3/31/2007	58,190,277	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
4/30/2007	58,190,277	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
5/31/2007	58,190,277	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
6/30/2007	58,190,277	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
7/31/2007	58,190,277	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
8/31/2007	58,190,277	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
9/30/2007	58,190,277	0.00	24,151,174	0.00	29,419,431	0.00	25,625,291	0.00
10/31/2007	58,190,277	0.00	24,419,826	0.01	29,419,431	0.00	25,625,291	0.00
11/30/2007	58,190,277	0.00	25,888,822	0.06	29,419,431	0.00	25,625,291	0.00
12/31/2007	58,190,277	0.00	26,967,734	0.07	29,419,431	0.00	25,625,291	0.00
1/31/2008	58,190,277	0.00	27,948,548	0.03	29,419,431	0.00	25,625,291	0.00
2/28/2008	58,190,277	0.00	28,572,246	0.02	29,419,431	0.00	25,642,079	0.00
3/31/2008	58,190,277	0.00	29,682,602	0.04	30,480,807	0.22	26,742,201	1.11
4/30/2008	58,190,277	0.00	30,187,210	0.01	31,062,687	0.35	27,095,357	0.05
5/31/2008	59,195,217	1.42	31,279,392	0.05	32,315,577	0.58	27,771,579	0.14
6/30/2008	60,003,465	0.74	31,863,560	0.04	32,989,197	0.61	28,131,035	0.05
7/31/2008	61,598,386	1.29	32,013,086	0.00	34,462,977	0.73	28,761,501	0.11
8/31/2008	62,356,297	0.52	32,846,646	0.04	35,424,747	0.61	28,761,501	0.00
9/30/2008	62,994,481	0.47	33,771,648	0.06	36,492,117	0.70	28,761,501	0.00
10/31/2008	64,281,093	0.90	34,865,260	0.03	37,750,335	0.45	29,216,663	0.00
11/30/2008	65,599,609	0.66	35,486,892	0.01	38,953,743	0.23	30,204,617	0.00
12/31/2008	66,795,541	0.62	36,353,662	0.02	40,058,415	0.18	31,110,945	0.00
1/31/2009	67,805,949	0.66	37,113,184	0.01	41,068,903	0.19	32,029,877	0.03
2/28/2009	68,903,125	0.68	38,016,552	0.02	42,072,383	0.11	32,946,601	0.01
3/31/2009	70,176,037	0.66	39,066,128	0.02	43,233,715	0.08	34,026,172	0.03
4/30/2009	71,058,925	0.42	39,914,876	0.01	44,173,991	0.04	34,884,771	0.00
5/31/2009	72,379,037	0.70	41,022,336	0.01	45,415,887	0.03	35,939,465	0.00
6/30/2009	73,380,029	0.53	41,859,828	0.01	46,408,673	0.02	36,753,597	0.00
7/31/2009	74,696,413	0.78	43,011,636	0.01	47,363,555	0.03	37,901,937	0.01
8/31/2009	76,098,205	0.82	44,238,176	0.01	48,545,471	0.03	39,128,397	0.00
9/30/2009	77,253,341	0.73	45,248,920	0.00	49,590,855	0.01	40,136,693	0.00
10/31/2009	78,357,981	0.66	46,297,236	0.01	50,658,495	0.02	41,118,557	0.03
11/30/2009	79,590,733	0.78	47,500,172	0.00	51,861,291	0.01	42,306,641	0.00
12/31/2009	80,512,829	0.61	48,305,216	0.00	52,666,347	0.01	43,111,557	0.00
1/31/2010	81,417,989	0.74	49,047,020	0.00	53,363,759	0.01	43,808,529	0.00
2/28/2010	82,405,421	0.59	49,911,184	0.01	53,506,123	0.00	44,549,253	0.00
3/31/2010	83,045,517	0.56	50,233,268	0.00	53,589,955	0.00	45,058,681	0.00
4/30/2010	83,269,101	0.12	50,233,268	0.00	53,740,191	0.00	46,653,141	0.00
5/31/2010	84,914,765	0.62	50,234,192	0.00	54,072,647	0.01	47,316,405	0.00

Table F-7
Pumpage and Mass Removal
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Date	RTW-1		RTW-2		RTW-3		RTW-4	
	Total Pumped* *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*
6/30/2010	85,987,149	0.57	51,299,164	0.02	54,229,587	0.01	48,077,501	0.00
7/31/2010	87,269,625	1.10	51,299,164	0.00	54,229,587	0.00	48,838,597	0.00
8/31/2010	87,269,625	0.00	51,299,164	0.00	54,229,587	0.00	48,838,597	0.00
9/30/2010	87,269,625	0.00	51,299,164	0.00	54,398,735	0.00	48,838,597	0.00
10/31/2010	87,638,109	0.09	51,646,060	0.01	55,537,327	0.02	48,975,037	0.00
11/30/2010	89,074,525	1.27	52,985,744	0.01	56,565,347	0.01	49,978,593	0.01
12/31/2010	90,249,629	0.83	54,060,748	0.01	57,149,287	0.02	51,006,753	0.00
1/31/2011	90,917,021	0.46	54,602,976	0.01	58,152,191	0.02	51,590,665	0.00
2/28/2011	92,063,129	0.80	55,610,572	0.01	59,388,979	0.02	52,593,513	0.01
3/31/2011	93,476,701	0.73	56,853,412	0.01	60,338,347	0.01	53,826,065	0.01
4/30/2011	94,561,725	0.56	57,806,852	0.01	61,303,423	0.01	54,779,401	0.00
5/31/2011	95,664,701	0.60	58,778,244	0.01	62,168,651	0.01	55,665,453	0.00
6/30/2011	96,614,429	0.56	59,643,639	0.01	63,289,153	0.01	56,394,713	0.00
7/31/2011	97,048,997	0.23	60,769,676	0.01	64,182,579	0.02	57,328,665	0.00
8/31/2011	98,084,613	0.67	61,676,660	0.01	64,974,447	0.03	58,011,349	0.00
9/30/2011	99,163,061	0.82	62,468,808	0.02	66,234,337	0.03	58,609,481	0.00
10/31/2011	100,647,805	1.20	63,728,448	0.04	67,330,395	0.02	59,528,921	0.00
11/30/2011	101,898,173	0.96	64,778,552	0.01	68,516,783	0.03	60,016,017	0.00
12/30/2011	102,962,109	0.34	65,520,040	0.01	69,543,007	0.02	61,371,953	0.00
1/31/2012	103,570,227	0.21	66,295,796	0.02	70,507,639	0.03	62,316,145	0.00
2/28/2012	104,901,373	0.51	67,244,756	0.03	71,575,283	0.03	63,645,481	0.00
3/31/2012	106,004,285	0.51	68,210,312	0.03	72,888,403	0.00	64,739,109	0.00
4/30/2012	107,306,941	0.59	69,342,556	0.03	73,748,275	0.02	65,951,313	0.00
5/31/2012	108,180,093	0.49	70,031,860	0.00	74,946,995	0.02	66,748,825	0.00
6/30/2012	108,528,605	0.27	71,178,836	0.02	75,961,715	0.02	67,802,341	0.00
7/31/2012	109,543,325	1.08	72,192,436	0.01	77,038,803	0.02	68,690,221	0.00
8/31/2012	110,620,381	1.41	73,269,492	0.01	78,008,467	0.01	69,632,589	0.00
9/30/2012	111,590,077	0.95	74,233,300	0.02	78,731,827	0.02	70,478,833	0.00
10/31/2012	112,405,597	0.65	74,742,292	0.01	79,738,323	0.02	70,478,889	0.00
11/30/2012	113,411,773	0.85	75,446,644	0.02	81,060,307	0.02	70,479,029	0.00
12/31/2012	114,313,405	1.35	76,810,292	0.08	82,399,955	0.02	70,479,113	0.00
1/31/2013	114,794,781	0.18	77,501,492	0.00	83,117,463	0.02	70,479,113	0.00
2/28/2013	114,882,205	0.08	77,718,676	0.00	84,489,875	0.02	70,479,113	0.00
3/31/2013	115,973,437	0.24	78,834,836	0.17	85,808,883	0.03	70,479,113	0.00
4/30/2013	117,052,821	0.44	79,748,404	0.08	87,230,003	0.05	70,479,113	0.00
5/31/2013	118,223,661	0.33	80,341,972	0.04	88,631,347	0.10	70,479,113	0.00
6/30/2013	119,657,389	1.12	81,603,860	0.04	89,971,763	0.32	70,479,113	0.00
7/31/2013	120,997,773	1.25	82,944,276	0.07	91,406,291	0.26	70,479,113	0.00
8/31/2013	122,440,557	1.22	84,499,476	0.07	92,704,147	0.17	70,479,113	0.00
9/30/2013	123,595,981	0.95	85,857,332	0.07	94,126,131	0.19	70,479,113	0.00

Table F-7
Pumpage and Mass Removal
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	RTW-1		RTW-2		RTW-3		RTW-4	
Date	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*
10/31/2013	125,017,965	0.85	87,219,316	0.07	95,609,779	0.21	70,479,113	0.00
11/30/2013	126,330,797	0.75	88,661,876	0.05	96,795,539	0.18	70,479,113	0.00
12/31/2013	127,090,829	0.27	89,342,420	0.02	96,895,539	0.10	70,479,113	0.00
1/31/2014	127,870,797	0.50	89,342,612	0.00	98,184,723	0.08	70,725,709	0.00
2/28/2014	128,415,533	0.39	90,303,356	0.01	99,380,723	0.06	70,725,793	0.00
3/31/2014	129,580,653	0.49	91,362,500	0.00	100,792,819	0.07	70,725,793	0.00
4/30/2014	130,475,725	0.32	92,376,780	0.00	102,131,827	0.08	70,726,521	0.00
5/31/2014	130,932,941	0.36	93,395,924	0.00	103,504,019	0.05	70,726,717	0.00
6/30/2014	131,913,357	0.91	94,503,428	0.00	104,980,627	0.04	70,727,053	0.00
7/31/2014	133,025,325	0.65	95,450,404	0.00	106,243,187	0.02	70,727,053	0.00
8/31/2014	134,083,213	0.62	96,563,876	0.00	107,751,603	0.02	70,727,249	0.00
9/30/2014	135,308,589	0.70	97,590,212	0.00	109,095,955	0.02	70,727,445	0.00
10/31/2014	136,232,237	0.53	98,625,844	0.00	110,476,659	0.01	70,727,725	0.00
11/30/2014	137,631,117	0.41	99,735,076	0.00	111,955,507	0.01	70,727,809	0.00
12/31/2014	138,436,557	0.23	100,762,732	0.00	113,325,683	0.00	70,728,005	0.00
1/31/2015	139,342,221	0.22	101,656,324	0.00	114,517,139	0.00	70,728,201	0.00
2/28/2015	140,318,565	0.31	102,554,508	0.00	115,632,371	0.01	70,728,313	0.00
3/31/2015	140,574,253	0.08	103,374,428	0.00	116,725,587	0.00	70,728,705	0.00
4/30/2015	140,689,069	0.09	104,167,500	0.00	117,782,803	0.01	70,728,817	0.00
5/31/2015	141,216,365	0.32	105,028,804	0.00	118,524,467	0.01	70,728,873	0.00
6/30/2015	142,150,925	0.67	105,849,612	0.00	119,718,259	0.02	70,728,985	0.00
7/31/2015	142,694,861	0.78	106,670,954	0.00	121,036,531	0.01	70,729,377	0.00
8/31/2015	143,608,397	0.88	107,595,484	0.00	122,556,083	0.02	70,729,573	0.00
9/30/2015	144,518,029	0.19	108,287,572	0.00	123,670,867	0.01	70,729,825	0.00
10/31/2015	145,671,885	0.24	109,216,044	0.00	124,977,715	0.01	70,730,133	0.00
11/30/2015	146,367,629	0.33	109,870,612	0.00	126,132,659	0.01	70,730,189	0.00
12/31/2015	146,958,797	0.27	110,419,852	0.00	127,512,819	0.01	70,730,357	0.00
1/31/2016	148,087,757	0.29	110,419,852	0.00	127,512,819	0.00	70,730,357	0.00
2/29/2016	149,153,261	0.26	110,419,852	0.00	127,512,851	0.00	70,730,357	0.00
3/31/2016	150,581,901	0.28	110,419,852	0.00	127,513,011	0.00	70,730,357	0.00
4/30/2016	151,831,501	0.26	110,419,852	0.00	127,513,043	0.00	70,730,357	0.00
5/31/2016	153,388,461	0.34	110,419,852	0.00	127,513,331	0.00	70,730,357	0.00
6/30/2016	154,686,381	0.27	110,419,852	0.00	127,513,491	0.00	70,730,357	0.00
7/31/2016	156,121,421	0.04	110,419,852	0.00	127,513,523	0.00	70,730,357	0.00
8/31/2016	157,087,277	0.06	110,419,852	0.00	127,513,587	0.00	70,730,357	0.00
9/30/2016	158,151,421	0.06	110,419,852	0.00	127,513,651	0.00	70,730,357	0.00
10/31/2016	158,615,677	0.02	110,419,852	0.00	127,513,683	0.00	70,730,357	0.00
11/30/2016	158,615,677	0.00	110,419,852	0.00	127,513,683	0.00	70,730,357	0.00
12/31/2016	159,731,677	0.17	110,419,948	0.00	127,513,683	0.00	70,730,501	0.00
1/31/2017	160,613,405	0.23	110,419,948	0.00	127,513,683	0.00	70,730,501	0.00

Table F-7
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Date	RTW-1		RTW-2		RTW-3		RTW-4	
	Total Pumped* *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*
2/28/2017	161,391,005	0.04	110,419,948	0.00	127,513,683	0.00	70,730,501	0.00
3/31/2017	161,784,541	0.01	110,419,948	0.00	127,513,683	0.00	70,730,501	0.00
4/30/2017	163,203,037	0.06	110,419,948	0.00	127,513,683	0.00	70,730,501	0.00
5/31/2017	164,586,013	0.05	110,419,948	0.00	127,513,683	0.00	70,730,501	0.00
6/30/2017	165,913,501	0.05	110,419,948	0.00	127,513,683	0.00	70,730,501	0.00
7/31/2017	167,351,549	0.08	110,419,948	0.00	127,513,683	0.00	70,730,501	0.00
8/31/2017	168,820,957	0.07	110,419,948	0.00	127,513,683	0.00	70,730,501	0.00
9/30/2017	170,252,765	0.12	110,419,948	0.00	127,513,683	0.00	70,730,501	0.00
10/31/2017	171,582,301	0.06	110,419,948	0.00	127,513,683	0.00	70,730,501	0.00
11/30/2017	172,558,029	0.05	110,419,948	0.00	127,513,683	0.00	70,730,501	0.00
12/31/2017	173,805,917	0.05	110,419,948	0.00	127,513,683	0.00	70,730,501	0.00
1/31/2018	175,129,533	0.06	110,420,028	0.00	127,513,683	0.00	70,730,501	0.00
2/28/2018	176,459,133	0.06	110,420,028	0.00	127,513,683	0.00	70,730,501	0.00
3/31/2018	177,873,005	0.07	110,420,028	0.00	127,513,683	0.00	70,730,501	0.00
4/30/2018	179,819,757	0.10	110,420,028	0.00	127,513,683	0.00	70,730,501	0.00
5/31/2018	181,512,109	0.14	110,420,028	0.00	127,513,683	0.00	70,730,501	0.00
6/30/2018	182,855,949	0.04	110,420,028	0.00	127,513,683	0.00	70,730,501	0.00
7/31/2018	184,237,757	0.04	110,420,028	0.00	127,513,683	0.00	70,730,501	0.00
8/31/2018	185,619,645	0.03	110,420,028	0.00	127,513,683	0.00	70,730,501	0.00
9/30/2018	187,090,045	0.06	110,420,028	0.00	127,513,683	0.00	70,730,501	0.00
10/31/2018	188,471,805	0.03	110,420,076	0.00	127,513,683	0.00	70,730,501	0.00
11/30/2018	189,854,333	0.03	110,923,940	0.00	127,513,683	0.00	70,730,501	0.00
12/31/2018	191,288,573	0.03	112,331,444	0.01	127,513,683	0.00	70,730,501	0.00
1/31/2019	192,762,653	0.03	113,703,804	0.03	127,513,683	0.00	70,730,501	0.00
2/28/2019	194,011,005	0.02	114,939,900	0.03	127,513,683	0.00	70,730,501	0.00
3/31/2019	195,336,413	0.02	116,261,380	0.02	127,513,683	0.00	70,730,501	0.00
4/30/2019	196,714,301	0.03	117,580,684	0.02	127,513,683	0.00	70,730,501	0.00
5/31/2019	197,767,005	0.10	117,650,428	0.00	127,513,683	0.00	70,730,501	0.00
6/30/2019	198,285,813	0.02	118,666,428	0.02	127,513,683	0.00	70,730,501	0.00
7/31/2019	200,955,783	0.32	119,388,220	0.02	127,513,683	0.00	70,730,501	0.00
8/31/2019	203,496,000	0.25	119,843,164	0.01	127,513,683	0.00	70,730,501	0.00
9/30/2019	206,273,619	0.23	120,592,564	0.02	127,513,683	0.00	70,730,501	0.00
10/31/2019	207,125,487	0.06	121,062,652	0.01	127,513,683	0.00	70,730,501	0.00
11/30/2019	209,203,372	0.15	121,620,452	0.01	127,513,683	0.00	70,730,501	0.00
12/31/2019	211,854,146	0.17	123,046,316	0.02	127,513,683	0.00	70,730,501	0.00
1/31/2020	214,155,342	0.14	124,372,444	0.01	127,513,683	0.00	70,730,501	0.00
2/29/2020	216,584,932	0.14	125,797,804	0.00	127,513,683	0.00	70,730,501	0.00
3/31/2020	219,103,105	0.11	127,183,652	0.00	127,513,683	0.00	70,730,501	0.00
4/30/2020	221,273,701	0.12	128,463,636	0.00	127,513,683	0.00	70,730,501	0.00
5/31/2020	224,052,848	0.17	129,987,788	0.02	127,513,683	0.00	70,730,501	0.00
6/30/2020	226,477,212	0.12	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00

Table F-7
Pumpage and Mass Removal
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	RTW-1		RTW-2		RTW-3		RTW-4	
Date	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*	**Total Pumped*** *(Gallons)*	**Mass Recovered** *(lbs)*
7/31/2020	226,656,046	0.01	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00
8/31/2020	228,421,948	0.03	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00
9/30/2020	230,594,699	0.09	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00
10/31/2020	233,008,716	0.11	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00
11/30/2020	234,035,240	0.04	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00
12/31/2020	236,429,017	0.10	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00
1/31/2021	238,982,898	0.10	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00
2/28/2021	241,168,489	0.08	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00
3/31/2021	243,620,901	0.09	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00
4/30/2021	246,069,267	0.07	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00
5/31/2021	248,604,713	0.09	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00
6/30/2021	251,029,249	0.08	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00
7/31/2021	253,563,268	0.08	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00
8/31/2021	256,068,169	0.07	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00
9/30/2021	258,444,137	0.07	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00
10/31/2021	261,077,319	0.09	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00
11/30/2021	263,458,961	0.07	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00
12/31/2021	265,949,067	0.07	129,987,788	0.00	127,513,683	0.00	70,730,501	0.00
Total		112.38		6.88		20.13		6.45

Total lbs. Removed = 145.84

NOTES:
Mass Removed: Total VOC concentration in µg/liter (ppb) x 3.785 liter/gallon x gallons pumped x 1 lb./454,000,000 µg = lbs.
* = Wells RTW-2, 3 and 4 placed off-line
lb = pounds
µg/liter - micrograms per liter
ppb - parts per billion
NA - not available

Table F-8
Extraction Well VOC Data
OUIII Middle Road System

2021 BNL Groundwater Status Report

Site ID : 106-66 (RW-6)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/20/2021	0.9	0.5	UG/L	
1,1-Dichloroethane	1/20/2021	0.27	0.5	UG/L	J
1,1-Dichloroethylene	1/20/2021	0.24	0.5	UG/L	J
524.2 TVOC	1/20/2021	5.56	0	UG/L	
Carbon tetrachloride	1/20/2021	0.35	0.5	UG/L	J
Chloroform	1/20/2021	0.38	0.5	UG/L	J
Tetrachloroethylene	1/20/2021	2.8	0.5	UG/L	
Trichloroethylene	1/20/2021	0.62	0.5	UG/L	
1,1,1-Trichloroethane	4/14/2021	0.68	0.5	UG/L	
1,1-Dichloroethane	4/14/2021	0.2	0.5	UG/L	J
524.2 TVOC	4/14/2021	5.22	0	UG/L	
Carbon tetrachloride	4/14/2021	0.32	0.5	UG/L	J
Chloroform	4/14/2021	0.32	0.5	UG/L	J
Tetrachloroethylene	4/14/2021	3.2	0.5	UG/L	
Trichloroethylene	4/14/2021	0.5	0.5	UG/L	
1,1,1-Trichloroethane	7/8/2021	0.22	0.5	UG/L	J
8260 TVOC	7/8/2021	2.44	0	UG/L	
Chloroform	7/8/2021	0.22	0.5	UG/L	J
Tetrachloroethylene	7/8/2021	2	0.5	UG/L	
1,1,1-Trichloroethane	10/7/2021	0.82	0.5	UG/L	
1,1-Dichloroethylene	10/7/2021	0.52	0.5	UG/L	
8260 TVOC	10/7/2021	10.15	0	UG/L	
Carbon tetrachloride	10/7/2021	0.83	0.5	UG/L	
Chloroform	10/7/2021	0.44	0.5	UG/L	J
Tetrachloroethylene	10/7/2021	7	0.5	UG/L	
Trichloroethylene	10/7/2021	0.54	0.5	UG/L	

Site ID : 113-23 (RW-1)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
524.2 TVOC	1/20/2021	1.19	0	UG/L	
Carbon tetrachloride	1/20/2021	0.22	0.5	UG/L	J
Chloroform	1/20/2021	0.68	0.5	UG/L	
Tetrachloroethylene	1/20/2021	0.29	0.5	UG/L	J
524.2 TVOC	4/14/2021	0.59	0	UG/L	
Chloroform	4/14/2021	0.44	0.5	UG/L	J
Tetrachloroethylene	4/14/2021	0.15	0.5	UG/L	J
8260 TVOC	7/8/2021	0.44	0	UG/L	
Chloroform	7/8/2021	0.44	0.5	UG/L	J
8260 TVOC	10/7/2021	0.82	0	UG/L	
Chloroform	10/7/2021	0.54	0.5	UG/L	
Tetrachloroethylene	10/7/2021	0.28	0.5	UG/L	J

Table F-8
Extraction Well VOC Data
OUIII Middle Road System

2021 BNL Groundwater Status Report

Site ID : 113-24 (RW-2)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/20/2021	0.24	0.5	UG/L	J
524.2 TVOC	1/20/2021	10.47	0	UG/L	
Carbon tetrachloride	1/20/2021	0.84	0.5	UG/L	
Chloroform	1/20/2021	0.51	0.5	UG/L	
Tetrachloroethylene	1/20/2021	8.3	0.5	UG/L	
Trichloroethylene	1/20/2021	0.58	0.5	UG/L	
1,1,1-Trichloroethane	4/14/2021	0.21	0.5	UG/L	J
524.2 TVOC	4/14/2021	8.35	0	UG/L	
Carbon tetrachloride	4/14/2021	0.64	0.5	UG/L	
Chloroform	4/14/2021	0.46	0.5	UG/L	J
Tetrachloroethylene	4/14/2021	6.6	0.5	UG/L	
Trichloroethylene	4/14/2021	0.44	0.5	UG/L	J
1,1-Dichloroethylene	7/8/2021	0.17	0.5	UG/L	J
8260 TVOC	7/8/2021	10.61	0	UG/L	
Carbon tetrachloride	7/8/2021	0.76	0.5	UG/L	
Chloroform	7/8/2021	0.57	0.5	UG/L	
Tetrachloroethylene	7/8/2021	8.6	0.5	UG/L	
Trichloroethylene	7/8/2021	0.51	0.5	UG/L	
8260 TVOC	10/7/2021	13.28	0	UG/L	
Carbon tetrachloride	10/7/2021	1	0.5	UG/L	
Chloroform	10/7/2021	0.65	0.5	UG/L	
Tetrachloroethylene	10/7/2021	11	0.5	UG/L	
Trichloroethylene	10/7/2021	0.63	0.5	UG/L	

Site ID : 113-25 (RW-3)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/20/2021	2.1	0.5	UG/L	
1,1-Dichloroethane	1/20/2021	0.45	0.5	UG/L	J
1,1-Dichloroethylene	1/20/2021	0.8	0.5	UG/L	
524.2 TVOC	1/20/2021	4.95	0	UG/L	
Carbon tetrachloride	1/20/2021	0.21	0.5	UG/L	J
Chloroform	1/20/2021	0.16	0.5	UG/L	J
Tetrachloroethylene	1/20/2021	0.23	0.5	UG/L	J
Trichloroethylene	1/20/2021	1	0.5	UG/L	
1,1,1-Trichloroethane	4/14/2021	1.6	0.5	UG/L	
1,1-Dichloroethane	4/14/2021	0.41	0.5	UG/L	J
1,1-Dichloroethylene	4/14/2021	0.5	0.5	UG/L	
524.2 TVOC	4/14/2021	3.62	0	UG/L	
Chloroform	4/14/2021	0.18	0.5	UG/L	J
Tetrachloroethylene	4/14/2021	0.18	0.5	UG/L	J
Trichloroethylene	4/14/2021	0.75	0.5	UG/L	
1,1,1-Trichloroethane	7/8/2021	2	0.5	UG/L	
1,1-Dichloroethane	7/8/2021	0.46	0.5	UG/L	J
1,1-Dichloroethylene	7/8/2021	0.71	0.5	UG/L	
8260 TVOC	7/8/2021	4.48	0	UG/L	
Carbon tetrachloride	7/8/2021	0.17	0.5	UG/L	J
Chloroform	7/8/2021	0.16	0.5	UG/L	J
Trichloroethylene	7/8/2021	0.98	0.5	UG/L	
1,1,1-Trichloroethane	10/7/2021	2.5	0.5	UG/L	
1,1-Dichloroethane	10/7/2021	0.49	0.5	UG/L	J
1,1-Dichloroethylene	10/7/2021	1	0.5	UG/L	
8260 TVOC	10/7/2021	5.52	0	UG/L	
Carbon tetrachloride	10/7/2021	0.23	0.5	UG/L	J
Chloroform	10/7/2021	0.2	0.5	UG/L	J
Trichloroethylene	10/7/2021	1.1	0.5	UG/L	

Table F-8
Extraction Well VOC Data
OUIII Middle Road System

2021 BNL Groundwater Status Report

Site ID : 113-26 (RW-4)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
524.2 TVOC	1/20/2021	2.21	0	UG/L	
Carbon tetrachloride	1/20/2021	0.43	0.5	UG/L	J
Chloroform	1/20/2021	0.61	0.5	UG/L	
Tetrachloroethylene	1/20/2021	0.39	0.5	UG/L	J
Trichloroethylene	1/20/2021	0.78	0.5	UG/L	
1,1-Dichloroethane	4/14/2021	0.16	0.5	UG/L	J
524.2 TVOC	4/14/2021	2.26	0	UG/L	
Carbon tetrachloride	4/14/2021	0.46	0.5	UG/L	J
Chloroform	4/14/2021	0.74	0.5	UG/L	
Tetrachloroethylene	4/14/2021	0.27	0.5	UG/L	J
Trichloroethylene	4/14/2021	0.63	0.5	UG/L	
8260 TVOC	7/8/2021	2.14	0	UG/L	
Carbon tetrachloride	7/8/2021	0.52	0.5	UG/L	
Chloroform	7/8/2021	0.77	0.5	UG/L	
Tetrachloroethylene	7/8/2021	0.2	0.5	UG/L	J
Trichloroethylene	7/8/2021	0.65	0.5	UG/L	
8260 TVOC	10/7/2021	3.03	0	UG/L	
Carbon tetrachloride	10/7/2021	0.78	0.5	UG/L	
Chloroform	10/7/2021	0.88	0.5	UG/L	
Tetrachloroethylene	10/7/2021	0.43	0.5	UG/L	J
Trichloroethylene	10/7/2021	0.94	0.5	UG/L	

Site ID : 113-27 (RW-5)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
524.2 TVOC	1/20/2021	0.99	0	UG/L	
Chloroform	1/20/2021	0.67	0.5	UG/L	
Tetrachloroethylene	1/20/2021	0.15	0.5	UG/L	J
Trichloroethylene	1/20/2021	0.17	0.5	UG/L	J
524.2 TVOC	4/14/2021	0.49	0	UG/L	
Chloroform	4/14/2021	0.49	0.5	UG/L	J
8260 TVOC	7/8/2021	0.74	0	UG/L	
Chloroform	7/8/2021	0.74	0.5	UG/L	
8260 TVOC	10/7/2021	1.47	0	UG/L	
Chloroform	10/7/2021	0.92	0.5	UG/L	
Tetrachloroethylene	10/7/2021	0.55	0.5	UG/L	

Table F-8
Extraction Well VOC Data
OUIII Middle Road System

2021 BNL Groundwater Status Report

Site ID : 113-33 (RW-7)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/20/2021	1	0.5	UG/L	
1,1,2,2-Tetrachloroethane	1/20/2021	0.19	0.5	UG/L	J
1,1-Dichloroethane	1/20/2021	0.15	0.5	UG/L	J
1,1-Dichloroethylene	1/20/2021	0.46	0.5	UG/L	J
524.2 TVOC	1/20/2021	32.71	0	UG/L	
Carbon tetrachloride	1/20/2021	5.6	0.5	UG/L	
Chloroform	1/20/2021	0.67	0.5	UG/L	
Tetrachloroethylene	1/20/2021	24	0.5	UG/L	
Trichloroethylene	1/20/2021	0.64	0.5	UG/L	
1,1,1-Trichloroethane	4/14/2021	0.75	0.5	UG/L	
1,1,2,2-Tetrachloroethane	4/14/2021	0.22	0.5	UG/L	J
1,1-Dichloroethylene	4/14/2021	0.33	0.5	UG/L	J
524.2 TVOC	4/14/2021	32.89	0	UG/L	
Carbon tetrachloride	4/14/2021	4.3	0.5	UG/L	
Chloroform	4/14/2021	0.57	0.5	UG/L	
Tetrachloroethylene	4/14/2021	26	0.5	UG/L	
Trichloroethylene	4/14/2021	0.72	0.5	UG/L	
1,1,1-Trichloroethane	7/8/2021	0.93	0.5	UG/L	
1,1,2,2-Tetrachloroethane	7/8/2021	0.28	0.5	UG/L	J
1,1-Dichloroethylene	7/8/2021	0.49	0.5	UG/L	J
8260 TVOC	7/8/2021	47.47	0	UG/L	
Carbon tetrachloride	7/8/2021	6	0.5	UG/L	
Chloroform	7/8/2021	0.65	0.5	UG/L	
Methyl tert-butyl ether	7/8/2021	0.19	0.5	UG/L	J
Tetrachloroethylene	7/8/2021	38	0.5	UG/L	
Trichloroethylene	7/8/2021	0.93	0.5	UG/L	
1,1,1-Trichloroethane	10/7/2021	1.2	0.5	UG/L	
1,1,2,2-Tetrachloroethane	10/7/2021	0.18	0.5	UG/L	J
1,1-Dichloroethylene	10/7/2021	0.65	0.5	UG/L	
8260 TVOC	10/7/2021	59.48	0	UG/L	
Carbon tetrachloride	10/7/2021	8.7	0.5	UG/L	
Chloroform	10/7/2021	0.75	0.5	UG/L	
Tetrachloroethylene	10/7/2021	47	0.5	UG/L	
Trichloroethylene	10/7/2021	1	0.5	UG/L	

Table F-9
Air Stripper Influent VOC Data
OU III Middle Road System

2021 BNL Groundwater Status Report

Site ID : 113-34 (Influent)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/20/2021	0.96	0.5	UG/L	
1,1-Dichloroethane	1/20/2021	0.21	0.5	UG/L	J
1,1-Dichloroethylene	1/20/2021	0.45	0.5	UG/L	J
524.2 TVOC	1/20/2021	14.32	0	UG/L	
Carbon tetrachloride	1/20/2021	1.8	0.5	UG/L	
Chloroform	1/20/2021	0.45	0.5	UG/L	J
Tetrachloroethylene	1/20/2021	9.7	0.5	UG/L	
Trichloroethylene	1/20/2021	0.75	0.5	UG/L	
1,1,1-Trichloroethane	2/10/2021	0.97	0.5	UG/L	
1,1,2-Trichloroethane	2/10/2021	0.11	0.5	UG/L	J
1,1-Dichloroethane	2/10/2021	0.15	0.5	UG/L	J
1,1-Dichloroethylene	2/10/2021	0.39	0.5	UG/L	J
524.2 TVOC	2/10/2021	17.73	0	UG/L	
Carbon tetrachloride	2/10/2021	1.9	0.5	UG/L	
Chloroform	2/10/2021	0.42	0.5	UG/L	J
Tetrachloroethylene	2/10/2021	13	0.5	UG/L	
Trichloroethylene	2/10/2021	0.79	0.5	UG/L	
1,1,1-Trichloroethane	3/3/2021	0.87	0.5	UG/L	
1,1-Dichloroethylene	3/3/2021	0.42	0.5	UG/L	J
Carbon tetrachloride	3/3/2021	1.5	0.5	UG/L	
Chloroform	3/3/2021	0.41	0.5	UG/L	J
Tetrachloroethylene	3/3/2021	13	0.5	UG/L	
Trichloroethylene	3/3/2021	0.7	0.5	UG/L	
1,1,1-Trichloroethane	4/14/2021	0.83	0.5	UG/L	
1,1-Dichloroethane	4/14/2021	0.18	0.5	UG/L	J
524.2 TVOC	4/14/2021	12.77	0	UG/L	
Carbon tetrachloride	4/14/2021	0.69	0.5	UG/L	
Chloroform	4/14/2021	0.46	0.5	UG/L	J
Tetrachloroethylene	4/14/2021	10	0.5	UG/L	
Trichloroethylene	4/14/2021	0.61	0.5	UG/L	
1,1,1-Trichloroethane	5/10/2021	0.92	0.5	UG/L	
1,1-Dichloroethylene	5/10/2021	0.48	0.5	UG/L	J
524.2 TVOC	5/10/2021	18	0	UG/L	
Tetrachloroethylene	5/10/2021	16	0.5	UG/L	
Trichloroethylene	5/10/2021	0.6	0.5	UG/L	
1,1,1-Trichloroethane	6/3/2021	0.93	0.5	UG/L	
1,1-Dichloroethylene	6/3/2021	0.48	0.5	UG/L	J
524.2 TVOC	6/3/2021	19.79	0	UG/L	
Carbon tetrachloride	6/3/2021	2.2	0.5	UG/L	
Chloroform	6/3/2021	0.45	0.5	UG/L	J
Tetrachloroethylene	6/3/2021	15	0.5	UG/L	
Trichloroethylene	6/3/2021	0.73	0.5	UG/L	
1,1,1-Trichloroethane	7/8/2021	0.82	0.5	UG/L	
1,1-Dichloroethylene	7/8/2021	0.2	0.5	UG/L	J
8260 TVOC	7/8/2021	18.97	0	UG/L	
Carbon tetrachloride	7/8/2021	1.8	0.5	UG/L	
Chloroform	7/8/2021	0.4	0.5	UG/L	J
Tetrachloroethylene	7/8/2021	15	0.5	UG/L	
Trichloroethylene	7/8/2021	0.75	0.5	UG/L	
1,1,1-Trichloroethane	9/13/2021	0.82	0.5	UG/L	
1,1-Dichloroethylene	9/13/2021	0.39	0.5	UG/L	J
8260 TVOC	9/13/2021	18.71	0	UG/L	
Carbon tetrachloride	9/13/2021	2.3	0.5	UG/L	
Chloroform	9/13/2021	0.49	0.5	UG/L	J
Tetrachloroethylene	9/13/2021	14	0.5	UG/L	
Trichloroethylene	9/13/2021	0.71	0.5	UG/L	
1,1,1-Trichloroethane	10/7/2021	1.1	0.5	UG/L	
1,1-Dichloroethylene	10/7/2021	0.28	0.5	UG/L	J
8260 TVOC	10/7/2021	22.63	0	UG/L	

Table F-9
Air Stripper Influent VOC Data
OU III Middle Road System

2021 BNL Groundwater Status Report

Site ID : 113-34 (Influent)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
Carbon tetrachloride	10/7/2021	1.8	0.5	UG/L	
Chloroform	10/7/2021	0.59	0.5	UG/L	
Tetrachloroethylene	10/7/2021	18	0.5	UG/L	
Trichloroethylene	10/7/2021	0.86	0.5	UG/L	
1,1,1-Trichloroethane	11/10/2021	0.74	0.5	UG/L	
1,1-Dichloroethylene	11/10/2021	0.42	0.5	UG/L	J
8260 TVOC	11/10/2021	18.24	0	UG/L	
Carbon tetrachloride	11/10/2021	2	0.5	UG/L	
Chloroform	11/10/2021	0.43	0.5	UG/L	J
Tetrachloroethylene	11/10/2021	14	0.5	UG/L	
Trichloroethylene	11/10/2021	0.65	0.5	UG/L	
1,1,1-Trichloroethane	12/6/2021	0.71	0.5	UG/L	
1,1-Dichloroethylene	12/6/2021	0.4	0.5	UG/L	J
8260 TVOC	12/6/2021	20.54	0	UG/L	
Carbon tetrachloride	12/6/2021	2.3	0.5	UG/L	
Chloroform	12/6/2021	0.32	0.5	UG/L	J
Tetrachloroethylene	12/6/2021	16	0.5	UG/L	
Trichloroethylene	12/6/2021	0.81	0.5	UG/L	

Table F-10
Air Stripper Effluent VOC Data
OU III Middle Road System

2021 BNL Groundwater Status Report

Site ID : 095-270 (Effluent)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
	No samples				

No samples collected during 2021

Table F-11
Cumulative Mass Removal
OU III Middle Road System

2021 BNL Groundwater Status Report

Date Sampled	Total VOC's (µg/L)	Flow Rates (gpm)	Cumulative VOC's (lbs)
1/20/2021	14.32	296	1309.31
2/10/2021	17.73	330	1310.78
3/3/2021	17.07	320	1312.16
4/14/2021	12.77	361	1314.48
5/10/2021	18	369	1316.55
6/3/2021	19.79	382	1318.73
7/8/2021	18.97	242	1320.66
8/1/2021	0	0	1320.66
9/13/2021	18.71	263	1323.20
10/7/2021	22.63	388	1325.73
11/10/2021	18.24	378	1328.54
12/6/2021	20.54	463	1331.51

µg/L Micrograms per liter
gpm Gallons per minute
lbs Pounds

Table F-12
Extraction Well VOC Data
OU III South Boundary System

2021 BNL Groundwater Status Report

Site ID : 121-15 (EW-5)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/20/2021	0.19	0.5	UG/L	J
524.2 TVOC	1/20/2021	0.92	0	UG/L	
Chloroform	1/20/2021	0.21	0.5	UG/L	J
Tetrachloroethylene	1/20/2021	0.37	0.5	UG/L	J
Trichloroethylene	1/20/2021	0.15	0.5	UG/L	J
524.2 TVOC	4/14/2021	0.61	0	UG/L	
Chloroform	4/14/2021	0.22	0.5	UG/L	J
Tetrachloroethylene	4/14/2021	0.22	0.5	UG/L	J
Trichloroethylene	4/14/2021	0.17	0.5	UG/L	J
1,1-Dichloroethane	7/8/2021	0.24	0.5	UG/L	J
8260 TVOC	7/8/2021	0.59	0	UG/L	
Chloroform	7/8/2021	0.35	0.5	UG/L	J
8260 TVOC	10/7/2021	0.61	0	UG/L	
Chloroform	10/7/2021	0.27	0.5	UG/L	J
Tetrachloroethylene	10/7/2021	0.34	0.5	UG/L	J

Site ID : 121-16 (EW-4)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
524.2 TVOC	1/20/2021	2.31	0	UG/L	
Chloroform	1/20/2021	0.38	0.5	UG/L	J
Tetrachloroethylene	1/20/2021	1.8	0.5	UG/L	
Trichloroethylene	1/20/2021	0.13	0.5	UG/L	J
524.2 TVOC	4/14/2021	0.94	0	UG/L	
Chloroform	4/14/2021	0.34	0.5	UG/L	J
Tetrachloroethylene	4/14/2021	0.45	0.5	UG/L	J
Trichloroethylene	4/14/2021	0.15	0.5	UG/L	J
8260 TVOC	7/8/2021	1.58	0	UG/L	
Chloroform	7/8/2021	0.38	0.5	UG/L	J
Tetrachloroethylene	7/8/2021	1.2	0.5	UG/L	
8260 TVOC	10/7/2021	1.61	0	UG/L	
Chloroform	10/7/2021	0.41	0.5	UG/L	J
Tetrachloroethylene	10/7/2021	1.2	0.5	UG/L	

Site ID : 121-17 (EW-3)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
524.2 TVOC	1/20/2021	0.45	0	UG/L	
Chloroform	1/20/2021	0.21	0.5	UG/L	J
Naphthalene	1/20/2021	0.1	0.67	UG/L	J
Tetrachloroethylene	1/20/2021	0.14	0.5	UG/L	J
524.2 TVOC	4/14/2021	0.2	0	UG/L	
Chloroform	4/14/2021	0.2	0.5	UG/L	J
8260 TVOC	7/8/2021	0.46	0	UG/L	
Chloroform	7/8/2021	0.24	0.5	UG/L	J
Tetrachloroethylene	7/8/2021	0.22	0.5	UG/L	J
1,1-Dichloroethane	10/7/2021	0.37	0.5	UG/L	J
8260 TVOC	10/7/2021	1.28	0	UG/L	
Chloroform	10/7/2021	0.55	0.5	UG/L	
Tetrachloroethylene	10/7/2021	0.36	0.5	UG/L	J

Table F-12
Extraction Well VOC Data
OU III South Boundary System

2021 BNL Groundwater Status Report

Site ID : 121-46 (EW-17)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/20/2021	0.49	0.5	UG/L	J
1,1-Dichloroethane	1/20/2021	0.16	0.5	UG/L	J
1,1-Dichloroethylene	1/20/2021	0.5	0.5	UG/L	
524.2 TVOC	1/20/2021	14.07	0	UG/L	
Carbon tetrachloride	1/20/2021	2.2	0.5	UG/L	
Chloroform	1/20/2021	0.69	0.5	UG/L	
Tetrachloroethylene	1/20/2021	9.5	0.5	UG/L	
Trichloroethylene	1/20/2021	0.53	0.5	UG/L	
1,1,1-Trichloroethane	4/14/2021	0.45	0.5	UG/L	J
1,1-Dichloroethylene	4/14/2021	0.33	0.5	UG/L	J
524.2 TVOC	4/14/2021	12.78	0	UG/L	
Carbon tetrachloride	4/14/2021	2	0.5	UG/L	
Chloroform	4/14/2021	0.57	0.5	UG/L	
Tetrachloroethylene	4/14/2021	8.9	0.5	UG/L	
Trichloroethylene	4/14/2021	0.53	0.5	UG/L	
1,1-Dichloroethylene	7/8/2021	0.43	0.5	UG/L	J
8260 TVOC	7/8/2021	15.51	0	UG/L	
Carbon tetrachloride	7/8/2021	2.4	0.5	UG/L	
Chloroform	7/8/2021	0.7	0.5	UG/L	
Tetrachloroethylene	7/8/2021	11	0.5	UG/L	
Trichloroethylene	7/8/2021	0.52	0.5	UG/L	
1,1,1-Trichloroethane	10/7/2021	0.29	0.5	UG/L	J
1,1-Dichloroethylene	10/7/2021	0.58	0.5	UG/L	
8260 TVOC	10/7/2021	20.55	0	UG/L	
Carbon tetrachloride	10/7/2021	3.3	0.5	UG/L	
Chloroform	10/7/2021	0.83	0.5	UG/L	
Tetrachloroethylene	10/7/2021	15	0.5	UG/L	
Trichloroethylene	10/7/2021	0.55	0.5	UG/L	

Site ID : 122-12 (EW-8)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
524.2 TVOC	1/20/2021	3.49	0	UG/L	
Chloroform	1/20/2021	0.21	0.5	UG/L	J
cis-1,2-Dichloroethylene	1/20/2021	0.32	0.5	UG/L	J
Tetrachloroethylene	1/20/2021	2.7	0.5	UG/L	
Trichloroethylene	1/20/2021	0.26	0.5	UG/L	J
524.2 TVOC	4/14/2021	3.44	0	UG/L	
Chloroform	4/14/2021	0.24	0.5	UG/L	J
cis-1,2-Dichloroethylene	4/14/2021	0.3	0.5	UG/L	J
Tetrachloroethylene	4/14/2021	2.6	0.5	UG/L	
Trichloroethylene	4/14/2021	0.3	0.5	UG/L	J
8260 TVOC	7/8/2021	4.62	0	UG/L	
Chloroform	7/8/2021	0.19	0.5	UG/L	J
Methylene chloride	7/8/2021	0.73	0.5	UG/L	
Tetrachloroethylene	7/8/2021	3.3	0.5	UG/L	
Toluene	7/8/2021	0.2	0.5	UG/L	J
Trichloroethylene	7/8/2021	0.2	0.5	UG/L	J
8260 TVOC	10/7/2021	6.52	0	UG/L	
Methylene chloride	10/7/2021	1.3	0.5	UG/L	
Tetrachloroethylene	10/7/2021	4.6	0.5	UG/L	
Toluene	10/7/2021	0.26	0.5	UG/L	J
Trichloroethylene	10/7/2021	0.36	0.5	UG/L	J

Table F-12
Extraction Well VOC Data
OU III South Boundary System

2021 BNL Groundwater Status Report

Site ID : 122-13 (EW-7)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/20/2021	2.9	0.5	UG/L	
1,1-Dichloroethane	1/20/2021	0.48	0.5	UG/L	J
1,1-Dichloroethylene	1/20/2021	4.6	0.5	UG/L	
524.2 TVOC	1/20/2021	12.14	0	UG/L	
Carbon tetrachloride	1/20/2021	0.38	0.5	UG/L	J
Chloroform	1/20/2021	0.73	0.5	UG/L	
Dichlorodifluoromethane	1/20/2021	0.83	0.66	UG/L	
Tetrachloroethylene	1/20/2021	1.5	0.5	UG/L	
Trichloroethylene	1/20/2021	0.72	0.5	UG/L	
1,1,1-Trichloroethane	4/14/2021	0.29	0.5	UG/L	J
524.2 TVOC	4/14/2021	2.12	0	UG/L	
Chloroform	4/14/2021	0.33	0.5	UG/L	J
cis-1,2-Dichloroethylene	4/14/2021	0.33	0.5	UG/L	J
Tetrachloroethylene	4/14/2021	1	0.5	UG/L	
Trichloroethylene	4/14/2021	0.17	0.5	UG/L	J
1,1,1-Trichloroethane	7/8/2021	0.27	0.5	UG/L	J
8260 TVOC	7/8/2021	2.47	0	UG/L	
Chloroform	7/8/2021	0.3	0.5	UG/L	J
cis-1,2-Dichloroethylene	7/8/2021	0.81	0.5	UG/L	
Dichlorodifluoromethane	7/8/2021	0.22	0.5	UG/L	J
Tetrachloroethylene	7/8/2021	0.87	0.5	UG/L	
1,1,1-Trichloroethane	10/7/2021	0.41	0.5	UG/L	J
1,1-Dichloroethylene	10/7/2021	0.45	0.5	UG/L	J
8260 TVOC	10/7/2021	4.07	0	UG/L	
Chloroform	10/7/2021	0.36	0.5	UG/L	J
cis-1,2-Dichloroethylene	10/7/2021	0.8	0.5	UG/L	
Dichlorodifluoromethane	10/7/2021	0.95	0.5	UG/L	
Tetrachloroethylene	10/7/2021	1.1	0.5	UG/L	

Site ID : 122-14 (EW-6)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
524.2 TVOC	1/20/2021	0.48	0	UG/L	
Chloroform	1/20/2021	0.14	0.5	UG/L	J
Tetrachloroethylene	1/20/2021	0.34	0.5	UG/L	J
524.2 TVOC	4/14/2021	0.17	0	UG/L	
Tetrachloroethylene	4/14/2021	0.17	0.5	UG/L	J
8260 TVOC	7/8/2021	0.38	0	UG/L	
Tetrachloroethylene	7/8/2021	0.38	0.5	UG/L	J
8260 TVOC	10/7/2021	0.19	0	UG/L	
Tetrachloroethylene	10/7/2021	0.19	0.5	UG/L	J

Table F-13
Air Stripper Influent VOC Data
OU III South Boundary System

2021 BNL Groundwater Status Report

121-41 (Influent)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/20/2021	0.31	0.5	UG/L	J
1,1-Dichloroethylene	1/20/2021	0.3	0.5	UG/L	J
524.2 TVOC	1/20/2021	8.96	0	UG/L	
Carbon tetrachloride	1/20/2021	1.3	0.5	UG/L	
Chloroform	1/20/2021	0.52	0.5	UG/L	
Tetrachloroethylene	1/20/2021	6.2	0.5	UG/L	
Trichloroethylene	1/20/2021	0.33	0.5	UG/L	J
1,1,1-Trichloroethane	2/10/2021	0.28	0.5	UG/L	J
1,1-Dichloroethylene	2/10/2021	0.26	0.5	UG/L	J
524.2 TVOC	2/10/2021	9.87	0	UG/L	
Carbon tetrachloride	2/10/2021	1.5	0.5	UG/L	
Chloroform	2/10/2021	0.48	0.5	UG/L	J
Tetrachloroethylene	2/10/2021	7	0.5	UG/L	
Trichloroethylene	2/10/2021	0.35	0.5	UG/L	J
1,1,1-Trichloroethane	3/3/2021	0.33	0.5	UG/L	J
1,1-Dichloroethylene	3/3/2021	0.25	0.5	UG/L	J
524.2 TVOC	3/3/2021	8.09	0	UG/L	
Carbon tetrachloride	3/3/2021	1.1	0.5	UG/L	
Chloroform	3/3/2021	0.46	0.5	UG/L	J
Tetrachloroethylene	3/3/2021	5.6	0.5	UG/L	
Trichloroethylene	3/3/2021	0.35	0.5	UG/L	J
1,1,1-Trichloroethane	4/14/2021	0.17	0.5	UG/L	J
524.2 TVOC	4/14/2021	4.92	0	UG/L	
Carbon tetrachloride	4/14/2021	0.71	0.5	UG/L	
Chloroform	4/14/2021	0.4	0.5	UG/L	J
Tetrachloroethylene	4/14/2021	3.4	0.5	UG/L	
Trichloroethylene	4/14/2021	0.24	0.5	UG/L	J
524.2 TVOC	5/10/2021	9.17	0	UG/L	
Carbon tetrachloride	5/10/2021	1.4	0.5	UG/L	
Tetrachloroethylene	5/10/2021	7.4	0.5	UG/L	
Trichloroethylene	5/10/2021	0.37	0.5	UG/L	J
1,1,1-Trichloroethane	6/3/2021	0.47	0.5	UG/L	J
1,1-Dichloroethylene	6/3/2021	0.49	0.5	UG/L	J
524.2 TVOC	6/3/2021	16.6	0	UG/L	
Carbon tetrachloride	6/3/2021	2.5	0.5	UG/L	
Chloroform	6/3/2021	0.64	0.5	UG/L	
Tetrachloroethylene	6/3/2021	12	0.5	UG/L	
Trichloroethylene	6/3/2021	0.5	0.5	UG/L	
1,1,1-Trichloroethane	7/8/2021	0.27	0.5	UG/L	J
8260 TVOC	7/8/2021	8.7	0	UG/L	
Carbon tetrachloride	7/8/2021	1.3	0.5	UG/L	
Chloroform	7/8/2021	0.51	0.5	UG/L	
Tetrachloroethylene	7/8/2021	6.3	0.5	UG/L	
Trichloroethylene	7/8/2021	0.32	0.5	UG/L	J

Table F-13
Air Stripper Influent VOC Data
OU III South Boundary System

2021 BNL Groundwater Status Report

121-41 (Influent)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	8/3/2021	0.4	5	UG/L	J
1,1-Dichloroethylene	8/3/2021	0.38	5	UG/L	J
1,2-Dichloroethane	8/3/2021	0.13	5	UG/L	J
8260 TVOC	8/3/2021	15.33	0	UG/L	
Carbon tetrachloride	8/3/2021	1.8	5	UG/L	J
Chloroform	8/3/2021	0.62	5	UG/L	J
Tetrachloroethylene	8/3/2021	12	5	UG/L	
1,1,1-Trichloroethane	9/13/2021	0.19	0.5	UG/L	J
1,1-Dichloroethylene	9/13/2021	0.28	0.5	UG/L	J
8260 TVOC	9/13/2021	9.61	0	UG/L	
Carbon tetrachloride	9/13/2021	1.2	0.5	UG/L	
Chloroform	9/13/2021	0.52	0.5	UG/L	
Tetrachloroethylene	9/13/2021	7.1	0.5	UG/L	
Trichloroethylene	9/13/2021	0.32	0.5	UG/L	J
1,1,1-Trichloroethane	10/7/2021	0.24	0.5	UG/L	J
1,1-Dichloroethylene	10/7/2021	0.21	0.5	UG/L	J
8260 TVOC	10/7/2021	7.33	0	UG/L	
Carbon tetrachloride	10/7/2021	1.2	0.5	UG/L	
Chloroform	10/7/2021	0.51	0.5	UG/L	
Tetrachloroethylene	10/7/2021	5	0.5	UG/L	
Trichloroethylene	10/7/2021	0.17	0.5	UG/L	J
1,1,1-Trichloroethane	11/10/2021	0.38	0.5	UG/L	J
1,1-Dichloroethylene	11/10/2021	0.5	0.5	UG/L	
8260 TVOC	11/10/2021	16.61	0	UG/L	
Carbon tetrachloride	11/10/2021	2.6	0.5	UG/L	
Chloroform	11/10/2021	0.67	0.5	UG/L	
Tetrachloroethylene	11/10/2021	12	0.5	UG/L	
Trichloroethylene	11/10/2021	0.46	0.5	UG/L	J
1,1,1-Trichloroethane	12/6/2021	0.23	0.5	UG/L	J
1,1-Dichloroethylene	12/6/2021	0.41	0.5	UG/L	J
8260 TVOC	12/6/2021	16.95	0	UG/L	
Carbon tetrachloride	12/6/2021	2.3	0.5	UG/L	
Chloroform	12/6/2021	0.53	0.5	UG/L	
Tetrachloroethylene	12/6/2021	13	0.5	UG/L	
Trichloroethylene	12/6/2021	0.48	0.5	UG/L	J

Table F-14
Air Stripper Effluent VOC Data
OU III South Boundary System

2021 BNL Groundwater Status Report

Site ID : 095-126 (Effluent)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
524.2 TVOC	1/20/2021	0	0	UG/L	
524.2 TVOC	2/10/2021	0	0	UG/L	
524.2 TVOC	3/3/2021	0	0	UG/L	
524.2 TVOC	4/14/2021	0	0	UG/L	
524.2 TVOC	5/10/2021	0	0	UG/L	
524.2 TVOC	6/3/2021	0	0	UG/L	
8260 TVOC	7/8/2021	0	0	UG/L	
8260 TVOC	8/3/2021	0	0	UG/L	
8260 TVOC	9/13/2021	0	0	UG/L	
8260 TVOC	10/7/2021	0	0	UG/L	
8260 TVOC	11/10/2021	0	0	UG/L	
8260 TVOC	12/6/2021	0	0	UG/L	

Table F-15
Cumulative Mass Removal
OU III South Boundary System

2021 BNL Groundwater Status Report

Date Sampled	Total VOC's (µg/L)	Flow Rates (gpm)	Cumulative VOC's (lbs)
1/20/2021	8.96	255	3062.92
2/10/2021	9.87	133	3063.25
3/3/2021	8.09	211	3063.68
4/14/2021	4.92	135	3064.02
5/10/2021	9.17	267	3064.78
6/3/2021	16.6	132	3065.41
7/8/2021	8.7	165	3066.02
8/3/2021	15.33	150	3066.73
9/13/2021	9.61	246	3067.90
10/7/2021	7.33	150	3068.21
11/10/2021	16.61	111	3068.97
12/6/2021	16.95	158	3069.80

µg/L Micrograms per liter
gpm Gallons per minute
lbs Pounds

Table F-16
Extraction Wells VOC Data
OU III Western South Boundary System

2021 BNL Groundwater Status Report

Site ID : 126-12 (WSB-1)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/20/2021	4.7	0.5	UG/L	
1,1-Dichloroethane	1/20/2021	0.2	0.5	UG/L	J
1,1-Dichloroethylene	1/20/2021	7	0.5	UG/L	
1,2-Dichloroethane	1/20/2021	0.12	0.5	UG/L	J
524.2 TVOC	1/20/2021	13.82	0	UG/L	
Chloroform	1/20/2021	0.9	0.5	UG/L	
Trichloroethylene	1/20/2021	0.9	0.5	UG/L	
1,1,1-Trichloroethane	4/14/2021	3.3	0.5	UG/L	
1,1-Dichloroethane	4/14/2021	0.17	0.5	UG/L	J
1,1-Dichloroethylene	4/14/2021	4.2	0.5	UG/L	
524.2 TVOC	4/14/2021	9.25	0	UG/L	
Chloroform	4/14/2021	0.86	0.5	UG/L	
Trichloroethylene	4/14/2021	0.72	0.5	UG/L	
1,1,1-Trichloroethane	7/8/2021	4	0.5	UG/L	
1,1-Dichloroethylene	7/8/2021	5.6	0.5	UG/L	
8260 TVOC	7/8/2021	11.14	0	UG/L	
Chloroform	7/8/2021	0.76	0.5	UG/L	
Trichloroethylene	7/8/2021	0.78	0.5	UG/L	
1,1,1-Trichloroethane	10/7/2021	5.4	0.5	UG/L	
1,1-Dichloroethane	10/7/2021	0.21	0.5	UG/L	J
1,1-Dichloroethylene	10/7/2021	8.6	0.5	UG/L	
8260 TVOC	10/7/2021	16.78	0	UG/L	
Chloroform	10/7/2021	1.2	0.5	UG/L	
Dichlorodifluoromethane	10/7/2021	0.39	0.5	UG/L	J
Trichloroethylene	10/7/2021	0.98	0.5	UG/L	

Site ID : 127-05 (WSB-2)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/20/2021	1.1	0.5	UG/L	
1,1-Dichloroethane	1/20/2021	0.5	0.5	UG/L	
1,1-Dichloroethylene	1/20/2021	1.3	0.5	UG/L	
524.2 TVOC	1/20/2021	6.88	0	UG/L	
Chloroform	1/20/2021	1.1	0.5	UG/L	
Dichlorodifluoromethane	1/20/2021	0.38	0.66	UG/L	J
Trichloroethylene	1/20/2021	2.5	0.5	UG/L	
1,1,1-Trichloroethane	4/14/2021	0.86	0.5	UG/L	
1,1-Dichloroethane	4/14/2021	0.39	0.5	UG/L	J
1,1-Dichloroethylene	4/14/2021	0.83	0.5	UG/L	
1,2-Dichloroethane	4/14/2021	0.11	0.5	UG/L	J
524.2 TVOC	4/14/2021	5.09	0	UG/L	
Chloroform	4/14/2021	1	0.5	UG/L	
Trichloroethylene	4/14/2021	1.9	0.5	UG/L	

Table F-16
Extraction Wells VOC Data
OU III Western South Boundary System

2021 BNL Groundwater Status Report

Site ID : 127-05 (WSB-2)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	7/8/2021	0.87	0.5	UG/L	
1,1-Dichloroethane	7/8/2021	0.34	0.5	UG/L	J
1,1-Dichloroethylene	7/8/2021	0.96	0.5	UG/L	
8260 TVOC	7/8/2021	5.63	0	UG/L	
Chloroform	7/8/2021	0.9	0.5	UG/L	
Dichlorodifluoromethane	7/8/2021	0.26	0.5	UG/L	J
Trichloroethylene	7/8/2021	2.3	0.5	UG/L	
1,1,1-Trichloroethane	10/7/2021	1.1	0.5	UG/L	
1,1-Dichloroethylene	10/7/2021	0.88	0.5	UG/L	
8260 TVOC	10/7/2021	6.05	0	UG/L	
Chloroform	10/7/2021	1	0.5	UG/L	
Dichlorodifluoromethane	10/7/2021	0.47	0.5	UG/L	J
Trichloroethylene	10/7/2021	2.6	0.5	UG/L	

Site ID : 111-17 (WSB-3)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/20/2021	1.4	0.5	UG/L	
1,1-Dichloroethane	1/20/2021	1	0.5	UG/L	
1,1-Dichloroethylene	1/20/2021	5.9	0.5	UG/L	
524.2 TVOC	1/20/2021	9.93	0	UG/L	
Chloroform	1/20/2021	0.73	0.5	UG/L	
Tetrachloroethylene	1/20/2021	0.14	0.5	UG/L	J
Trichloroethylene	1/20/2021	0.76	0.5	UG/L	
1,1,1-Trichloroethane	4/14/2021	0.99	0.5	UG/L	
1,1-Dichloroethane	4/14/2021	0.78	0.5	UG/L	
1,1-Dichloroethylene	4/14/2021	3.5	0.5	UG/L	
524.2 TVOC	4/14/2021	6.65	0	UG/L	
Chloroform	4/14/2021	0.74	0.5	UG/L	
Trichloroethylene	4/14/2021	0.64	0.5	UG/L	
1,1,1-Trichloroethane	7/8/2021	1	0.5	UG/L	
1,1-Dichloroethane	7/8/2021	0.89	0.5	UG/L	
1,1-Dichloroethylene	7/8/2021	4.5	0.5	UG/L	
8260 TVOC	7/8/2021	8.1	0	UG/L	
Chloroform	7/8/2021	0.83	0.5	UG/L	
Tetrachloroethylene	7/8/2021	0.17	0.5	UG/L	J
Trichloroethylene	7/8/2021	0.71	0.5	UG/L	
1,1,1-Trichloroethane	10/7/2021	1.4	0.5	UG/L	
1,1-Dichloroethane	10/7/2021	0.99	0.5	UG/L	
1,1-Dichloroethylene	10/7/2021	6.3	0.5	UG/L	
8260 TVOC	10/7/2021	11.09	0	UG/L	
Chloroform	10/7/2021	1.1	0.5	UG/L	
Dichlorodifluoromethane	10/7/2021	0.41	0.5	UG/L	J
Trichloroethylene	10/7/2021	0.89	0.5	UG/L	

Table F-16
Extraction Wells VOC Data
OU III Western South Boundary System

2021 BNL Groundwater Status Report

Site ID : 119-13 (WSB-4)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/20/2021	4.2	0.5	UG/L	
1,1-Dichloroethane	1/20/2021	0.65	0.5	UG/L	
1,1-Dichloroethylene	1/20/2021	7.2	0.5	UG/L	
524.2 TVOC	1/20/2021	13.84	0	UG/L	
Chloroform	1/20/2021	0.35	0.5	UG/L	J
Dichlorodifluoromethane	1/20/2021	0.49	0.66	UG/L	J
Trichloroethylene	1/20/2021	0.95	0.5	UG/L	
1,1,1-Trichloroethane	4/14/2021	2.9	0.5	UG/L	
1,1-Dichloroethane	4/14/2021	0.57	0.5	UG/L	
1,1-Dichloroethylene	4/14/2021	4.4	0.5	UG/L	
524.2 TVOC	4/14/2021	9.19	0	UG/L	
Chloroform	4/14/2021	0.28	0.5	UG/L	J
Dichlorodifluoromethane	4/14/2021	0.33	0.66	UG/L	J
Trichloroethylene	4/14/2021	0.71	0.5	UG/L	
1,1,1-Trichloroethane	7/8/2021	3.2	0.5	UG/L	
1,1-Dichloroethane	7/8/2021	0.58	0.5	UG/L	
1,1-Dichloroethylene	7/8/2021	5.2	0.5	UG/L	
8260 TVOC	7/8/2021	10.54	0	UG/L	
Chloroform	7/8/2021	0.26	0.5	UG/L	J
Dichlorodifluoromethane	7/8/2021	0.47	0.5	UG/L	J
Trichloroethylene	7/8/2021	0.83	0.5	UG/L	
1,1,1-Trichloroethane	10/7/2021	3.9	0.5	UG/L	
1,1-Dichloroethane	10/7/2021	0.68	0.5	UG/L	
1,1-Dichloroethylene	10/7/2021	7.8	0.5	UG/L	
8260 TVOC	10/7/2021	14.47	0	UG/L	
Chloroform	10/7/2021	0.31	0.5	UG/L	J
Dichlorodifluoromethane	10/7/2021	0.79	0.5	UG/L	
Trichloroethylene	10/7/2021	0.99	0.5	UG/L	

Table F-16
Extraction Wells VOC Data
OU III Western South Boundary System

2021 BNL Groundwater Status Report

Site ID : 130-12 (WSB-5)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/20/2021	5.4	0.5	UG/L	
1,1-Dichloroethane	1/20/2021	0.44	0.5	UG/L	J
1,1-Dichloroethylene	1/20/2021	6	0.5	UG/L	
1,2-Dichloroethane	1/20/2021	0.13	0.5	UG/L	J
524.2 TVOC	1/20/2021	16.57	0	UG/L	
Chloroform	1/20/2021	1.8	0.5	UG/L	
Dichlorodifluoromethane	1/20/2021	1.4	0.66	UG/L	
Trichloroethylene	1/20/2021	1.4	0.5	UG/L	
1,1,1-Trichloroethane	5/13/2021	14	0.5	UG/L	
1,1-Dichloroethylene	5/13/2021	18	0.5	UG/L	
524.2 TVOC	5/13/2021	38.1	0	UG/L	
Chloroform	5/13/2021	2.4	0.5	UG/L	
Dichlorodifluoromethane	5/13/2021	2	0.5	UG/L	
Trichloroethylene	5/13/2021	1.7	0.5	UG/L	
1,1,1-Trichloroethane	7/8/2021	5	0.5	UG/L	
1,1-Dichloroethane	7/8/2021	0.42	0.5	UG/L	J
1,1-Dichloroethylene	7/8/2021	5.1	0.5	UG/L	
8260 TVOC	7/8/2021	14.92	0	UG/L	
Chloroform	7/8/2021	1.7	0.5	UG/L	
Dichlorodifluoromethane	7/8/2021	1.4	0.5	UG/L	
Trichloroethylene	7/8/2021	1.3	0.5	UG/L	
1,1,1-Trichloroethane	10/7/2021	5.7	0.5	UG/L	
1,1-Dichloroethane	10/7/2021	0.4	0.5	UG/L	J
1,1-Dichloroethylene	10/7/2021	7.2	0.5	UG/L	
8260 TVOC	10/7/2021	17.9	0	UG/L	
Chloroform	10/7/2021	1.7	0.5	UG/L	
Dichlorodifluoromethane	10/7/2021	1.5	0.5	UG/L	
Trichloroethylene	10/7/2021	1.4	0.5	UG/L	

Table F-16
Extraction Wells VOC Data
OU III Western South Boundary System

2021 BNL Groundwater Status Report

Site ID : 130-13 (WSB-6)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/20/2021	0.23	0.5	UG/L	J
1,1-Dichloroethane	1/20/2021	0.52	0.5	UG/L	
1,1-Dichloroethylene	1/20/2021	0.57	0.5	UG/L	
524.2 TVOC	1/20/2021	4.55	0	UG/L	
Dichlorodifluoromethane	1/20/2021	3.1	0.66	UG/L	
Trichloroethylene	1/20/2021	0.13	0.5	UG/L	J
1,1,1-Trichloroethane	4/14/2021	0.17	0.5	UG/L	J
1,1-Dichloroethane	4/14/2021	0.45	0.5	UG/L	J
1,1-Dichloroethylene	4/14/2021	0.47	0.5	UG/L	J
524.2 TVOC	4/14/2021	3.33	0	UG/L	
Dichlorodifluoromethane	4/14/2021	2.1	0.66	UG/L	
Trichloroethylene	4/14/2021	0.14	0.5	UG/L	J
1,1,1-Trichloroethane	7/8/2021	0.24	0.5	UG/L	J
1,1-Dichloroethane	7/8/2021	0.55	0.5	UG/L	
1,1-Dichloroethylene	7/8/2021	0.62	0.5	UG/L	
8260 TVOC	7/8/2021	4.71	0	UG/L	
Dichlorodifluoromethane	7/8/2021	3.3	0.5	UG/L	
1,1,1-Trichloroethane	10/7/2021	0.38	0.5	UG/L	J
1,1-Dichloroethane	10/7/2021	0.68	0.5	UG/L	
1,1-Dichloroethylene	10/7/2021	1.1	0.5	UG/L	
8260 TVOC	10/7/2021	7.26	0	UG/L	
Dichlorodifluoromethane	10/7/2021	5.1	0.5	UG/L	

Table F-17
Air Stripper Influent Data
OU III Western South Boundary System

2021 BNL Groundwater Status Report

Site ID : 121-55 (Influent)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/20/2021	2.4	0.5	UG/L	
1,1-Dichloroethane	1/20/2021	0.56	0.5	UG/L	
1,1-Dichloroethylene	1/20/2021	4.1	0.5	UG/L	
524.2 TVOC	1/20/2021	10.13	0	UG/L	
Chloroform	1/20/2021	0.9	0.5	UG/L	
Dichlorodifluoromethane	1/20/2021	0.87	0.66	UG/L	
Trichloroethylene	1/20/2021	1.3	0.5	UG/L	
1,1,1-Trichloroethane	2/10/2021	2.3	0.5	UG/L	
1,1-Dichloroethane	2/10/2021	0.49	0.5	UG/L	J
1,1-Dichloroethylene	2/10/2021	3.8	0.5	UG/L	
524.2 TVOC	2/10/2021	8.45	0	UG/L	
Chloroform	2/10/2021	0.56	0.5	UG/L	
Dichlorodifluoromethane	2/10/2021	0.66	0.66	UG/L	
Trichloroethylene	2/10/2021	0.64	0.5	UG/L	
1,1,1-Trichloroethane	3/3/2021	2.8	0.5	UG/L	
1,1-Dichloroethane	3/3/2021	0.53	0.5	UG/L	
1,1-Dichloroethylene	3/3/2021	4	0.5	UG/L	
524.2 TVOC	3/3/2021	9.55	0	UG/L	
Chloroform	3/3/2021	0.64	0.5	UG/L	
Dichlorodifluoromethane	3/3/2021	0.87	0.66	UG/L	
Trichloroethylene	3/3/2021	0.71	0.5	UG/L	
1,1,1-Trichloroethane	4/14/2021	1.9	0.5	UG/L	
1,1-Dichloroethane	4/14/2021	0.46	0.5	UG/L	J
1,1-Dichloroethylene	4/14/2021	2.4	0.5	UG/L	
524.2 TVOC	4/14/2021	6.72	0	UG/L	
Chloroform	4/14/2021	0.49	0.5	UG/L	J
Dichlorodifluoromethane	4/14/2021	0.72	0.66	UG/L	
Tetrachloroethylene	4/14/2021	0.2	0.5	UG/L	J
Trichloroethylene	4/14/2021	0.55	0.5	UG/L	
1,1,1-Trichloroethane	5/10/2021	2.3	0.5	UG/L	
1,1-Dichloroethane	5/10/2021	0.59	0.5	UG/L	
1,1-Dichloroethylene	5/10/2021	4.4	0.5	UG/L	
524.2 TVOC	5/10/2021	9.07	0	UG/L	
Dichlorodifluoromethane	5/10/2021	1.1	0.5	UG/L	
Trichloroethylene	5/10/2021	0.68	0.5	UG/L	
1,1,1-Trichloroethane	6/3/2021	3.3	0.5	UG/L	
1,1-Dichloroethane	6/3/2021	0.52	0.5	UG/L	
1,1-Dichloroethylene	6/3/2021	6.1	0.5	UG/L	
524.2 TVOC	6/3/2021	12.99	0	UG/L	
Chloroform	6/3/2021	0.89	0.5	UG/L	
Dichlorodifluoromethane	6/3/2021	1.4	0.5	UG/L	
Trichloroethylene	6/3/2021	0.78	0.5	UG/L	

Table F-17
Air Stripper Influent Data
OU III Western South Boundary System

2021 BNL Groundwater Status Report

Site ID : 121-55 (Influent)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	7/8/2021	3	0.5	UG/L	
1,1-Dichloroethane	7/8/2021	0.45	0.5	UG/L	J
1,1-Dichloroethylene	7/8/2021	4.5	0.5	UG/L	
8260 TVOC	7/8/2021	10.54	0	UG/L	
Chloroform	7/8/2021	0.64	0.5	UG/L	
Dichlorodifluoromethane	7/8/2021	1.2	0.5	UG/L	
Trichloroethylene	7/8/2021	0.75	0.5	UG/L	
1,1,1-Trichloroethane	8/3/2021	2.9	0.5	UG/L	
1,1-Dichloroethane	8/3/2021	0.43	0.5	UG/L	J
1,1-Dichloroethylene	8/3/2021	4.3	0.5	UG/L	
8260 TVOC	8/3/2021	10.08	0	UG/L	
Chloroform	8/3/2021	0.76	0.5	UG/L	
Dichlorodifluoromethane	8/3/2021	1.2	0.5	UG/L	
Trichloroethylene	8/3/2021	0.49	0.5	UG/L	J
1,1,1-Trichloroethane	9/13/2021	2.4	0.5	UG/L	
1,1-Dichloroethane	9/13/2021	0.49	0.5	UG/L	J
1,1-Dichloroethylene	9/13/2021	4.4	0.5	UG/L	
8260 TVOC	9/13/2021	10.26	0	UG/L	
Chloroform	9/13/2021	0.88	0.5	UG/L	
Dichlorodifluoromethane	9/13/2021	1.4	0.5	UG/L	
Trichloroethylene	9/13/2021	0.69	0.5	UG/L	
1,1,1-Trichloroethane	10/7/2021	2.4	0.5	UG/L	
1,1-Dichloroethane	10/7/2021	0.62	0.5	UG/L	
1,1-Dichloroethylene	10/7/2021	4.5	0.5	UG/L	
8260 TVOC	10/7/2021	11.35	0	UG/L	
Chloroform	10/7/2021	0.93	0.5	UG/L	
Dichlorodifluoromethane	10/7/2021	1.4	0.5	UG/L	
Trichloroethylene	10/7/2021	1.5	0.5	UG/L	
1,1,1-Trichloroethane	11/10/2021	2.4	0.5	UG/L	
1,1-Dichloroethane	11/10/2021	0.48	0.5	UG/L	J
1,1-Dichloroethylene	11/10/2021	4.3	0.5	UG/L	
8260 TVOC	11/10/2021	9.8	0	UG/L	
Chloroform	11/10/2021	0.77	0.5	UG/L	
Dichlorodifluoromethane	11/10/2021	1.2	0.5	UG/L	
Trichloroethylene	11/10/2021	0.65	0.5	UG/L	
1,1,1-Trichloroethane	12/6/2021	2.7	0.5	UG/L	
1,1-Dichloroethane	12/6/2021	0.24	0.5	UG/L	J
1,1-Dichloroethylene	12/6/2021	4.8	0.5	UG/L	
8260 TVOC	12/6/2021	10.43	0	UG/L	
Chloroform	12/6/2021	0.61	0.5	UG/L	
Dichlorodifluoromethane	12/6/2021	1.3	0.5	UG/L	
Trichloroethylene	12/6/2021	0.78	0.5	UG/L	

Table F-18
Air Stripper Effluent Data
OU III Western South Boundary System

2021 BNL Groundwater Status Report

Site ID : 095-126 (Effluent)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
524.2 TVOC	1/20/2021	0	0	UG/L	
524.2 TVOC	2/10/2021	0	0	UG/L	
524.2 TVOC	3/3/2021	0	0	UG/L	
524.2 TVOC	4/14/2021	0	0	UG/L	
524.2 TVOC	5/10/2021	0	0	UG/L	
524.2 TVOC	6/3/2021	0	0	UG/L	
8260 TVOC	7/8/2021	0	0	UG/L	
8260 TVOC	8/3/2021	0	0	UG/L	
8260 TVOC	9/13/2021	0	0	UG/L	
8260 TVOC	10/7/2021	0	0	UG/L	
8260 TVOC	11/10/2021	0	0	UG/L	
8260 TVOC	12/6/2021	0	0	UG/L	

Site ID : 095-270 (Effluent)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
	No samples in 2021				

Table F-19
Cumulative Mass Removal
OU III Western South Boundary System

2021 BNL Groundwater Status Report

Date Sampled	Total VOCs (µg/L)	Flow Rates (gpm)	Cumulative VOCs (lbs)
1/20/2021	10.13	388	164.68
2/10/2021	8.45	355	165.80
3/3/2021	9.55	313	166.91
4/14/2021	6.72	353	167.79
5/10/2021	9.07	379	169.07
6/3/2021	12.99	406	171.03
7/8/2021	10.54	249	172.01
8/3/2021	10.08	510	173.92
9/13/2021	10.26	348	175.25
10/7/2021	11.35	437	177.10
11/10/2021	9.8	434	178.68
12/6/2021	10.43	532	180.74

NOTES:
µg/L - Micrograms per liter
gpm - Gallons per minute
lbs - Pounds

TABLE F-20
TVOC Influent, Effluent and Efficiency Performance
OU III Idustrial Park System

2021 BNL Groundwater Status Report

Date	UVB1			UVB2			UVB3			UVB4			UVB5			UVB6			UVB7		
	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency
Units	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*
09/29/99	1900.00	184.42	90.29	70.02	3.03	95.67	49.45	3.08	93.77	158.10	10.70	93.23	284.50	29.19	89.74	90.69	1.97	97.83	NS	NS	0.00
10/07/99	1352.98	97.69	92.78	71.48	3.08	95.69	25.38	3.44	86.45	110.38	8.38	92.41	315.10	33.77	89.28	89.13	9.73	89.08	NS	NS	0.00
10/12/99	1485.00	59.78	95.97	94.75	2.12	97.76	20.11	2.23	88.91	92.28	6.75	92.69	359.44	31.23	91.31	96.88	1.70	98.25	NS	NS	0.00
10/19/99	820.50	52.42	93.61	875.60	39.47	95.49	19.59	1.91	90.25	84.58	5.96	92.95	230.58	29.94	87.02	98.78	1.50	98.48	NS	NS	0.00
10/26/99	730.22	47.73	93.46	571.49	25.18	95.59	18.56	1.15	93.80	77.02	4.10	94.68	192.19	25.99	86.48	90.21	1.39	98.46	NS	NS	0.00
11/2/1999^	608.70	23.48	96.14	461.20	11.25	97.56	16.26	1.63	89.98	72.14	4.73	93.44	181.98	22.39	87.70	95.15	1.78	98.13	43.62	4.79	89.02
11/9/1999#	574.00	26.60	95.37	420.50	8.95	97.87	15.62	1.09	93.02	69.44	3.92	94.35	170.97	21.01	87.71	NS	NS	-	32.12	2.58	91.97
11/16/1999~	602.30	36.06	94.01	383.30	14.05	96.33	23.37	0.92	96.06	77.12	3.49	95.47	181.90	23.91	86.86	NS	NS	-	38.06	6.43	83.11
11/23/1999%	461.18	15.28	96.69	245.86	7.25	97.05	19.58	2.13	89.12	63.16	4.43	92.99	143.04	16.23	88.65	NS	NS	-	32.92	6.92	78.98
12/7/1999$	410.00	27.07	93.40	265.80	11.10	95.82	14.41	0.00	100.00	62.33	4.42	92.91	152.74	16.90	88.94	133.08	12.53	90.58	35.90	4.82	86.57
12/14/99	394.00	23.80	93.96	212.40	6.80	96.80	18.36	0.00	100.00	62.40	3.48	94.42	157.11	20.64	86.86	89.82	5.83	93.51	33.41	3.49	89.55
12/21/99	459.00	27.36	94.04	193.20	6.10	96.84	18.01	0.00	100.00	62.09	3.55	94.28	154.30	16.30	89.44	**	4.85	-	84.61	2.37	97.20
01/27/00	85.26	33.14	61.13	125.69	6.48	94.84	18.23	1.26	93.09	70.91	5.67	92.00	161.47	22.44	86.10	84.33	9.92	88.24	34.94	4.18	88.04
02/24/00	106.56	25.44	76.13	126.18	7.90	93.74	23.82	4.65	80.48	80.78	10.78	86.66	69.66	25.73	63.06	75.02	10.17	86.44	37.31	3.10	91.69
03/20/00	439.47	27.69	93.70	138.15	9.69	92.99	21.41	1.78	91.69	94.02	8.62	90.83	219.34	16.19	92.62	71.94	4.11	94.29	34.30	2.44	92.89
04/18/00	238.38	23.18	90.28	126.68	7.84	93.81	26.01	1.78	93.16	92.87	8.16	91.21	195.77	19.70	89.94	65.93	5.48	91.69	33.06	2.26	93.16
05/16/00	375.40	16.50	95.60	92.10	7.80	91.53	24.90	1.60	93.57	117.60	5.30	95.49	195.10	19.70	89.90	67.60	3.10	95.41	29.90	1.10	96.32
06/14/00	349.00	18.30	94.76	158.90	6.40	95.97	27.30	1.30	95.24	103.10	8.20	92.05	236.50	15.80	93.32	63.60	1.60	97.48	27.30	0.90	96.70
07/24/00	319.10	25.70	91.95	157.30	7.30	95.36	28.10	1.80	93.59	106.10	9.60	90.95	234.00	19.60	91.62	69.30	1.60	97.69	30.00	0.80	97.33
08/15/00	282.00	27.80	90.14	175.60	8.80	94.99	28.80	1.90	93.40	143.80	10.90	92.42	196.10	18.40	90.62	59.80	1.80	96.99	27.10	0.80	97.05
09/19/00	272.60	20.70	92.41	203.70	8.90	95.63	28.20	1.70	93.97	101.60	6.80	93.31	NS	NS		56.50	2.50	95.58	49.10	1.20	97.56
10/24/00	41.10	15.00	63.50	156.90	10.40	93.37	27.70	0.00	100.00	101.10	6.80	93.27	431.10	30.60	92.90	65.20	2.20	96.63	58.80	0.00	100.00
11/13/00	185.20	15.10	91.85	153.70	11.20	92.71	33.30	0.00	100.00	85.50	10.50	87.72	274.80	23.70	91.38	70.50	0.00	100.00	73.90	0.00	100.00
12/19/00	259.50	14.60	94.37	206.60	8.50	95.89	NS	NS		NS	NS		299.40	24.40	91.85	52.50	2.40	95.43	39.10	0.00	100.00
01/24/01	200.00	12.50	93.75	242.90	12.60	94.81	45.60	1.70	96.27	124.80	4.00	96.79	326.60	22.20	93.20	96.40	4.30	95.54	44.40	3.30	92.57
02/26/01	149.20	10.10	93.23	232.10	12.00	94.83	54.60	3.30	93.96	129.80	7.10	94.53	299.20	23.00	92.31	91.20	4.50	95.07	44.20	2.80	93.67
03/20/01	157.10	8.10	94.84	230.80	12.30	94.67	53.00	3.40	93.58	120.80	4.00	96.69	NS	NS		102.90	4.40	95.72	41.00	3.20	92.20
04/19/01	124.90	5.30	95.76	230.50	12.00	94.79	59.80	5.20	91.30	154.70	7.40	95.22	306.40	23.20	92.43	122.20	4.80	96.07	46.40	3.30	92.89
05/29/01	72.81	5.99	91.77	173.20	13.31	92.32	64.49	5.55	91.39	162.34	9.29	94.28	291.82	21.19	92.74	105.34	5.20	95.06	43.86	3.53	91.95
06/26/01	73.25	6.82	90.69	232.85	17.21	92.61	58.15	5.70	90.20	145.44	5.40	96.29	228.30	18.99	91.68	111.77	6.74	93.97	48.51	4.87	89.96
07/31/01	73.25	6.82	90.69	232.85	17.21	92.61	58.15	5.70	90.20	145.44	5.40	96.29	228.30	18.99	91.68	111.77	6.74	93.97	48.51	4.87	89.96
08/31/01	73.25	6.82	90.69	232.85	17.21	92.61	58.15	5.70	90.20	145.44	5.40	96.29	228.30	18.99	91.68	111.77	6.74	93.97	48.51	4.87	89.96
09/30/01	73.25	6.82	90.69	232.85	17.21	92.61	58.15	5.70	90.20	145.44	5.40	96.29	228.30	18.99	91.68	111.77	6.74	93.97	48.51	4.87	89.96
10/02/01	67.76	5.93	91.25	254.28	15.84	93.77	74.34	8.21	88.96	155.95	18.55	88.11	312.77	14.69	95.30	117.30	5.94	94.94	41.93	2.98	92.89
11/02/01	58.61	6.19	89.44	238.11	19.32	91.89	96.97	10.16	89.52	205.18	13.59	93.38	420.87	19.73	95.31	160.04	7.14	95.54	73.21	3.40	95.36
12/19/01	56.33	3.19	94.34	172.19	17.36	89.92	63.98	4.22	93.40	151.04	14.66	90.29	303.89	15.26	94.98	141.04	5.15	96.35	82.96	4.31	94.80
01/14/02	42.71	3.07	92.81	181.37	14.56	91.97	70.28	4.47	93.64	145.98	19.39	86.72	321.73	20.69	93.57	132.80	5.46	95.89	62.07	3.32	94.65
02/25/02	25.64	2.62	89.78	208.09	15.21	92.69	66.69	5.34	91.99	134.41	17.81	86.75	278.49	14.41	94.83	152.11	6.51	95.72	63.16	4.22	93.32
03/25/02	12.32	1.59	87.09	191.99	15.17	92.10	60.15	4.64	92.29	117.92	15.04	87.25	243.94	8.88	96.36	136.04	6.43	95.27	55.36	4.49	91.89
04/30/02	0.00	0.00	0.00	224.95	16.80	92.53	82.43	6.30	92.36	111.75	18.13	83.78	281.15	13.96	95.03	138.72	6.88	95.04	57.88	4.15	92.83
05/29/02	0.00	0.00	0.00	174.95	17.26	90.13	72.81	7.38	89.86	111.48	15.52	86.08	247.56	13.77	94.44	145.59	7.99	94.51	60.89	6.46	89.39
06/26/02	9.31	1.17	87.43	207.51	18.40	91.13	64.07	5.21	91.87	95.49	13.02	86.37	216.80	9.69	95.53	131.10	6.07	95.37	55.57	4.64	91.65
07/25/02	21.66	2.38	89.01	210.54	18.25	91.33	70.55	6.64	90.59	94.05	7.19	92.36	226.54	6.87	96.97	148.11	5.95	95.98	48.51	4.41	90.91

TABLE F-20
TVOC Influent, Effluent and Efficiency Performance
OU III Idustrial Park System

2021 BNL Groundwater Status Report

Date	UVB1			UVB2			UVB3			UVB4			UVB5			UVB6			UVB7		
	Inf	**Eff**	**Efficiency**	**Inf**	**Eff**	**Efficiency**	**Inf**	**Eff**	**Efficiency**	**Inf**	**Eff**	**Efficiency**	**Inf**	**Eff**	**Efficiency**	**Inf**	**Eff**	**Efficiency**	**Inf**	**Eff**	**Efficiency**
Units	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*
08/27/02	27.80	2.52	90.94	218.79	19.17	91.24	64.52	7.63	88.17	95.05	11.87	87.51	212.32	7.72	96.36	145.48	5.58	96.16	65.36	3.96	93.94
09/23/02	22.42	1.66	92.60	239.94	20.13	91.61	73.34	6.22	91.52	100.22	9.40	90.62	207.98	15.28	92.65	158.22	4.10	97.41	65.36	3.96	93.94
10/29/02	18.55	1.82	90.19	197.88	15.79	92.02	127.93	11.72	90.84	88.12	11.27	87.21	338.48	3.57	98.95	146.42	4.57	96.88	65.36	0.30	99.54
11/19/02	14.40	0.00	100.00	154.00	13.20	91.43	66.30	5.30	92.01	100.90	5.30	94.75	168.10	11.40	93.22	146.42	4.57	96.88	61.60	0.00	100.00
12/19/02	15.30	0.00	100.00	155.00	10.20	93.42	52.70	4.40	91.65	87.40	4.40	94.97	146.50	10.50	92.83	146.42	4.57	96.88	56.90	0.80	98.59
01/29/03	9.8	0	100.00	188.2	14	92.56	51.8	3.7	92.86	103.2	9.5	90.79	168.7	8.9	94.72	185	6.8	96.32	61	2.1	96.56
02/25/03	7.3	0.7	90.41	157.2	10.4	93.38	57.2	4.8	91.61	92.7	11.2	87.92	188.4	11.3	94.00	144	8.4	94.17	54.4	1.8	96.69
03/20/03	6.1	0	100.00	129.5	10.5	91.89	58.2	4.8	91.75	93.6	13.1	86.00	154.4	9.5	93.85	148.7	10.1	93.21	58.7	2.7	95.40
04/30/03	7.1	0	100.00	133.7	10.2	92.37	41.7	2.9	93.05	79.2	11.1	85.98	127.6	12	90.60	101.7	7.3	92.82	34.1	0.9	97.36
05/31/03	7.1	0	100.00	123.6	10.5	91.50	51.7	5.1	90.14	87.3	12.9	85.22	144	14.9	89.65	183	8	95.63	50.4	2	96.03
06/30/03	4.6	1	78.26	176.5	10.2	94.22	46	4.9	89.35	79	11.3	85.70	134.9	13.6	89.92	146.8	10.3	92.98	50.6	2.1	95.85
07/31/03	5.4	1.2	77.78	153.1	14.6	90.46	2.2	0	100.00	73	13.3	81.78	147.3	13.9	90.56	153.1	13.5	91.18	51.7	1.8	96.52
08/31/03	5.7	0.9	84.21	158.8	16.6	89.55	49.8	5.6	88.76	68.2	13.2	80.65	121.8	13.2	89.16	132.1	14	89.40	46.9	1	97.87
09/30/03	5	0	100.00	158.8	16.6	89.55	49.3	5.2	89.45	61.9	12.5	79.81	121.7	12.5	89.73	124.7	12	90.38	54.1	0.8	98.52
10/31/03	2.16	0	100.00	132.79	14.53	89.06	42.87	4.01	90.65	49.7	9.82	80.24	99.74	10.8	89.17	110.23	10.66	90.33	35.98	0.98	97.28
11/30/03	3.79	0	100.00	226.15	20.3	91.02	33.86	2.88	91.49	46.57	9.35	79.92	97.64	10.75	88.99	103.49	10.59	89.77	40.4	1.5	96.29
12/31/03	1.99	0	100.00	361	74.4	79.39	36.7	3.03	91.74	48.42	8	83.48	92.79	10.56	88.62	105.01	7.39	92.96	45.21	0.76	98.32
01/26/04	1.99	0.00	100.00	151.26	23.04	84.77	36.7	3.03	91.74	46.33	8.08	82.56	86.35	10.27	88.11	100.20	14.96	85.07	NA	NA	NA
02/25/04	1.99	0.73	63.32	149.61	13.53	90.96	36.7	3.03	91.74	46.33	17.54	62.14	99.76	10.28	89.70	106.66	9.28	91.30	70.37	1.58	97.75
03/24/04	2.06	0.69	66.50	133.38	12.63	90.53	36.7	3.03	91.74	44.82	14.33	68.03	77.91	11.86	84.78	88.61	8.02	90.95	70.37	1.58	97.75
04/27/04	1.53	1.10	28.10	100.13	17.10	82.92	36.7	3.03	91.74	47.43	12.70	73.22	77.91	11.86	84.78	96.83	11.27	88.36	66.79	3.42	94.88
05/27/04	3.65	1.12	69.32	123.20	16.54	86.57	36.7	3.03	91.74	47.88	12.70	73.48	77.91	11.86	84.78	99.49	12.09	87.85	65.11	4.15	93.63
06/29/04	4.59	4.10	10.68	123.20	21.02	82.94	124.00	14.14	88.60	47.54	9.50	80.02	91.17	14.42	84.18	82.67	10.87	86.85	58.85	3.69	93.73
07/23/04	4.59	4.10	10.68	NA	NA	NA	56.04	5.32	90.51	47.54	9.50	80.02	91.17	14.42	84.18	82.67	10.87	86.85	58.85	3.69	93.73
08/26/04	2.96	0.22	92.53	190.88	0.00	100.00	56.04	5.32	90.51	43.70	9.43	78.42	91.17	12.78	85.98	36.75	13.28	63.86	55.34	2.29	95.86
09/21/04	3.06	0.25	91.83	190.88	0.00	100.00	56.04	5.32	90.51	46.90	12.38	73.60	89.51	9.95	88.88	91.49	9.91	89.17	54.95	2.43	95.58
10/26/04	2.82	0.13	95.39	190.88	0.00	100.00	52.13	5.50	89.45	37.35	9.00	75.90	97.02	12.62	86.99	67.00	8.21	87.75	51.39	3.08	94.01
11/23/04	1.89	0.00	100.00	NA	NA	NA	52.13	5.50	89.45	34.74	9.87	71.59	60.84	11.50	81.10	64.01	6.92	89.19	52.40	2.77	94.71
12/15/04	5.49	0.00	100.00	190.88	0.00	100.00	52.13	5.50	89.45	36.32	9.60	73.57	92.09	12.41	86.52	65.59	7.08	89.21	57.16	2.77	95.15
01/31/05	3.34	0.66	80.24	115.00	10.00	91.30	54.51	5.04	90.75	41.12	9.80	76.17	81.30	10.53	87.05	42.18	7.77	81.58	59.11	4.22	92.86
02/28/05	2.77	0.33	88.09	40.40	1.81	95.52	51.00	4.20	91.76	41.12	9.80	76.17	26.91	1.51	94.39	24.45	7.01	71.33	20.60	3.53	82.86
03/31/05	2.20	0.00	100.00	40.40	1.81	95.52	47.70	3.84	91.95	41.12	9.80	76.17	79.31	14.50	81.72	98.59	8.58	91.30	62.83	4.15	93.39
04/30/05	2.2	0.00	100.00	40.40	1.81	95.52	35.14	3.44	90.21	41.12	9.80	76.17	105.42	9.06	91.41	86.16	6.25	92.75	47.5	3.1	93.47
05/31/05	2.2	0.00	100.00	40.40	1.81	95.52	48.07	2.95	93.86	41.12	9.80	76.17	81.43	10.23	87.44	79.35	7.36	90.72	47.5	3.1	93.47
6/31/2005	2.2	0.00	100.00	40.40	1.81	95.52	48.64	3.15	93.52	41.12	9.80	76.17	75	11.19	85.08	139.7	7.54	94.60	47.5	3.1	93.47
07/31/05	1.49	0.07	95.30	160	10	93.75	50	3	94.00	51	3.5	93.14	100	17.5	82.5	78.6	8.4	89.31	95	3	96.84
08/31/05	1.49	0.07	95.30	160	10	93.75	50	3	94.00	51	3.5	93.14	100	17.5	82.5	74	5.52	92.54	95	3	96.84
09/30/05	1.49	0.07	95.30	160	10	93.75	50	3	94.00	51	3.5	93.14	100	17.5	82.5	80.71	6.55	91.88	95	3	96.84
10/31/05	1.49	0.07	95.30	182.00	10.00	94.51	56.53	8.06	85.74	1.67	0.87	47.90	124.34	17.49	85.93	70.06	6.55	90.65	143.91	6.38	95.57
11/30/05	1.00	0.00	100.00	204.71	10.57	94.84	72.90	7.71	89.42	0.65	0.42	35.38	116.55	12.04	89.67	72.11	6.49	91.00	101.44	5.08	94.99
12/31/05	1.49	0.07	95.30	204.71	10.57	94.84	56.67	8.41	85.16	0.27	0.16	40.74	104.44	10.36	90.08	71.47	4.58	93.59	81.23	3.22	96.04
01/31/06	1.57	0.19	87.90	295.58	17.48	94.09	52.82	7.78	85.27	5.67	0.32	94.36	86.11	9.57	88.89	64.60	5.19	91.97	53.82	2.33	95.67
02/28/06	1.65	0.2	87.88	270.80	19.18	92.92	55.59	7.80	85.97	3.50	0.30	91.43	90.83	9.90	89.10	68.19	5.35	92.15	55.49	2.38	95.71
03/31/06	1.85	0.33	82.16	246.02	20.89	91.51	58.36	7.92	86.43	0.33	0.29	12.12	95.56	10.23	89.29	71.77	5.51	92.32	57.16	2.42	95.77

TABLE F-20
TVOC Influent, Effluent and Efficiency Performance
OU III Idustrial Park System

2021 BNL Groundwater Status Report

Date	UVB1			UVB2			UVB3			UVB4			UVB5			UVB6			UVB7		
	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency
Units	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*
04/30/06	2.13	0.43	79.81	549.90	47.15	91.43	65.47	10.55	83.89	6.47	0.64	90.11	83.28	12.03	85.55	67.18	7.17	89.33	54.68	2.14	96.09
05/31/06	2.10	0.62	70.48	343.56	25.48	92.58	59.23	10.57	82.15	0.77	0.31	59.74	83.17	11.12	86.63	62.12	5.55	91.07	49.15	3.00	93.90
06/30/06	1.53	0.70	54.25	269.81	129.00	52.19	62.59	9.66	84.57	1.30	0.35	73.08	76.55	8.65	88.70	57.48	4.54	92.10	43.53	2.81	93.54
07/31/06	2.19	0.79	63.93	244.73	34.89	85.74	73.36	12.79	82.57	6.20	0.40	93.55	84.98	10.62	87.50	55.36	5.11	90.77	44.72	3.38	92.44
08/31/06	1.87	0.35	81.28	244.73	34.89	85.74	102.84	13.00	87.36	0.60	0.30	50.00	71.05	11.31	84.08	55.29	3.33	93.98	42.00	1.80	95.71
09/30/06	2.07	0.22	89.37	244.73	34.89	85.74	132.32	14.12	89.33	2.24	0.00	100.00	65.90	8.98	86.37	53.35	4.31	91.92	46.83	1.59	96.60
10/31/06	2.18	0.34	84.40	120.00	19.00	84.17	65.20	8.07	87.62	2.00	0.71	64.50	61.65	7.32	88.13	44.49	2.80	93.71	46.83	1.59	96.60
11/30/06	1.19	0.40	66.39	60.00	8.00	86.67	64.78	8.65	86.65	1.53	0.37	75.82	61.65	7.32	88.13	44.49	2.80	93.71	100.96	0.35	99.65
12/31/06	1.99	0.16	91.96	5.17	2.90	43.91	63.36	8.34	86.84	1.65	0.48	70.91	61.65	7.32	88.13	44.49	2.80	93.71	43.68	1.08	97.53
01/31/07	1.75	0.25	85.71	8.40	2.18	74.05	52.83	7.99	84.88	2.76	0.50	81.88	127.06	12.95	89.81	199.58	0.56	99.72	0.58	0.46	20.69
02/28/07	1.43	0.40	72.17	9.66	0.91	90.58	46.28	6.33	86.32	3.88	0.52	86.60	1.95	0.56	71.23	59.02	4.19	92.90	0.60	0.02	96.67
03/31/07	1.60	0.53	66.79	0.45	0.36	20.00	52.97	5.36	89.88	1.07	0.39	63.55	2.32	0.94	59.70	191.48	4.65	97.57	0.74	0.07	90.54
04/30/07	1.48	0.271	81.69	148.61	45.28	69.53	57.22	8.22	85.63	3.88	0.29	92.53	2.32	0.94	99.35	192.80	7.47	96.13	1.96	0.50	74.49
05/30/07	1.48	0.271	81.69	6.02	1.70	71.76	45.11	7.51	83.35	44.79	7.95	82.25	142.76	0.94	88.24	142.76	3.30	97.69	23.83	2.12	91.10
06/30/07	1.48	0.271	81.69	2.60	1.90	26.92	45.33	7.70	83.01	2.81	0.84	70.11	7.95	0.94	88.24	7.95	2.02	74.59	4.26	1.22	71.36
07/31/07	1.48	0.271	81.69	2.60	1.90	26.92	45.33	7.70	83.01	20	5	75	7.95	0.94	88.24	113.95	3.42	97.00	2.13	0.75	64.79
08/31/07	1.48	0.271	81.69	2.42	0.56	76.86	45.33	7.70	83.01	41.68	10.77	74.16	7.95	0.94	88.24	113.95	3.42	97.00	0.79	0.4	49.37
09/30/07	1.48	0.271	81.69	2.42	0.56	76.86	45.33	7.70	83.01	41.68	10.77	74.16	7.95	0.94	88.24	113.95	3.42	97.00	0.79	0.4	49.37
10/31/07	2.00	0.50	75.00	4.38	0.47	89.27	56.88	9.66	83.02	41.60	9.57	77.00	105.00	80.47	23.36	53.51	3.05	94.30	2.57	0.56	78.21
11/30/07	2.00	0.50	75.00	234.51	16.99	92.76	56.88	9.66	83.02	27.94	7.81	72.05	83.32	68.27	18.06	43.02	1.72	96.00	40.79	2.08	94.90
12/31/07	2.63	1.20	54.37	2.00	1.20	40.00	68.44	11.63	83.01	18.91	7.70	59.28	71.52	55.00	23.10	31.09	1.52	95.11	17.92	1.42	92.08
01/31/08	2.42	0.82	66.12	1.3	0.7	46.15	58.13	10.63	81.71	27.2	7.81	71.29	2.93	1.02	65.19	32.29	1.16	96.41	15.43	1.07	93.07
02/28/08	1.66	0.13	92.17	41.27	4.39	89.36	53.8	7.65	85.78	19.6	5.19	73.52	28.59	2.8	90.21	29.17	1.11	96.19	11.16	1.48	86.74
03/31/08	0.88	0.19	78.41	8.65	6.52	24.62	44.46	7.22	83.76	32.51	8.49	73.88	28.59	2.8	90.21	28.89	1.08	96.26	12.81	1.6	87.51
04/30/08	1.70	0.21	87.65	82.30	5.13	93.77	26.03	6.06	76.72	22.01	8.40	61.84	23.73	2.40	89.89	5.37	0.00	100.00	1.01	0.30	70.30
05/31/08	1.22	0.47	61.48	82.30	5.13	93.77	28.84	5.00	82.66	17.20	5.90	65.70	3.83	1.44	62.40	30.59	5.40	82.35	1.01	0.30	70.30
06/30/08	1.22	0.47	61.48	82.30	5.13	93.77	28.84	5.00	82.66	17.20	5.90	65.70	3.83	1.44	62.40	30.59	5.40	82.35	1.01	0.30	70.30
07/31/08	2.14	0.40	81.31	42.62	2.60	93.90	85.00	12.00	85.88	9.10	2.00	78.02	72.00	6.50	90.97	30.00	3.00	90.00	2.00	0.40	80.00
08/31/08	2.14	0.40	81.31	42.62	2.60	93.90	85.00	12.00	85.88	9.10	2.00	78.02	72.00	6.50	90.97	30.00	3.00	90.00	2.00	0.40	80.00
09/30/08	3.06	0.40	86.93	2.91	0.45	84.54	141.90	19.19	86.48	1.06	0.28	73.58	139.85	9.72	93.05	29.74	1.13	96.20	3.06	0.25	91.83
10/31/08	2.34	0.84	64.10	42.29	4.24	89.97	30.30	4.42	85.41	12.40	2.90	76.61	71.00	5.00	92.96	22.24	1.13	94.92	2.34	0.11	95.30
11/30/08	3.06	0.27	91.18	39.10	3.43	91.23	24.16	3.54	85.35	12.50	3.90	68.80	71.00	5.00	92.96	20.71	1.13	94.54	3.06	0.78	74.51
12/31/08	19.31	5.48	71.62	31.00	2.14	93.10	18.24	2.78	84.76	12.50	3.90	68.80	71.00	5.00	92.96	20.71	1.13	94.54	3.06	0.78	74.51
01/31/09	9.90	2.40	75.76	15.00	1.20	92.00	19.00	2.10	88.95	5.46	1.20	78.02	3.10	0.30	90.32	36.86	5.35	85.49	0.70	0.11	84.29
02/28/09	0.63	0.24	62.09	0.44	0.28	36.36	20.80	1.42	93.17	6.27	1.03	83.57	25.24	2.40	90.49	51.33	8.36	83.71	0.49	0.38	23.27
03/31/09	0.90	0.25	72.35	0.21	0.18	14.29	30.01	3.00	90.00	4.74	1.16	75.53	1.63	0.17	89.57	51.33	8.36	83.71	0.39	0.17	56.41
04/30/09	0.83	0.41	50.30	1.01	0.23	77.23	15.69	2.60	83.43	6.44	1.13	82.45	33.43	5.00	85.04	55.00	7.89	85.65	0.62	0.12	80.65
05/31/09	6.21	4.10	33.98	1.96	0.23	88.27	15.25	2.10	86.23	6.07	1.53	74.79	19.61	2.53	87.10	61.38	7.49	87.80	0.77	0.11	85.71
06/30/09	3.81	2.60	31.76	3.53	0.59	83.29	14.44	1.97	86.36	6.04	1.78	70.53	25.70	3.21	87.51	26.62	4.41	83.43	0.88	0.47	46.59
07/31/09	3.14	2.36	24.84	1.36	1.36	0.00	11.75	1.88	84.00	5.40	2.20	59.26	6.22	6.22	0.00	21.08	2.24	89.37	0.74	0.61	17.57
08/31/09	3.56	3.33	6.46	1.45	1.28	11.72	10.52	1.57	85.08	5.64	1.00	82.27	14.90	3.55	76.17	14.18	2.03	85.68	7.58	1.28	83.11
09/30/09	4.82	2.90	39.83	1.45	1.28	11.72	10.56	2.31	78.13	5.49	1.79	67.40	3.89	0.95	75.58	14.43	2.49	82.74	1.16	0.22	81.03
10/31/09	3.73	2.46	34.05	1.62	0.60	62.96	10.56	2.31	78.13	0.93	0.58	37.63	1.79	0.55	69.27	12.78	1.52	88.11	0.35	0.27	22.86
11/30/09	3.86	2.65	31.35	2.06	0.65	68.45	10.56	2.31	78.13	0.60	0.30	50.00	1.99	0.46	76.88	13.64	1.82	86.66	0.66	0.66	0.00

TABLE F-20
TVOC Influent, Effluent and Efficiency Performance
OU III Idustrial Park System

2021 BNL Groundwater Status Report

Date	UVB1			UVB2			UVB3			UVB4			UVB5			UVB6			UVB7		
	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency
Units	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*
12/31/09	4.19	2.67	36.28	3.69	0.45	87.80	10.56	2.31	78.13	0.26	0.08	69.23	1.99	1.15	42.21	13.64	1.82	86.66	0.89	0.32	64.04
01/31/10	3.70	2.29	38.11	1.27	0.25	80.31	15.00	0.00	100.00	3.64	0.94	74.18	15.00	1.15	92.33	16.00	1.82	88.63	0.24	0.00	100.00
02/28/10	4.89	2.60	46.83	1.96	0.48	75.51	15.00	0.00	100.00	4.24	0.95	77.59	15.00	1.15	92.33	16.00	1.82	88.63	7.55	1.91	74.70
03/31/10	4.47	3.80	14.99	1.63	1.00	38.65	15.00	0.00	100.00	3.40	1.60	52.94	15.00	1.15	92.33	16.00	1.82	88.63	2.47	1.76	28.74
04/30/10	4.25	3.52	17.18	32.80	3.64	88.90	17.50	1.30	92.57	0.42	0.33	21.43	25.00	3.25	87.00	13.68	2.00	85.38	2.31	0.00	100.00
05/31/10	5.61	3.86	31.19	16.47	1.04	93.69	20.53	2.60	87.34	0.61	0.50	18.03	35.64	5.42	84.79	12.31	2.32	81.15	0.68	0.00	100.00
06/30/10	3.32	2.42	27.11	0.76	0.36	52.63	13.17	2.01	84.74	0.56	0.46	17.86	19.30	2.92	84.87	10.56	2.32	78.03	0.49	0.00	100.00
07/31/10	3.72	2.43	34.68	1.07	1.00	6.54	12.15	2.72	77.61	0.87	0.49	43.68	19.19	3.44	82.07	13.59	2.32	82.93	0.88	0.61	30.68
08/31/10	3.69	2.00	45.80	12.91	1.83	85.82	10.68	3.65	65.82	5.69	2.36	58.52	17.78	4.53	74.52	11.62	2.32	80.03	1.24	1.10	11.29
09/30/10	2.94	2.02	31.29	0.86	0.71	17.44	7.79	2.17	72.14	2.91	1.59	45.36	13.37	2.86	78.61	9.71	2.32	76.11	0.99	0.83	16.16
10/31/10	2.83	2.00	29.33	1.20	1.07	10.83	10.28	2.54	75.29	1.88	1.17	37.77	5.36	1.55	71.08	13.00	5.50	57.69	1.49	1.25	16.11
11/30/10	2.55	1.70	33.33	1.22	0.83	31.97	7.93	1.83	76.92	2.53	1.23	51.38	16.69	2.77	83.40	17.61	9.56	45.71	1.49	1.25	16.11
12/31/10	2.28	1.60	29.82	8.72	1.11	87.27	9.28	1.63	82.44	2.60	0.92	64.62	17.11	2.41	85.91	23.74	9.56	59.73	1.49	1.25	16.11
01/31/11	1.60	1.00	37.50	11.50	1.15	90.00	9.07	1.45	84.01	2.20	0.96	56.36	15.11	2.20	85.44	17.65	2.50	85.84	3.74	1.30	65.24
02/28/11	1.13	0.70	38.05	14.71	1.15	92.18	8.86	1.30	85.33	1.97	0.97	50.76	13.50	2.00	85.19	17.65	2.50	85.84	6.11	1.35	77.91
03/31/11	1.27	0.50	60.63	13.47	1.23	90.87	6.21	1.17	81.16	1.17	0.20	82.91	10.28	2.00	80.54	11.56	2.50	78.37	0.40	0.24	40.00
04/30/11	1.33	0.34	74.44	16.59	1.40	91.56	6.96	1.42	79.60	2.66	1.82	31.58	8.12	1.65	79.68	10.75	2.50	76.74	5.78	1.06	81.66
05/31/11	1.39	0.54	61.15	16.92	1.55	90.84	7.25	1.32	81.79	2.66	1.82	31.58	8.12	1.65	79.68	10.75	2.50	76.74	5.85	1.00	82.91
06/30/11	1.45	0.74	48.97	17.25	1.69	90.20	7.57	1.25	83.49	4.15	3.44	17.11	8.12	1.65	79.68	10.75	2.50	76.74	5.92	0.85	85.64
07/31/11	1.57	0.85	45.86	23.50	2.40	89.79	7.78	1.54	80.21	0.37	0.00	100.00	32.18	21.00	34.74	0.48	0.00	100.00	4.78	1.31	72.59
08/31/11	1.20	1.20	0.00	0.84	0.00	100.00	8.06	1.88	76.67	0.59	0.00	100.00	27.40	19.00	30.66	0.57	0.00	100.00	4.25	1.56	63.29
09/30/11	1.43	0.86	39.86	1.01	0.60	40.59	6.46	1.25	80.65	0.59	0.00	100.00	27.44	18.00	34.40	10.51	1.88	82.11	4.10	1.24	69.76
10/31/11	0.86	0.30	65.12	0.30	0.28	6.67	6.24	1.06	83.01	1.00	0.36	64.00	24.38	1.46	94.01	9.87	1.54	84.40	4.83	0.92	80.95
11/30/11	0.87	0.40	54.02	0.40	0.22	45.00	5.67	0.89	84.30	1.86	0.72	61.29	17.52	2.68	84.70	7.92	1.50	81.06	0.29	0.27	6.90
12/31/11	0.99	0.36	63.64	0.11	0.11	0.00	5.61	2.10	62.57	1.72	0.80	53.49	12.72	1.90	85.06	7.72	1.39	81.99	3.89	0.70	82.01
01/31/12	0.85	0.19	77.65	0.10	0.00	100.00	5.26	2.95	43.92	1.22	0.39	68.03	9.70	1.11	88.56	6.48	1.05	83.80	4.26	0.40	90.61
02/28/12	0.83	0.08	90.36	0.16	0.00	100.00	3.88	2.89	25.52	1.40	0.39	72.14	8.13	1.15	85.85	5.73	1.01	82.37	0.22	0.15	31.82
03/31/12	1.04	0.50	51.92	0.26	0.23	11.54	6.85	3.74	45.40	1.29	0.72	44.19	6.45	1.14	82.33	5.81	1.12	80.72	0.40	0.05	88.75
04/30/12	0.90	0.30	66.67	0.20	0.00	100.00	6.86	3.40	50.44	1.38	0.48	65.22	5.54	0.81	85.38	5.25	0.75	85.71	0.25	0.00	100.00
05/31/12	0.93	0.00	100.00	0.10	0.00	100.00	6.10	1.14	81.31	1.75	0.56	68.00	6.52	1.38	78.83	5.88	1.26	78.57	0.55	0.20	63.64
06/30/12	1.55	0.90	41.94	0.10	0.00	100.00	5.90	1.18	80.00	2.01	0.94	53.23	7.02	1.54	78.06	6.77	1.29	80.95	1.17	0.58	50.43
07/31/12	1.48	0.93	37.16	0.43	0.36	16.28	4.31	1.02	76.33	1.90	1.00	47.37	7.00	1.63	76.71	3.60	0.81	77.50	0.84	0.55	34.52
08/31/12	1.48	0.93	37.16	0.43	0.36	16.28	4.31	1.02	76.33	1.90	1.00	47.37	7.00	1.63	76.71	3.60	0.81	77.50	0.84	0.55	34.52
09/30/12	1.48	0.93	37.16	0.43	0.36	16.28	4.31	1.02	76.33	1.90	1.00	47.37	7.00	1.63	76.71	3.60	0.81	77.50	0.84	0.55	34.52
10/31/12	1.43	0.86	39.86	0.76	0.72	5.26	2.73	0.09	96.89	1.78	1.05	41.01	7.00	1.71	75.57	0.44	0.33	25.00	0.60	0.52	13.33
11/30/12	1.41	0.59	58.16	1.04	0.28	73.08	6.62	0.85	87.16	1.57	0.75	52.23	7.56	1.35	82.14	0.27	0.20	25.93	0.31	0.28	9.68
12/31/12	1.62	1.20	25.93	1.04	0.76	26.92	2.93	1.20	59.04	1.88	0.70	62.77	7.72	1.47	80.96	0.27	0.20	25.93	0.81	0.55	32.10
01/31/13	1.19	0.57	52.10	0.40	0.24	41.25	0.92	0.33	63.70	1.56	0.70	55.13	7.60	1.23	83.82	15.93	0.25	98.43	0.57	0.21	63.51
02/28/13	1.44	0.75	47.92	0.43	0.27	37.21	0.55	0.24	56.36	1.72	0.94	45.35	7.86	1.56	80.15	12.12	1.77	85.40	2.05	0.21	89.85
03/31/13	1.69	1.03	39.05	0.46	0.31	32.39	0.19	0.16	19.07	1.88	1.18	37.23	8.12	1.89	76.72	8.31	1.52	81.71	3.54	0.40	88.70
04/30/13	1.45	0.76	47.59	0.29	0.21	27.59	4.91	0.36	92.67	1.66	0.88	46.99	8.12	2.01	75.25	6.55	0.80	87.79	1.67	0.19	88.62
05/31/13																					
06/30/13																					
07/30/13	1.22			0.38			1.04			2.37			34.96			11.06			0.31		

TABLE F-20
TVOC Influent, Effluent and Efficiency Performance
OU III Idustrial Park System

2021 BNL Groundwater Status Report

Date	UVB1			UVB2			UVB3			UVB4			UVB5			UVB6			UVB7		
	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency
Units	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*
08/31/13																					
09/30/13																					
10/31/13	1.58			0.47			0.29			3.46			54.02			15.57			0.34		
11/30/13																					
12/31/13																					
01/31/14	1.11			1.08			2.98			3.71			51.14			14.57			0		
02/28/14																					
03/21/14	1.22						6.6	0.81	87.73	3.46	1.01	70.81	17.41	3.78	78.29	8.65	1.28	85.20	0.19	0.18	5.26
04/17/14	1.6			261.92			0.3		100.00	2.86	0.86	69.93	11.26	2.9	74.25	6.55	1.4	78.63	3.07		
05/15/14							1.62	0.86	46.91				8.65	2.37	72.60	4.88	1.01	79.30			
06/17/14							4.038	3.16	21.74				10.18	6.11	39.98	4.68	1.07	77.14			
07/29/14	2.2			10.81						2.58	1.19		14.58	2.33	84.02	4.93	0.72	85.40	2.81		
08/27/14								1.31		2.96	1.28		8.53	1.80	78.90	0.91	0.90	1.10			
09/30/14								0.94		2.44	0.96					0.37	0.30	18.92			
10/29/14				14.38						2.03						0.23	1.27		2.7		
11/30/14																					
12/31/14																					
01/31/15																					
02/28/15																					
03/31/15																					
06/25/15	0.48			3.19			1.87			2.09			33.58			0.66			3.34		
07/22/15	1.058			5.62			3.35			4.16			15.12			1.42			3		
08/28/15							3.33	0.62	81.38	1.77	0.74	58.19	8.18	2.33	71.52	1.08	0.24	77.78	3.32		
09/24/15							1.65	0.57	65.45	1.53	0.7	54.25	5.79	1.89	67.36						
10/29/15	1.09			2			3.66	0.79	78.42	1.64	0.7	57.32	5.42	1.62	70.11	0.43	0.31	27.91	2.65		
11/20/15							3.34	0.65	80.54	1.25	0.64	48.80	7.9	2.11	73.29	0.28	0.19	32.14			
12/23/15							3.28	0.68	79.27	0.91	0.52	42.86	6.3	1.44	77.14	0.29	0.19	34.48			
01/21/16	0.774			1.85			1.53	0.56	63.40	1.11	0.67	39.64	9.56	1.81	81.07	0.40	0.00	100.00	7.36		
02/15/16																					
03/24/16							4.18	0.79	81.10	1.64	0.77	53.05									
04/27/16	0.65			1.92			3.24	0.85	73.77	1.85	1.53	17.30	7.01	1.49	78.74	0.64	0.22	65.63	0.55		
05/25/16							3.90	0.74	81.03	2.05	1.51	26.34	5.60	0.80	85.71	0.35	0.11	68.57			
06/16/16							3.49	0.90	74.21	1.72	0.88	48.84				0.23	0.11	52.17			
07/27/16	0.47			1.61			2.45	0.68	72.24	0.71	0.38	46.48	4.51	0.65	85.59	0.92	0.14	84.78	0.40		
08/24/16							1.25	0.66	47.20	0.94	0.92	2.13	3.63	0.74	79.61	0.48	0.22	54.17			
09/15/16							1.69	0.77	54.44	1.10	0.97	11.82	3.59	0.77	78.55	0.49	0.29	40.82			
10/19/16	1.60			1.34			0.13	0.00	100.00	0.80	0.59	26.25	3.79	0.54	85.75	0.61	0.00	100.00	1.04		
11/22/16							0.52	0.50	3.85	1.16	0.61	47.41	3.25	0.20	93.85	2.06	0.44	78.64			
12/21/16										0.81	0.44	45.68	4.05	0.28	93.09	2.27	0.42	81.50			
01/25/17				1.57						0.75	0.59	21.33	3.55	0.14	96.06	2.06	0.28	86.41	0.00		
04/26/17				1.53			0			1.34			6.98			4.14			0.35		
07/26/17	9.51			1.4			0.12			1.95			16.15			4.27			0.39		
10/26/17	3.6			1.92			0.24			2.08			16.02			4.13			0.1		
01/25/18	0			1.94			0.54			1.65			18.27			2.69			0		

TABLE F-20
TVOC Influent, Effluent and Efficiency Performance
OU III Idustrial Park System

2021 BNL Groundwater Status Report

Date	UVB1			UVB2			UVB3			UVB4			UVB5			UVB6			UVB7		
	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency	Inf	Eff	Efficiency
Units	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*	*(ug/l)*	*(ug/l)*	*(%)*
04/05/18	0			1.9			0			1.74			22.76			2.08			0		
07/26/18	1.23			2.17			0.32			1.29			26.09			1.07			0.41		
10/26/18	0.41						0			1.31			26.61			0.46			0		
01/30/19	0						0			0.95			28.01			0			0		
04/17/19	0						0			1.1			24.2			0			0		
07/30/19	0			1.23			0.27			0.74			17.33			0.23			0		
10/30/19	0						0			0			16.24			0			0		
01/23/20	0			33.20			0			1.09			11.86			0.00			0		
07/30/20	0.88			2.68						2.31			17.27			0.30			1.1		
10/27/20	0			1.83			0.11			2.50			14.18			0.20			0.19		
01/27/21	0.32			2.08			0.00			0.94			12.18			0.18			0.00		
04/22/21	0.51			1.89			0.36			0.96			12.45			0.21			0.22		
07/26/21	0.22			1.46			0.16			0.51			13.40			0.48			0.46		
10/29/21	0			1.43			0.00			0.00			13.77			0.30			0.28		

NOTE: The system was placed in stand-by mode on May 1, 2013 and put back into full time operation in March 2014, and placed in stand-by mode again January 2017 and remained so in 2020.

Average Efficiency	**NA**		**NA**		**NA**		**NA**		**NA**		**NA**		**NA**
1st qtr. 2021 Average Efficiency	**NA**		**NA**		**NA**		**NA**		**NA**		**NA**		**NA**
2nd qtr. 2021 Average Efficiency	**NA**		**NA**		**NA**		**NA**		**NA**		**NA**		**NA**
3rd qtr. 2021 Average Efficiency	**NA**		**NA**		**NA**		**NA**		**NA**		**NA**		**NA**
4th qtr. 2021 Average Efficiency	**NA**		**NA**		**NA**		**NA**		**NA**		**NA**		**NA**

1st qtr. 2021 AVERAGE SYSTEM EFFICIENCY	**NA**
2nd qtr. 2021 AVERAGE SYSTEM EFFICIENCY	**NA**
3rd qtr. 2021 AVERAGE SYSTEM EFFICIENCY	**NA**
4th qtr. 2021 AVERAGE SYSTEM EFFICIENCY	**NA**
2021 AVERAGE SYSTEM EFFICIENCY	**NA**

Wells 1,2 and 7 were not counted in average efficency as they were on stand-by for the year.

Efficiency Percent = 100 - (effluent concentration/influent concentration) * 100
NS = Not Sampled
** Laboratory lost sample.

TABLE F-21
Cumulative Mass Recovery
OU III Industrial Park System

2021 BNL Groundwater Status Report

Date	UVB1	UVB1	UVB1	UVB2	UVB2	UVB2	UVB3	UVB3	UVB3	UVB4	UVB4	UVB4	UVB5	UVB5	UVB5	UVB6	UVB6	UVB6	UVB7	UVB7	UVB7	Total	Cumulative
	Monthly Total	Total Pumped	Mass Recovered	Monthly Total	Total Pumped	Mass Recovered	Monthly Total	Total Pumped	Mass Recovered	Monthly Total	Total Pumped	Mass Recovered	Monthly Total	Total Pumped	Mass Recovered	Monthly Total	Total Pumped	Mass Recovered	Monthly Total	Total Pumped	Mass Recovered	Mass Recovered	Mass Recovered
		(Gallons)	*(lbs)*		*(Gallons)*	*(lbs)*		*(Gallons)*	*(lbs)*		*(Gallons)*	*(lbs)*		*(Gallons)*	*(lbs)*		*(Gallons)*	*(lbs)*		*(Gallons)*	*(lbs)*	*(lbs)*	*(lbs)*
1/31/2015	0	136,203,638	0	0	247,893,471	0	0	317,805,477	0.00	0	360,499,061	0.00	0	343,567,833	0.00	0	373,388,318	0.00	0	244,889,959	0.00	0.00	1063.85
2/28/2015	0	136,203,638	0	0	247,893,471	0	0	317,805,477	0.00	0	360,499,061	0.00	0	343,567,833	0.00	0	373,388,318	0.00	0	244,889,959	0.00	0.00	1063.85
3/31/2015	0	136,203,638	0	0	247,893,471	0	0	317,805,477	0.00	0	360,499,061	0.00	0	343,567,833	0.00	0	373,388,318	0.00	0	244,889,959	0.00	0.00	1063.85
4/30/2015	0	136,203,638	0	0	247,893,471	0	0	317,805,477	0.00	0	360,499,061	0.00	0	343,567,833	0.00	0	373,388,318	0.00	0	244,889,959	0.00	0.00	1063.85
5/31/2015	0	136,203,638	0	0	247,893,471	0	0	317,805,477	0.00	0	360,499,061	0.00	0	343,567,833	0.00	0	373,388,318	0.00	0	244,889,959	0.00	0.00	1063.85
6/30/2015	0	136,203,638	0	0	247,893,471	0	0	317,805,477	0.00	0	360,499,061	0.00	0	343,567,833	0.00	0	373,388,318	0.00	0	244,889,959	0.00	0.00	1063.85
7/31/2015	0	136,203,638	0	0	247,893,471	0	1,672,000	319,477,477	0.02	1,672,000	362,171,061	0.06	1,672,000	345,239,833	0.21	1,742,000	375,130,318	0.00	0	244,889,959	0.00	0.29	1064.14
8/31/2015	0	136,203,638	0	0	247,893,471	0	3,353,000	322,830,477	0.08	3,127,000	365,298,061	0.03	381,000	345,620,833	0.02	3,313,000	378,443,318	0.00	0	244,889,959	0.00	0.13	1064.26
9/30/2015	0	136,203,638	0	0	247,893,471	0	1,292,000	324,122,477	0.01	2,736,000	368,034,061	0.02	2,887,000	348,507,833	0.09	343,000	378,786,318	0.00	0	244,889,959	0.00	0.13	1064.39
10/31/2015	0	136,203,638	0	0	247,893,471	0	1,967,000	326,089,477	0.05	2,185,000	370,219,061	0.02	2,240,000	350,747,833	0.07	2,103,000	380,889,318	0.00	0	244,889,959	0.00	0.14	1064.53
11/30/2015	0	136,203,638	0	0	247,893,471	0	2,154,000	328,243,477	0.05	2,653,000	372,872,061	0.01	2,051,000	352,798,833	0.10	2,653,000	383,542,318	0.00	0	244,889,959	0.00	0.16	1064.69
12/31/2015	0	136,203,638	0	0	247,893,471	0	1,840,000	330,083,477	0.04	2,785,000	375,657,061	0.01	2,131,000	354,929,833	0.09	2,795,000	386,337,318	0.00	0	244,889,959	0.00	0.14	1064.83
1/31/2016	0	136,203,638	0	0	247,893,471	0	557,000	330,640,477	0.01	1,783,000	377,440,061	0.01	0	354,929,833	0.00	2,182,000	388,519,318	0.00	0	244,889,959	0.00	0.02	1064.85
2/29/2016	0	136,203,638	0	0	247,893,471	0	0	330,640,477	0.00	0	377,440,061	0.00	0	354,929,833	0.00	0	388,519,318	0.00	0	244,889,959	0.00	0.00	1064.85
3/31/2016	0	136,203,638	0	0	247,893,471	0	503,000	331,143,477	0.00	475,000	377,915,061	0.00	601,000	355,530,833	0.00	124,000	388,643,318	0.00	0	244,889,959	0.00	0.00	1064.85
4/30/2016	0	136,203,638	0	0	247,893,471	0	2,652,000	333,795,477	0.08	2,584,000	380,499,061	0.02	2,093,000	357,623,833	0.00	2,247,000	390,890,318	0.00	0	244,889,959	0.00	0.09	1064.94
5/31/2016	0	136,203,638	0	0	247,893,471	0	1,661,000	335,456,477	0.03	1,695,000	382,194,061	0.00	2,433,000	360,056,833	0.11	2,806,000	393,696,318	0.01	0	244,889,959	0.00	0.16	1065.11
6/30/2016	0	136,203,638	0	0	247,893,471	0	1,796,000	337,252,477	0.05	1,695,000	383,889,061	0.01	1,543,000	361,599,833	0.06	2,564,000	396,260,318	0.01	0	244,889,959	0.00	0.12	1065.23
7/31/2016	0	136,203,638	0	0	247,893,471	0	1,078,000	338,330,477	0.02	2,589,000	386,478,061	0.02	2,262,000	363,861,833	0.00	2,990,000	399,250,318	0.00	0	244,889,959	0.00	0.04	1065.27
8/31/2016	0	136,203,638	0	0	247,893,471	0	1,914,000	340,244,477	0.03	535,000	387,013,061	0.00	840,000	364,701,833	0.03	2,695,000	401,945,318	0.02	0	244,889,959	0.00	0.07	1065.35
9/30/2016	0	136,203,638	0	0	247,893,471	0	1,780,000	342,024,477	0.01	1,244,000	388,257,061	0.00	1,205,000	365,906,833	0.03	2,317,000	404,262,318	0.01	0	244,889,959	0.00	0.04	1065.39
10/31/2016	0	136,203,638	0	0	247,893,471	0	2,065,000	344,089,477	0.02	1,811,000	390,068,061	0.00	1,947,000	367,853,833	0.05	2,500,000	406,762,318	0.00	0	244,889,959	0.00	0.07	1065.46
11/30/2016	0	136,203,638	0	0	247,893,471	0	1,413,000	345,502,477	0.00	16,500	390,084,561	0.00	155,000	368,008,833	0.00	1,907,000	408,669,318	0.01	0	244,889,959	0.00	0.02	1065.48
12/31/2016	0	136,203,638	0	0	247,893,471	0	362,000	345,864,477	0.00	2,373,000	392,457,561	0.01	2,199,000	370,207,833	0.06	2,846,000	411,515,318	0.04	0	244,889,959	0.00	0.11	1065.58
1/31/2017	0	136,203,638	0	0	247,893,471	0	8,200	345,872,677	0.00	60,000	392,517,561	0.00	46,000	370,253,833	0.00	68,500	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.58
2/28/2017	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
3/31/2017	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
4/30/2017	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
5/31/2017	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
6/30/2017	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
7/31/2017	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
8/31/2017	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
9/29/2017	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
10/31/2017	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
11/30/2017	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
12/31/2017	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
1/31/2018	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
2/28/2018	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
3/31/2018	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
4/30/2018	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
5/31/2018	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
6/30/2018	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
7/31/2018	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
8/31/2018	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
9/29/2018	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
10/31/2018	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
11/30/2018	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
12/31/2018	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
1/31/2019	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
2/28/2019	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62

TABLE F-21
Cumulative Mass Recovery
OU III Industrial Park System

2021 BNL Groundwater Status Report

Date	UVB1	UVB1	UVB1	UVB2	UVB2	UVB2	UVB3	UVB3	UVB3	UVB4	UVB4	UVB4	UVB5	UVB5	UVB5	UVB6	UVB6	UVB6	UVB7	UVB7	UVB7	Total	Cumulative
	Monthly Total	Total Pumped	Mass Recovered	Monthly Total	Total Pumped	Mass Recovered	Monthly Total	Total Pumped	Mass Recovered	Monthly Total	Total Pumped	Mass Recovered	Monthly Total	Total Pumped	Mass Recovered	Monthly Total	Total Pumped	Mass Recovered	Monthly Total	Total Pumped	Mass Recovered	Mass Recovered	Mass Recovered
		(Gallons)	*(lbs)*		*(Gallons)*	*(lbs)*		*(Gallons)*	*(lbs)*		*(Gallons)*	*(lbs)*		*(Gallons)*	*(lbs)*		*(Gallons)*	*(lbs)*		*(Gallons)*	*(lbs)*	*(lbs)*	*(lbs)*
3/31/2019	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
4/30/2019	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
5/31/2019	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
6/30/2019	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
7/31/2019	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
8/31/2019	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
9/29/2019	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
10/31/2019	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
11/30/2019	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
12/31/2019	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
1/31/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
2/28/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
3/31/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
4/30/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
5/31/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
6/30/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
7/31/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
8/31/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
9/29/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
10/31/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
11/30/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
12/31/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
1/31/2021	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
2/28/2021	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
3/31/2021	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
4/30/2021	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
5/31/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
6/30/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
7/31/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
8/31/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
9/29/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
10/31/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
11/30/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62
12/31/2020	0	136,203,638	0	0	247,893,471	0	0	345,872,677	0.00	0	392,517,561	0.00	0	370,253,833	0.00	0	411,583,818	0.00	0	244,889,959	0.00	0.00	1065.62

NOTES: The system was placed in stand-by mode on May 1, 2013 and resumed full time operations in March 2014, and back into stand-by mode in January 2017 and remimned in stand-by mode all of 2021.

Total from all wells: 1075.06 lbs.

Mass recovered = total gallons pumped * influent concentration (ug/L) * (percent efficiency/100) * 8.4 X 10-9 (conversion factor)

NO = Not operational

* = Unable to calculate mass due to missing influent and effluent well data

No Samples were taken in April 2001 and the pounds removed were estimated using the 2nd quarter's average values for influent concentrations and system efficiency

TABLE F-22
AIR FLOW RATES
OU III INDUSTRIAL PARK SYSTEM

2021 BNL Groundwater Status Report

Note: System in Stand-By Mode.

Table F-23
Extraction Well VOC Data
OU III Industrial Park System

2021 BNL Groundwater Status Report

Date	IP-EW-8, 9 Combined Effluent Effluent
01/04/17	0.11
01/17/17	0.11
02/01/17	0.094
02/13/17	0.12
03/06/17	0.12
03/20/17	0.15
04/05/17	0.54
04/19/17	0.16
05/02/17	0.16
05/16/17	0.14
06/07/17	0.28
06/20/17	0.19
07/06/17	0.16
07/25/17	0.16
08/01/17	0.17
08/15/17	0.2
09/07/17	0.2
09/19/17	0.21
10/05/17	0.38
10/18/17	0.4
11/01/17	0.21
11/15/17	0.41
12/05/17	0.39
12/19/17	0.59
01/10/18	0.38
01/23/18	0.46
03/06/18	0.0
03/20/18	0.0
05/03/18	0.0
05/15/18	0.0
07/03/18	0.0
07/17/18	0.0
09/05/18	0.0
09/18/18	0.0
11/01/18	0.0
11/15/18	0.0
01/10/19	0.0
01/22/19	0.0
03/12/19	0.0
03/28/19	0.0
05/02/19	0.0
05/14/19	0.0

Date	IP-EW-8 Influent	IP-EW-9 Influent
01/04/17	2.83	2.89
02/01/17	2.62	2.73
03/06/17	3.14	3
04/05/17	2.91	2.41
05/02/17	3.1	2.49
06/07/17	2.74	2.67
07/06/17	3.5	2.43
08/01/17	3.05	2.75
09/07/17	2.71	2.96
10/05/17	2.87	2.74
11/01/17	3.27	2.59
12/05/17	2.6	1.27
01/10/18	3.16	5.42
03/06/18	2.48	1.92
05/03/18	2.71	1.98
07/03/18	2.34	1.91
09/05/18	2.03	2.04
11/01/18	2.8	1.77
01/10/19	2.56	2.4
04/10/19	2.49	4.04
07/09/19	1.85	3.68
10/16/19	2.28	4.73
01/07/20	1.31	3.16
04/03/20	1.23	3.42
07/09/20	1.42	2.78
10/06/20	2.5	4.7
01/05/21	1.96	4.56
04/22/21	1.45	3.73
07/15/21	2.1	4.53
10/06/21	2.73	6.17

Table F-24
Cumulative Mass Removal
OU III North Street System

2021 BNL Groundwater Status Report

OU III North Street Treatment System was in standby mode during 2021.

Table F-25
Extraction Wells VOC Data and Tritium Data
OU III North Street System

2021 BNL Groundwater Status Report

OU III North Street Treatment System was in standby mode during 2021.

Table F-26
Carbon Influent VOC Data
OU III North Street System

2021 BNL Groundwater Status Report

OU III North Street Treatment System was in standby mode during 2021.

Table F-27
Carbon Effluent VOC and Tritium Data
OU III North Street System

2021 BNL Groundwater Status Report

OU III North Street Treatment System was in standby mode during 2021.

Table F-28
Extraction Wells VOC Data
OU III North Street East System

2021 BNL Groundwater Status Report

Site ID : 000-561 (NSE-EDB-EW-3)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/5/2021	0.82	0.5	UG/L	
524.2 TVOC	1/5/2021	2.67	0	UG/L	
Carbon tetrachloride	1/5/2021	0.24	0.5	UG/L	J
Chloroform	1/5/2021	0.8	0.5	UG/L	
EDB	1/5/2021	0.0247	0.0191	UG/L	
Tetrachloroethylene	1/5/2021	0.24	0.5	UG/L	J
Trichloroethylene	1/5/2021	0.57	0.5	UG/L	
1,1,1-Trichloroethane	2/11/2021	0.77	0.5	UG/L	
524.2 TVOC	2/11/2021	2.63	0	UG/L	
Chloroform	2/11/2021	1.1	0.5	UG/L	
EDB	2/11/2021	0.0215	0.0191	UG/L	
Tetrachloroethylene	2/11/2021	0.2	0.5	UG/L	J
Trichloroethylene	2/11/2021	0.56	0.5	UG/L	
EDB	3/2/2021	0.025	0.019	UG/L	
1,1,1-Trichloroethane	4/13/2021	0.37	0.5	UG/L	J
8260 TVOC	4/13/2021	1.63	0	UG/L	
Chloroform	4/13/2021	0.64	0.5	UG/L	J
EDB	4/13/2021	0.0165	0.0188	UG/L	J
Tetrachloroethylene	4/13/2021	0.17	0.5	UG/L	J
Trichloroethylene	4/13/2021	0.45	0.5	UG/L	J
1,1,1-Trichloroethane	5/4/2021	0.39	0.5	UG/L	J
524.2 TVOC	5/4/2021	1.77	0	UG/L	
Chloroform	5/4/2021	0.71	0.5	UG/L	
EDB	5/4/2021	0.0217	0.0203	UG/L	
Tetrachloroethylene	5/4/2021	0.21	0.5	UG/L	J
Trichloroethylene	5/4/2021	0.46	0.5	UG/L	J
1,1,1-Trichloroethane	6/2/2021	0.46	0.5	UG/L	J
524.2 TVOC	6/2/2021	2.23	0	UG/L	
Carbon tetrachloride	6/2/2021	0.29	0.5	UG/L	J
Chloroform	6/2/2021	0.73	0.5	UG/L	
EDB	6/2/2021	0.016	0.0193	UG/L	J
Tetrachloroethylene	6/2/2021	0.19	0.5	UG/L	J
Trichloroethylene	6/2/2021	0.56	0.5	UG/L	
1,1,1-Trichloroethane	7/7/2021	0.24	0.5	UG/L	J
8260 TVOC	7/7/2021	1.29	0	UG/L	
Chloroform	7/7/2021	0.72	0.5	UG/L	J
EDB	7/7/2021	0.013	0.0189	UG/L	J
Trichloroethylene	7/7/2021	0.33	0.5	UG/L	J
8260 TVOC	8/3/2021	2.36	0	UG/L	
Chloroform	8/3/2021	0.7	0.5	UG/L	J
Methylene chloride	8/3/2021	1.24	0.5	UG/L	BJ
Trichloroethylene	8/3/2021	0.42	0.5	UG/L	J

Table F-28
Extraction Wells VOC Data
OU III North Street East System

2021 BNL Groundwater Status Report

Site ID : 000-561 (NSE-EDB-EW-3)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
8260 TVOC	9/9/2021	1.31	0	UG/L	
Chloroform	9/9/2021	0.74	0.5	UG/L	
EDB	9/9/2021	0.018	0.01	UG/L	
Tetrachloroethylene	9/9/2021	0.2	0.5	UG/L	J
Trichloroethylene	9/9/2021	0.37	0.5	UG/L	J
8260 TVOC	10/4/2021	1.02	0	UG/L	
Chloroform	10/4/2021	0.65	0.5	UG/L	J
EDB	10/4/2021	0.00935	0.0189	UG/L	J
Trichloroethylene	10/4/2021	0.37	0.5	UG/L	J
8260 TVOC	11/1/2021	1.16	0	UG/L	
Chloroform	11/1/2021	0.78	0.5	UG/L	J
Trichloroethylene	11/1/2021	0.38	0.5	UG/L	J
8260 TVOC	12/2/2021	1.05	0	UG/L	
Chloroform	12/2/2021	0.66	0.5	UG/L	J
Trichloroethylene	12/2/2021	0.39	0.5	UG/L	J

Site ID : 000-562 (NSE-EDB-EW-4)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/5/2021	0.24	0.5	UG/L	J
524.2 TVOC	1/5/2021	3.13	0	UG/L	
Chloroform	1/5/2021	0.7	0.5	UG/L	
EDB	1/5/2021	0.0656	0.0191	UG/L	
Methyl tert-butyl ether	1/5/2021	0.78	0.5	UG/L	
Tetrachloroethylene	1/5/2021	0.82	0.5	UG/L	
Trichloroethylene	1/5/2021	0.59	0.5	UG/L	
1,1,1-Trichloroethane	2/11/2021	0.26	0.5	UG/L	J
524.2 TVOC	2/11/2021	3.27	0	UG/L	
Chloroform	2/11/2021	0.98	0.5	UG/L	
EDB	2/11/2021	0.0507	0.0193	UG/L	
Methyl tert-butyl ether	2/11/2021	0.83	0.5	UG/L	
Tetrachloroethylene	2/11/2021	0.58	0.5	UG/L	
Trichloroethylene	2/11/2021	0.62	0.5	UG/L	
EDB	3/2/2021	0.0502	0.0192	UG/L	
8260 TVOC	4/13/2021	2.32	0	UG/L	
Chloroform	4/13/2021	0.64	0.5	UG/L	J
EDB	4/13/2021	0.0386	0.0189	UG/L	
Methyl tert-butyl ether	4/13/2021	0.39	0.5	UG/L	J
Tetrachloroethylene	4/13/2021	0.6	0.5	UG/L	J
Toluene	4/13/2021	0.16	0.5	UG/L	J
Trichloroethylene	4/13/2021	0.53	0.5	UG/L	J

Table F-28
Extraction Wells VOC Data
OU III North Street East System

2021 BNL Groundwater Status Report

Site ID : 000-562 (NSE-EDB-EW-4)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1-Dichloroethane	5/4/2021	0.26	0.5	UG/L	J
524.2 TVOC	5/4/2021	2.74	0	UG/L	
Chloroform	5/4/2021	0.7	0.5	UG/L	
EDB	5/4/2021	0.0455	0.0203	UG/L	
Methyl tert-butyl ether	5/4/2021	0.49	0.5	UG/L	J
Tetrachloroethylene	5/4/2021	0.59	0.5	UG/L	
Trichloroethylene	5/4/2021	0.7	0.5	UG/L	
1,1-Dichloroethane	6/2/2021	0.28	0.5	UG/L	J
524.2 TVOC	6/2/2021	2.68	0	UG/L	
Chloroform	6/2/2021	0.86	0.5	UG/L	
EDB	6/2/2021	0.0326	0.0193	UG/L	
Methyl tert-butyl ether	6/2/2021	0.56	0.5	UG/L	
Tetrachloroethylene	6/2/2021	0.52	0.5	UG/L	
Trichloroethylene	6/2/2021	0.46	0.5	UG/L	J
8260 TVOC	7/7/2021	2.06	0	UG/L	
Chloroform	7/7/2021	0.66	0.5	UG/L	J
EDB	7/7/2021	0.037	0.0189	UG/L	
Methyl tert-butyl ether	7/7/2021	0.36	0.5	UG/L	J
Tetrachloroethylene	7/7/2021	0.61	0.5	UG/L	J
Trichloroethylene	7/7/2021	0.43	0.5	UG/L	J
8260 TVOC	8/3/2021	2.99	0	UG/L	
Chloroform	8/3/2021	0.74	0.5	UG/L	J
EDB	8/3/2021	0.0229	0.0191	UG/L	
Methylene chloride	8/3/2021	1.3	0.5	UG/L	BJ
Tetrachloroethylene	8/3/2021	0.59	0.5	UG/L	J
Trichloroethylene	8/3/2021	0.36	0.5	UG/L	J
8260 TVOC	9/9/2021	2.38	0	UG/L	
Chloroform	9/9/2021	0.77	0.5	UG/L	
Methyl tert-butyl ether	9/9/2021	0.4	0.5	UG/L	J
Tetrachloroethylene	9/9/2021	0.74	0.5	UG/L	
Trichloroethylene	9/9/2021	0.47	0.5	UG/L	J
8260 TVOC	10/4/2021	1.75	0	UG/L	
Chloroform	10/4/2021	0.62	0.5	UG/L	J
EDB	10/4/2021	0.0212	0.019	UG/L	
Tetrachloroethylene	10/4/2021	0.71	0.5	UG/L	J
Trichloroethylene	10/4/2021	0.42	0.5	UG/L	J
8260 TVOC	11/1/2021	1.27	0	UG/L	
Chloroform	11/1/2021	0.71	0.5	UG/L	J
EDB	11/1/2021	0.0161	0.0189	UG/L	J
Tetrachloroethylene	11/1/2021	0.56	0.5	UG/L	J
8260 TVOC	12/2/2021	1.26	0	UG/L	
Chloroform	12/2/2021	0.6	0.5	UG/L	J
EDB	12/2/2021	0.0174	0.019	UG/L	J
Tetrachloroethylene	12/2/2021	0.66	0.5	UG/L	J

Table F-29
Carbon Influent VOC Data
OU III North Street East System
2021 BNL Groundwater Status Report

Site ID : 000-441 (Influent)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/5/2021	0.45	0.5	UG/L	J
524.2 TVOC	1/5/2021	3.05	0	UG/L	
Carbon tetrachloride	1/5/2021	0.19	0.5	UG/L	J
Chloroform	1/5/2021	0.86	0.5	UG/L	
EDB	1/5/2021	0.049	0.0189	UG/L	
Methyl tert-butyl ether	1/5/2021	0.5	0.5	UG/L	
Tetrachloroethylene	1/5/2021	0.45	0.5	UG/L	J
Trichloroethylene	1/5/2021	0.6	0.5	UG/L	
1,1,1-Trichloroethane	2/11/2021	0.46	0.5	UG/L	J
524.2 TVOC	2/11/2021	2.48	0	UG/L	
Chloroform	2/11/2021	0.75	0.5	UG/L	
EDB	2/11/2021	0.0346	0.019	UG/L	
Methyl tert-butyl ether	2/11/2021	0.42	0.5	UG/L	J
Tetrachloroethylene	2/11/2021	0.41	0.5	UG/L	J
Trichloroethylene	2/11/2021	0.44	0.5	UG/L	J
EDB	3/2/2021	0.0381	0.0192	UG/L	
1,1,1-Trichloroethane	4/13/2021	0.25	0.5	UG/L	J
8260 TVOC	4/13/2021	2.2	0	UG/L	
Chloroform	4/13/2021	0.63	0.5	UG/L	J
EDB	4/13/2021	0.0302	0.019	UG/L	
Methyl tert-butyl ether	4/13/2021	0.26	0.5	UG/L	J
Tetrachloroethylene	4/13/2021	0.41	0.5	UG/L	J
Toluene	4/13/2021	0.17	0.5	UG/L	J
Trichloroethylene	4/13/2021	0.48	0.5	UG/L	J
1,1,1-Trichloroethane	5/4/2021	0.27	0.5	UG/L	J
1,1-Dichloroethane	5/4/2021	0.26	0.5	UG/L	J
524.2 TVOC	5/4/2021	2.68	0	UG/L	
Chloroform	5/4/2021	0.81	0.5	UG/L	
EDB	5/4/2021	0.0343	0.0206	UG/L	
Methyl tert-butyl ether	5/4/2021	0.34	0.5	UG/L	J
Tetrachloroethylene	5/4/2021	0.41	0.5	UG/L	J
Trichloroethylene	5/4/2021	0.59	0.5	UG/L	
1,1,1-Trichloroethane	6/2/2021	0.31	0.5	UG/L	J
524.2 TVOC	6/2/2021	2.03	0	UG/L	
Chloroform	6/2/2021	0.85	0.5	UG/L	
EDB	6/2/2021	0.0242	0.0188	UG/L	
Tetrachloroethylene	6/2/2021	0.38	0.5	UG/L	J
Trichloroethylene	6/2/2021	0.49	0.5	UG/L	J
1,1,1-Trichloroethane	7/7/2021	0.21	0.5	UG/L	J
8260 TVOC	7/7/2021	1.62	0	UG/L	
Chloroform	7/7/2021	0.77	0.5	UG/L	J
EDB	7/7/2021	0.0201	0.0192	UG/L	
Tetrachloroethylene	7/7/2021	0.28	0.5	UG/L	J
Trichloroethylene	7/7/2021	0.36	0.5	UG/L	J

Table F-29
Carbon Influent VOC Data
OU III North Street East System
2021 BNL Groundwater Status Report

Site ID : 000-441 (Influent)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
8260 TVOC	8/3/2021	2.95	0	UG/L	
Chloroform	8/3/2021	0.74	0.5	UG/L	J
EDB	8/3/2021	0.0152	0.0189	UG/L	J
Methylene chloride	8/3/2021	1.56	0.5	UG/L	BJ
Tetrachloroethylene	8/3/2021	0.33	0.5	UG/L	J
Trichloroethylene	8/3/2021	0.32	0.5	UG/L	J
1,1,1-Trichloroethane	9/9/2021	0.28	0.5	UG/L	J
8260 TVOC	9/9/2021	2.22	0	UG/L	
Chloroform	9/9/2021	0.78	0.5	UG/L	
EDB	9/9/2021	0.029	0.011	UG/L	
Methyl tert-butyl ether	9/9/2021	0.25	0.5	UG/L	J
Tetrachloroethylene	9/9/2021	0.47	0.5	UG/L	J
Trichloroethylene	9/9/2021	0.44	0.5	UG/L	J
8260 TVOC	10/4/2021	1.55	0	UG/L	
Chloroform	10/4/2021	0.7	0.5	UG/L	J
EDB	10/4/2021	0.0163	0.0189	UG/L	J
Tetrachloroethylene	10/4/2021	0.47	0.5	UG/L	J
Trichloroethylene	10/4/2021	0.38	0.5	UG/L	J
8260 TVOC	11/1/2021	1.16	0	UG/L	
Chloroform	11/1/2021	0.81	0.5	UG/L	J
EDB	11/1/2021	0.0108	0.0188	UG/L	J
Tetrachloroethylene	11/1/2021	0.35	0.5	UG/L	J
8260 TVOC	12/2/2021	1.46	0	UG/L	
Chloroform	12/2/2021	0.63	0.5	UG/L	J
EDB	12/2/2021	0.0125	0.0189	UG/L	J
Tetrachloroethylene	12/2/2021	0.46	0.5	UG/L	J
Trichloroethylene	12/2/2021	0.37	0.5	UG/L	J

Table F-30
Carbon Effluent VOC Data
OU III North Street East System

2021 BNL Groundwater Status Report

Site ID : 000-444 (Effluent)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
524.2 TVOC	1/5/2021	0	0	UG/L	
524.2 TVOC	2/11/2021	0	0	UG/L	
8260 TVOC	4/13/2021	0.16	0	UG/L	
Toluene	4/13/2021	0.16	0.5	UG/L	J
524.2 TVOC	5/4/2021	0	0	UG/L	
524.2 TVOC	6/2/2021	0.26	0	UG/L	
Methyl tert-butyl ether	6/2/2021	0.26	0.5	UG/L	J
8260 TVOC	7/7/2021	0	0	UG/L	
8260 TVOC	8/3/2021	1.64	0	UG/L	
Methylene chloride	8/3/2021	1.64	0.5	UG/L	BJ
8260 TVOC	9/9/2021	0.44	0	UG/L	
Methyl tert-butyl ether	9/9/2021	0.44	0.5	UG/L	J
8260 TVOC	10/4/2021	0	0	UG/L	
8260 TVOC	11/1/2021	0	0	UG/L	
8260 TVOC	12/2/2021	0.36	0	UG/L	
Methyl tert-butyl ether	12/2/2021	0.36	0.5	UG/L	J

Table F-31
Cumulative Mass Removal
OU III North Street East System

2021 BNL Groundwater Status Report

Date Sampled	Total VOCs (µg/L)	Flow Rates (gpm)	Cumulative VOCs (lbs)
7/14/2020	5.1	112	44.02
7/15/2020	4.79	112	44.03
7/16/2020	4.52	112	44.04
7/17/2020	4.5	112	44.04
7/21/2020	4.58	112	44.07
7/28/2020	3.75	112	44.10
8/4/2020	3.71	153	44.15
8/11/2020	3.52	153	44.19
9/2/2020	3.75	16	44.21
10/14/2020	3.27	155	44.47
11/17/2020	2.7	115	44.59
12/2/2020	2.74	224	44.70

NOTES:
µg/L - Micrograms per liter
gpm - Gallons per minute
lbs - Pounds

Table F-32
Cumulative Mass Removal
OU III LIPA/Airport System

2021 BNL Groundwater Status Report

Date Sampled	Total VOC's (µg/L)	Flow Rates (gpm)	Cumulative VOC's (lbs)
1/8/2021	5.56	416	486.91
2/10/2021	4.56	369	487.64
3/2/2021	5.34	432	488.13
4/7/2021	4.77	452	489.02
5/4/2021	3.9	476	489.63
6/2/2021	4.97	445	490.35
7/7/2021	5.11	384	491.20
8/3/2021	4.89	466	491.87
9/1/2021	4.56	460	492.60
10/22/2021	3.95	484	493.77
11/1/2021	4.61	456	494.02
12/2/2021	5.16	482	494.95

µg/L Micrograms per liter
gpm Gallons per minute
lbs Pounds

Table F-33
Extraction Well VOC Data
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Site ID : 000-453 (EW-1L)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/8/2021	3	0.5	UG/L	
1,1-Dichloroethylene	1/8/2021	3.1	0.5	UG/L	
1,2-Dichloroethane	1/8/2021	0.49	0.5	UG/L	J
524.2 TVOC	1/8/2021	9.3	0	UG/L	
Carbon tetrachloride	1/8/2021	0.35	0.5	UG/L	J
Chloroform	1/8/2021	0.9	0.5	UG/L	
cis-1,2-Dichloroethylene	1/8/2021	0.16	0.5	UG/L	J
Trichloroethylene	1/8/2021	1.3	0.5	UG/L	
1,1,1-Trichloroethane	4/7/2021	3.2	0.5	UG/L	
1,1-Dichloroethylene	4/7/2021	2.2	0.5	UG/L	
1,2-Dichloroethane	4/7/2021	0.48	0.5	UG/L	J
524.2 TVOC	4/7/2021	8.38	0	UG/L	
Carbon tetrachloride	4/7/2021	0.39	0.5	UG/L	J
Chloroform	4/7/2021	0.76	0.5	UG/L	
cis-1,2-Dichloroethylene	4/7/2021	0.15	0.5	UG/L	J
Trichloroethylene	4/7/2021	1.2	0.5	UG/L	
1,1,1-Trichloroethane	7/7/2021	2.4	0.5	UG/L	
1,1-Dichloroethylene	7/7/2021	1.7	0.5	UG/L	
1,2-Dichloroethane	7/7/2021	0.37	0.5	UG/L	J
8260 TVOC	7/7/2021	6.55	0	UG/L	
Carbon tetrachloride	7/7/2021	0.39	0.5	UG/L	J
Chloroform	7/7/2021	0.59	0.5	UG/L	
Trichloroethylene	7/7/2021	1.1	0.5	UG/L	
1,1,1-Trichloroethane	10/22/2021	2.3	0.5	UG/L	
1,1-Dichloroethylene	10/22/2021	1.4	0.5	UG/L	
8260 TVOC	10/22/2021	5.67	0	UG/L	
Carbon tetrachloride	10/22/2021	0.39	0.5	UG/L	J
Chloroform	10/22/2021	0.59	0.5	UG/L	
Trichloroethylene	10/22/2021	0.99	0.5	UG/L	

Site ID : 000-455 (EW-2L)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/8/2021	1.2	0.5	UG/L	
1,1-Dichloroethylene	1/8/2021	0.75	0.5	UG/L	
1,2-Dichloroethane	1/8/2021	0.33	0.5	UG/L	J
524.2 TVOC	1/8/2021	3.76	0	UG/L	
Carbon tetrachloride	1/8/2021	0.28	0.5	UG/L	J
Chloroform	1/8/2021	0.33	0.5	UG/L	J
Trichloroethylene	1/8/2021	0.87	0.5	UG/L	
1,1,1-Trichloroethane	4/7/2021	1	0.5	UG/L	
1,1-Dichloroethylene	4/7/2021	0.3	0.5	UG/L	J
1,2-Dichloroethane	4/7/2021	0.27	0.5	UG/L	J
524.2 TVOC	4/7/2021	2.89	0	UG/L	
Carbon tetrachloride	4/7/2021	0.26	0.5	UG/L	J
Chloroform	4/7/2021	0.28	0.5	UG/L	J

Site ID : 000-455 (EW-2L)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
Trichloroethylene	4/7/2021	0.78	0.5	UG/L	
1,1,1-Trichloroethane	7/7/2021	0.79	0.5	UG/L	
1,1-Dichloroethylene	7/7/2021	0.44	0.5	UG/L	J
1,2-Dichloroethane	7/7/2021	0.23	0.5	UG/L	J
8260 TVOC	7/7/2021	2.82	0	UG/L	
Carbon tetrachloride	7/7/2021	0.25	0.5	UG/L	J
Chloroform	7/7/2021	0.32	0.5	UG/L	J
Trichloroethylene	7/7/2021	0.79	0.5	UG/L	
1,1,1-Trichloroethane	10/22/2021	0.76	0.5	UG/L	
1,1-Dichloroethylene	10/22/2021	0.34	0.5	UG/L	J
8260 TVOC	10/22/2021	2.48	0	UG/L	
Carbon tetrachloride	10/22/2021	0.21	0.5	UG/L	J
Chloroform	10/22/2021	0.44	0.5	UG/L	J
Trichloroethylene	10/22/2021	0.73	0.5	UG/L	

Table F-33
Extraction Well VOC Data
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Site ID : 000-457 (EW-3L)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
524.2 TVOC	1/8/2021	1.4	0	UG/L	
Chloroform	1/8/2021	1.1	0.5	UG/L	
Trichloroethylene	1/8/2021	0.3	0.5	UG/L	J
524.2 TVOC	4/7/2021	1.64	0	UG/L	
Chloroform	4/7/2021	1.1	0.5	UG/L	
Toluene	4/7/2021	0.25	0.5	UG/L	J
Trichloroethylene	4/7/2021	0.29	0.5	UG/L	J
8260 TVOC	7/7/2021	1.6	0	UG/L	
Chloroform	7/7/2021	1.3	0.5	UG/L	
Trichloroethylene	7/7/2021	0.3	0.5	UG/L	J
8260 TVOC	10/22/2021	2.02	0	UG/L	
Chloroform	10/22/2021	1.7	0.5	UG/L	
Trichloroethylene	10/22/2021	0.32	0.5	UG/L	J

Site ID : 000-461 (EW-4L)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/8/2021	0.23	0.5	UG/L	J
524.2 TVOC	1/8/2021	8.63	0	UG/L	
Carbon tetrachloride	1/8/2021	1.2	0.5	UG/L	
Chloroform	1/8/2021	1	0.5	UG/L	
Tetrachloroethylene	1/8/2021	4.7	0.5	UG/L	
Trichloroethylene	1/8/2021	1.5	0.5	UG/L	

Site ID : 000-461 (EW-4L)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	4/7/2021	0.25	0.5	UG/L	J
524.2 TVOC	4/7/2021	8.15	0	UG/L	
Carbon tetrachloride	4/7/2021	1.2	0.5	UG/L	
Chloroform	4/7/2021	1.1	0.5	UG/L	
Tetrachloroethylene	4/7/2021	4.2	0.5	UG/L	
Trichloroethylene	4/7/2021	1.4	0.5	UG/L	
1,1,1-Trichloroethane	7/7/2021	0.24	0.5	UG/L	J
8260 TVOC	7/7/2021	7.65	0	UG/L	
Carbon tetrachloride	7/7/2021	1	0.5	UG/L	
Chloroform	7/7/2021	0.91	0.5	UG/L	
Tetrachloroethylene	7/7/2021	4	0.5	UG/L	
Trichloroethylene	7/7/2021	1.5	0.5	UG/L	
8260 TVOC	10/22/2021	5.88	0	UG/L	
Chloroform	10/22/2021	0.53	0.5	UG/L	
Methylene chloride	10/22/2021	0.37	0.5	UG/L	J B
Tetrachloroethylene	10/22/2021	4.1	0.5	UG/L	
Trichloroethylene	10/22/2021	0.88	0.5	UG/L	

Table F-33
Extraction Well VOC Data
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Site ID : 800-109 (RTW-1A)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
524.2 TVOC	1/8/2021	2.14	0	UG/L	
Carbon tetrachloride	1/8/2021	1	0.5	UG/L	
Chloroform	1/8/2021	0.68	0.5	UG/L	
Trichloroethylene	1/8/2021	0.46	0.5	UG/L	J
524.2 TVOC	4/7/2021	2.06	0	UG/L	
Carbon tetrachloride	4/7/2021	1	0.5	UG/L	
Chloroform	4/7/2021	0.67	0.5	UG/L	
Trichloroethylene	4/7/2021	0.39	0.5	UG/L	J
8260 TVOC	7/7/2021	3.09	0	UG/L	
Carbon tetrachloride	7/7/2021	1.6	0.5	UG/L	
Chloroform	7/7/2021	0.85	0.5	UG/L	
Trichloroethylene	7/7/2021	0.64	0.5	UG/L	
8260 TVOC	10/22/2021	3.27	0	UG/L	
Carbon tetrachloride	10/22/2021	1.7	0.5	UG/L	
Chloroform	10/22/2021	0.9	0.5	UG/L	
Trichloroethylene	10/22/2021	0.67	0.5	UG/L	

Site ID : 800-110 (RTW-2A)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
524.2 TVOC	1/8/2021	1.15	0	UG/L	
Carbon tetrachloride	1/8/2021	0.33	0.5	UG/L	J
Chloroform	1/8/2021	0.82	0.5	UG/L	
524.2 TVOC	4/7/2021	1.19	0	UG/L	
Carbon tetrachloride	4/7/2021	0.43	0.5	UG/L	J
Chloroform	4/7/2021	0.76	0.5	UG/L	

Site ID : 800-110 (RTW-2A)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
8260 TVOC	7/7/2021	0.99	0	UG/L	
Carbon tetrachloride	7/7/2021	0.21	0.5	UG/L	J
Chloroform	7/7/2021	0.78	0.5	UG/L	
8260 TVOC	10/22/2021	1.22	0	UG/L	
Carbon tetrachloride	10/22/2021	0.53	0.5	UG/L	
Chloroform	10/22/2021	0.69	0.5	UG/L	

Site ID : 800-111 (RTW-3A)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/8/2021	1.4	0.5	UG/L	
1,1,2,2-Tetrachloroethane	1/8/2021	0.34	0.5	UG/L	J
1,1-Dichloroethylene	1/8/2021	1.1	0.5	UG/L	
524.2 TVOC	1/8/2021	6.78	0	UG/L	
Carbon tetrachloride	1/8/2021	0.84	0.5	UG/L	
Chloroform	1/8/2021	1.3	0.5	UG/L	
Trichloroethylene	1/8/2021	1.8	0.5	UG/L	
1,1,1-Trichloroethane	4/7/2021	1.4	0.5	UG/L	
1,1,2,2-Tetrachloroethane	4/7/2021	0.4	0.5	UG/L	J
1,1-Dichloroethylene	4/7/2021	1.1	0.5	UG/L	
524.2 TVOC	4/7/2021	6.81	0	UG/L	
Carbon tetrachloride	4/7/2021	0.91	0.5	UG/L	
Chloroform	4/7/2021	1.3	0.5	UG/L	
Trichloroethylene	4/7/2021	1.7	0.5	UG/L	
1,1,1-Trichloroethane	7/7/2021	1.2	0.5	UG/L	
1,1,2,2-Tetrachloroethane	7/7/2021	0.36	0.5	UG/L	J
1,1-Dichloroethylene	7/7/2021	0.87	0.5	UG/L	
8260 TVOC	7/7/2021	6.19	0	UG/L	
Carbon tetrachloride	7/7/2021	0.76	0.5	UG/L	
Chloroform	7/7/2021	1.1	0.5	UG/L	
Trichloroethylene	7/7/2021	1.9	0.5	UG/L	
1,1,1-Trichloroethane	10/22/2021	0.82	0.5	UG/L	
1,1-Dichloroethylene	10/22/2021	0.49	0.5	UG/L	J
8260 TVOC	10/22/2021	3.98	0	UG/L	
Carbon tetrachloride	10/22/2021	0.68	0.5	UG/L	
Chloroform	10/22/2021	0.89	0.5	UG/L	
Trichloroethylene	10/22/2021	1.1	0.5	UG/L	

Table F-33
Extraction Well VOC Data
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Site ID : 800-112 (RTW-4A)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/8/2021	0.18	0.5	UG/L	J
1,1,2,2-Tetrachloroethane	1/8/2021	0.39	0.5	UG/L	J
524.2 TVOC	1/8/2021	3.04	0	UG/L	
Carbon tetrachloride	1/8/2021	0.27	0.5	UG/L	J
Chloroform	1/8/2021	0.79	0.5	UG/L	
Methyl chloride	1/8/2021	0.21	0.5	UG/L	J
Trichloroethylene	1/8/2021	1.2	0.5	UG/L	
1,1,2,2-Tetrachloroethane	4/7/2021	0.38	0.5	UG/L	J
524.2 TVOC	4/7/2021	2.4	0	UG/L	
Carbon tetrachloride	4/7/2021	0.24	0.5	UG/L	J
Chloroform	4/7/2021	0.68	0.5	UG/L	
Trichloroethylene	4/7/2021	1.1	0.5	UG/L	
1,1,2,2-Tetrachloroethane	7/7/2021	0.44	0.5	UG/L	J
8260 TVOC	7/7/2021	2.66	0	UG/L	
Carbon tetrachloride	7/7/2021	0.27	0.5	UG/L	J
Chloroform	7/7/2021	0.75	0.5	UG/L	
Trichloroethylene	7/7/2021	1.2	0.5	UG/L	
1,1,1-Trichloroethane	10/22/2021	0.18	0.5	UG/L	J
1,1,2,2-Tetrachloroethane	10/22/2021	0.39	0.5	UG/L	J
8260 TVOC	10/22/2021	2.84	0	UG/L	
Carbon tetrachloride	10/22/2021	0.3	0.5	UG/L	J
Chloroform	10/22/2021	0.77	0.5	UG/L	
Trichloroethylene	10/22/2021	1.2	0.5	UG/L	

Site ID : 800-113 (RTW-5A)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
524.2 TVOC	1/8/2021	0.41	0	UG/L	
Chloroform	1/8/2021	0.41	0.5	UG/L	J
524.2 TVOC	4/7/2021	0.36	0	UG/L	
Chloroform	4/7/2021	0.36	0.5	UG/L	J
8260 TVOC	7/7/2021	0.28	0	UG/L	
Chloroform	7/7/2021	0.28	0.5	UG/L	J
8260 TVOC	10/22/2021	0.33	0	UG/L	
Chloroform	10/22/2021	0.33	0.5	UG/L	J

Site ID : 800-132 (RTW-6A)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/8/2021	0.29	0.5	UG/L	J
1,1-Dichloroethylene	1/8/2021	0.35	0.5	UG/L	J
524.2 TVOC	1/8/2021	9.07	0	UG/L	
Carbon tetrachloride	1/8/2021	2.4	0.5	UG/L	
Chloroform	1/8/2021	0.73	0.5	UG/L	
Trichloroethylene	1/8/2021	5.3	0.5	UG/L	
1,1,1-Trichloroethane	4/7/2021	0.31	0.5	UG/L	J
1,1-Dichloroethylene	4/7/2021	0.35	0.5	UG/L	J
524.2 TVOC	4/7/2021	9.05	0	UG/L	
Carbon tetrachloride	4/7/2021	2.5	0.5	UG/L	
Chloroform	4/7/2021	0.72	0.5	UG/L	
cis-1,2-Dichloroethylene	4/7/2021	0.17	0.5	UG/L	J
Trichloroethylene	4/7/2021	5	0.5	UG/L	
1,1,1-Trichloroethane	7/7/2021	0.23	0.5	UG/L	J
1,1-Dichloroethylene	7/7/2021	0.28	0.5	UG/L	J
8260 TVOC	7/7/2021	8.93	0	UG/L	
Carbon tetrachloride	7/7/2021	2.3	0.5	UG/L	
Chloroform	7/7/2021	0.72	0.5	UG/L	
Trichloroethylene	7/7/2021	5.4	0.5	UG/L	
1,1,1-Trichloroethane	10/22/2021	0.27	0.5	UG/L	J
1,1-Dichloroethylene	10/22/2021	0.33	0.5	UG/L	J
8260 TVOC	10/22/2021	9.18	0	UG/L	
Carbon tetrachloride	10/22/2021	2.4	0.5	UG/L	
Chloroform	10/22/2021	0.78	0.5	UG/L	
Trichloroethylene	10/22/2021	5.4	0.5	UG/L	

Table F-34
Carbon Influent VOC Data
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Site ID : 800-122 (Influent)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
1,1,1-Trichloroethane	1/8/2021	0.5	0.5	UG/L	
1,1,2,2-Tetrachloroethane	1/8/2021	0.18	0.5	UG/L	J
1,1-Dichloroethylene	1/8/2021	0.4	0.5	UG/L	J
524.2 TVOC	1/8/2021	5.56	0	UG/L	
Carbon tetrachloride	1/8/2021	1.1	0.5	UG/L	
Chloroform	1/8/2021	0.88	0.5	UG/L	
Trichloroethylene	1/8/2021	2.5	0.5	UG/L	
1,1,1-Trichloroethane	1/21/2021	0.2	0.5	UG/L	J
1,1-Dichloroethylene	1/21/2021	0.22	0.5	UG/L	J
524.2 TVOC	1/21/2021	4.96	0	UG/L	
Carbon tetrachloride	1/21/2021	1.2	0.5	UG/L	
Chloroform	1/21/2021	0.74	0.5	UG/L	
Trichloroethylene	1/21/2021	2.6	0.5	UG/L	
1,1,1-Trichloroethane	2/10/2021	0.21	0.5	UG/L	J
1,1,2,2-Tetrachloroethane	2/10/2021	0.15	0.5	UG/L	J
524.2 TVOC	2/10/2021	4.56	0	UG/L	
Carbon tetrachloride	2/10/2021	1.2	0.5	UG/L	
Chloroform	2/10/2021	0.7	0.5	UG/L	
Trichloroethylene	2/10/2021	2.3	0.5	UG/L	
1,1,1-Trichloroethane	2/22/2021	0.22	0.5	UG/L	J
524.2 TVOC	2/22/2021	5.04	0	UG/L	
Carbon tetrachloride	2/22/2021	1.4	0.5	UG/L	
Chloroform	2/22/2021	0.82	0.5	UG/L	
Trichloroethylene	2/22/2021	2.6	0.5	UG/L	
1,1,1-Trichloroethane	3/2/2021	0.2	0.5	UG/L	J
524.2 TVOC	3/2/2021	5.34	0	UG/L	
Carbon tetrachloride	3/2/2021	1.7	0.5	UG/L	
Chloroform	3/2/2021	0.84	0.5	UG/L	
Trichloroethylene	3/2/2021	2.6	0.5	UG/L	
524.2 TVOC	3/17/2021	4.51	0	UG/L	
Carbon tetrachloride	3/17/2021	1.2	0.5	UG/L	
Chloroform	3/17/2021	0.71	0.5	UG/L	
Trichloroethylene	3/17/2021	2.6	0.5	UG/L	
1,1,1-Trichloroethane	4/7/2021	0.53	0.5	UG/L	
1,1,2,2-Tetrachloroethane	4/7/2021	0.22	0.5	UG/L	J
1,1-Dichloroethylene	4/7/2021	0.35	0.5	UG/L	J
524.2 TVOC	4/7/2021	4.77	0	UG/L	
Carbon tetrachloride	4/7/2021	1	0.5	UG/L	
Chloroform	4/7/2021	0.87	0.5	UG/L	
Trichloroethylene	4/7/2021	1.8	0.5	UG/L	
1,1,1-Trichloroethane	4/19/2021	0.19	0.5	UG/L	J
524.2 TVOC	4/19/2021	4.18	0	UG/L	
Carbon tetrachloride	4/19/2021	1.1	0.5	UG/L	
Chloroform	4/19/2021	0.69	0.5	UG/L	
Trichloroethylene	4/19/2021	2.2	0.5	UG/L	
524.2 TVOC	5/4/2021	3.9	0	UG/L	
Carbon tetrachloride	5/4/2021	1.3	0.5	UG/L	
Trichloroethylene	5/4/2021	2.6	0.5	UG/L	
524.2 TVOC	5/17/2021	4.05	0	UG/L	
Carbon tetrachloride	5/17/2021	1.2	0.5	UG/L	
Chloroform	5/17/2021	0.45	0.5	UG/L	J
Trichloroethylene	5/17/2021	2.4	0.5	UG/L	
1,1,1-Trichloroethane	6/2/2021	0.2	0.5	UG/L	J
524.2 TVOC	6/2/2021	4.97	0	UG/L	
Carbon tetrachloride	6/2/2021	1.4	0.5	UG/L	
Chloroform	6/2/2021	0.77	0.5	UG/L	
Trichloroethylene	6/2/2021	2.6	0.5	UG/L	
1,1,1-Trichloroethane	6/14/2021	0.19	0.5	UG/L	J
1,1-Dichloroethylene	6/14/2021	0.18	0.5	UG/L	J

Table F-34
Carbon Influent VOC Data
OU III LIPA/Airport System

2021 BNL Groundwater Status Report

Site ID : 800-122 (Influent)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
524.2 TVOC	6/14/2021	4.74	0	UG/L	
Carbon tetrachloride	6/14/2021	1.2	0.5	UG/L	
Chloroform	6/14/2021	0.77	0.5	UG/L	
Trichloroethylene	6/14/2021	2.4	0.5	UG/L	
1,1,2,2-Tetrachloroethane	7/7/2021	0.17	0.5	UG/L	J
1,1-Dichloroethylene	7/7/2021	0.19	0.5	UG/L	J
8260 TVOC	7/7/2021	5.11	0	UG/L	
Carbon tetrachloride	7/7/2021	1.3	0.5	UG/L	
Chloroform	7/7/2021	0.75	0.5	UG/L	
Trichloroethylene	7/7/2021	2.7	0.5	UG/L	
1,1,1-Trichloroethane	7/19/2021	0.17	0.5	UG/L	J
8260 TVOC	7/19/2021	4.69	0	UG/L	
Carbon tetrachloride	7/19/2021	1.2	0.5	UG/L	
Chloroform	7/19/2021	0.72	0.5	UG/L	
Trichloroethylene	7/19/2021	2.6	0.5	UG/L	
1,1,1-Trichloroethane	8/3/2021	0.18	0.5	UG/L	J
8260 TVOC	8/3/2021	4.89	0	UG/L	
Carbon tetrachloride	8/3/2021	1.3	0.5	UG/L	
Chloroform	8/3/2021	0.71	0.5	UG/L	
Trichloroethylene	8/3/2021	2.7	0.5	UG/L	
1,1-Dichloroethylene	9/1/2021	0.2	0.5	UG/L	J
8260 TVOC	9/1/2021	4.56	0	UG/L	
Carbon tetrachloride	9/1/2021	1.1	0.5	UG/L	
Chloroform	9/1/2021	0.76	0.5	UG/L	
Trichloroethylene	9/1/2021	2.5	0.5	UG/L	
1,1,1-Trichloroethane	10/22/2021	0.2	0.5	UG/L	J
1,1-Dichloroethylene	10/22/2021	0.2	0.5	UG/L	J
8260 TVOC	10/22/2021	3.95	0	UG/L	
Carbon tetrachloride	10/22/2021	1	0.5	UG/L	
Chloroform	10/22/2021	0.75	0.5	UG/L	
Trichloroethylene	10/22/2021	1.8	0.5	UG/L	
1,1-Dichloroethylene	11/1/2021	0.2	0.5	UG/L	J
8260 TVOC	11/1/2021	4.61	0	UG/L	
Carbon tetrachloride	11/1/2021	1.2	0.5	UG/L	
Chloroform	11/1/2021	0.81	0.5	UG/L	
Trichloroethylene	11/1/2021	2.4	0.5	UG/L	
1,1-Dichloroethylene	12/2/2021	0.18	0.5	UG/L	J
8260 TVOC	12/2/2021	5.16	0	UG/L	
Carbon tetrachloride	12/2/2021	1.4	0.5	UG/L	
Chloroform	12/2/2021	0.68	0.5	UG/L	
Trichloroethylene	12/2/2021	2.9	0.5	UG/L	

Table F-35
Carbon Effluent VOC Data
OU III LIPA/Airport System

2021 BNL Groundwater Status Report

Site ID : 800-124 (Effluent)

Chemical Name	Sample Date	Value	Detlim	Units	Qual
524.2 TVOC	1/8/2021	0.79	0	UG/L	
Chloroform	1/8/2021	0.79	0.5	UG/L	
524.2 TVOC	1/21/2021	1.13	0	UG/L	
Chloroform	1/21/2021	0.95	0.5	UG/L	
Methyl chloride	1/21/2021	0.18	0.5	UG/L	J
524.2 TVOC	2/10/2021	0.98	0	UG/L	
Chloroform	2/10/2021	0.98	0.5	UG/L	
524.2 TVOC	2/22/2021	1	0	UG/L	
Chloroform	2/22/2021	1	0.5	UG/L	
524.2 TVOC	3/2/2021	0	0	UG/L	
524.2 TVOC	3/17/2021	0	0	UG/L	
524.2 TVOC	4/7/2021	0	0	UG/L	
524.2 TVOC	4/19/2021	0	0	UG/L	
524.2 TVOC	5/4/2021	0	0	UG/L	
524.2 TVOC	5/17/2021	0	0	UG/L	
524.2 TVOC	6/2/2021	0.44	0	UG/L	
Chloroform	6/2/2021	0.44	0.5	UG/L	J
524.2 TVOC	6/14/2021	0.57	0	UG/L	
Chloroform	6/14/2021	0.57	0.5	UG/L	
8260 TVOC	7/7/2021	0.7	0	UG/L	
Chloroform	7/7/2021	0.7	0.5	UG/L	
8260 TVOC	7/19/2021	0.76	0	UG/L	
Chloroform	7/19/2021	0.76	0.5	UG/L	
8260 TVOC	8/4/2021	0	0	UG/L	
8260 TVOC	9/1/2021	0	0	UG/L	
8260 TVOC	10/22/2021	0.62	0	UG/L	
Chloroform	10/22/2021	0.62	0.5	UG/L	
8260 TVOC	11/1/2021	0.68	0	UG/L	
Chloroform	11/1/2021	0.68	0.5	UG/L	
8260 TVOC	12/2/2021	0.78	0	UG/L	
Chloroform	12/2/2021	0.78	0.5	UG/L	

Table F-36
Extraction Well Data
OU III BGRR/WCF Sr-90 System

2021 BNL Groundwater Status Report

Site ID : 065-368 (SR-1)

Chemical Name	Sample Date	Value	Detlim	Error	Units	Depth	Qual	Matrix
Strontium-90	01/07/21	15.5	0.841	0.788	PCI/L	0		W
Strontium-90	02/16/21	12.7	0.78	1.04	PCI/L	0		W
Strontium-90	03/08/21	12.9	0.777	1.11	PCI/L	0		W
Strontium-90	04/08/21	19	0.775	1.62	PCI/L	0		W
Strontium-90	05/06/21	17.3	0.603	1.45	PCI/L	0		W
Strontium-90	06/15/21	26.4	0.402	0.783	PCI/L	0		W
Strontium-90	07/14/21	17.3	0.78	1.4	PCI/L	0		W
Strontium-90	08/03/21	16	0.647	0.714	PCI/L	0		W
Strontium-90	09/07/21	6.85	1.46	1.01	PCI/L	0		W
Strontium-90	12/06/21	9.24	0.362	0.456	PCI/L	0		W

Site ID : 065-369 (SR-2)

Chemical Name	Sample Date	Value	Detlim	Error	Units	Depth	Qual	Matrix
Strontium-90	01/07/21	5.72	0.814	0.607	PCI/L	0		W
Strontium-90	02/16/21	11.6	0.769	1.06	PCI/L	0		W
Strontium-90	03/08/21	8.82	0.783	0.955	PCI/L	0		W
Strontium-90	04/08/21	12.6	0.749	1.23	PCI/L	0		W
Strontium-90	05/06/21	12.3	0.753	1.17	PCI/L	0		W
Strontium-90	06/15/21	14	0.576	0.664	PCI/L	0		W
Strontium-90	07/14/21	13.6	0.776	1.12	PCI/L	0		W
Strontium-90	08/03/21	19.7	1.03	0.954	PCI/L	0		W
Strontium-90	09/07/21	22.3	0.857	1.13	PCI/L	0		W
Strontium-90	10/06/21	12.9	0.438	1.02	PCI/L	0		W
Strontium-90	11/10/21	11.4	0.455	1.03	PCI/L	0		W
Strontium-90	12/06/21	10.3	0.316	0.428	PCI/L	0		W

Site ID : 075-676 (SR-3)

Chemical Name	Sample Date	Value	Detlim	Error	Units	Depth	Qual	Matrix
Strontium-90	03/08/21	63.6	0.774	2.08	PCI/L	0		W
Strontium-90	04/08/21	53	0.782	2.24	PCI/L	0		W
Strontium-90	05/06/21	31	0.895	1.79	PCI/L	0		W
Strontium-90	06/15/21	21.8	0.642	0.759	PCI/L	0		W
Strontium-90	07/14/21	13.6	0.696	1.26	PCI/L	0		W
Strontium-90	08/03/21	10	0.426	0.474	PCI/L	0		W
Strontium-90	09/07/21	8.54	0.556	0.548	PCI/L	0		W
Strontium-90	10/06/21	6.79	0.446	0.722	PCI/L	0		W
Strontium-90	11/10/21	5.46	0.477	0.708	PCI/L	0		W
Strontium-90	12/06/21	6.16	0.411	0.373	PCI/L	0		W

Site ID : 075-677 (SR-4)

Chemical Name	Sample Date	Value	Detlim	Error	Units	Depth	Qual	Matrix
Strontium-90	01/07/21	2.46	0.633	0.447	PCI/L	0		W
Strontium-90	04/08/21	0.977	0.785	0.52	PCI/L	0		W
Strontium-90	07/14/21	1.54	0.787	0.581	PCI/L	0		W
Strontium-90	10/06/21	1.2	0.465	0.388	PCI/L	0		W

Table F-36
Extraction Well Data
OU III BGRR/WCF Sr-90 System

2021 BNL Groundwater Status Report

Site ID : 075-678 (SR-5)

Chemical Name	Sample Date	Value	Detlim	Error	Units	Depth	Qual	Matrix
Strontium-90	04/08/21	1.73	0.79	0.585	PCI/L	0		W
Strontium-90	07/14/21	1.22	0.734	0.532	PCI/L	0		W
Strontium-90	10/06/21	1.66	0.465	0.439	PCI/L	0		W

Site ID : 065-403 (SR-6)

Chemical Name	Sample Date	Value	Detlim	Error	Units	Depth	Qual	Matrix
Strontium-90	01/07/21	3.26	1.24	0.817	PCI/L	0		W
Strontium-90	04/08/21	1.97	0.774	0.578	PCI/L	0		W
Strontium-90	07/14/21	1.78	0.791	0.627	PCI/L	0		W
Strontium-90	10/06/21	2.2	0.745	0.665	PCI/L	0		W

Site ID : 075-702 (SR-7)

Chemical Name	Sample Date	Value	Detlim	Error	Units	Depth	Qual	Matrix
Strontium-90	04/08/21	2.84	0.758	0.653	PCI/L	0		W
Strontium-90	07/14/21	2.55	0.735	0.699	PCI/L	0		W
Strontium-90	10/06/21	3.03	0.46	0.509	PCI/L	0		W

Site ID : 075-703 (SR-8)

Chemical Name	Sample Date	Value	Detlim	Error	Units	Depth	Qual	Matrix
Strontium-90	01/07/21	2.28	0.81	0.543	PCI/L	0		W
Strontium-90	03/08/21	2.17	0.77	0.559	PCI/L	0		W
Strontium-90	04/08/21	0.9	0.785	0.491	PCI/L	0		W
Strontium-90	05/06/21	2.62	0.683	0.612	PCI/L	0		W
Strontium-90	07/14/21	2.66	0.732	0.657	PCI/L	0		W
Strontium-90	09/07/21	1.48	0.868	0.543	PCI/L	0		W
Strontium-90	11/10/21	2.43	0.593	0.521	PCI/L	0		W

Site ID : 075-704 (SR-9)

Chemical Name	Sample Date	Value	Detlim	Error	Units	Depth	Qual	Matrix
Strontium-90	01/07/21	2.02	0.865	0.57	PCI/L	0		W
Strontium-90	02/16/21	4.62	0.778	0.656	PCI/L	0		W
Strontium-90	03/08/21	5.17	0.794	0.808	PCI/L	0		W
Strontium-90	04/08/21	4.51	0.78	0.913	PCI/L	0		W
Strontium-90	05/06/21	3.75	0.844	0.743	PCI/L	0		W
Strontium-90	06/15/21	3.27	0.58	0.431	PCI/L	0		W
Strontium-90	07/14/21	4.17	0.664	0.689	PCI/L	0		W
Strontium-90	08/03/21	2.22	0.519	0.353	PCI/L	0		W
Strontium-90	09/07/21	3.78	0.719	0.514	PCI/L	0		W
Strontium-90	10/06/21	3.96	0.464	0.562	PCI/L	0		W
Strontium-90	11/10/21	4.55	0.601	0.648	PCI/L	0		W
Strontium-90	12/06/21	5.28	0.477	0.406	PCI/L	0		W

Table F-37
System Influent Data
OU III BGRR/WCF Sr-90 System

2021 BNL Groundwater Status Report

Site ID: 066-216 (Influent)

Chemical Name	Sample Date	Value	Detlim	Error	Units	Depth	Qual
524.2 TVOC	01/07/21	12.23	0	0	UG/L	0	
cis-1,2-Dichloroethylene	01/07/21	0.63	0.5	0	UG/L	0	
Ethene, 1,2-dichloro-, (E)-	01/07/21	11.6	0.5	0	UG/L	0	
Strontium-90	01/07/21	1.01	0.746	0.474	PCI/L	0	
1,1,1-Trichloroethane	02/16/21	0.29	0.5	0	UG/L	0	J
1,1-Dichloroethane	02/16/21	0.17	0.5	0	UG/L	0	J
524.2 TVOC	02/16/21	0.46	0	0	UG/L	0	
Strontium-90	02/16/21	8.15	0.792	1.08	PCI/L	0	
524.2 TVOC	03/08/21	1.15	0	0	UG/L	0	
Chloroform	03/08/21	0.19	0.5	0	UG/L	0	J
Ethene, 1,2-dichloro-, (E)-	03/08/21	0.96	0.5	0	UG/L	0	
Strontium-90	03/08/21	20.5	0.786	1.34	PCI/L	0	
Strontium-90	04/08/21	9.99	0.768	1.07	PCI/L	0	
524.2 TVOC	04/27/21	0.48	0	0	UG/L	0	
Ethene, 1,2-dichloro-, (E)-	04/27/21	0.48	0.5	0	UG/L	0	J
524.2 TVOC	05/06/21	0.55	0	0	UG/L	0	
Ethene, 1,2-dichloro-, (E)-	05/06/21	0.55	0.5	0	UG/L	0	
Strontium-90	05/06/21	10.6	0.89	1.26	PCI/L	0	
524.2 TVOC	06/15/21	1.32	0	0	UG/L	0	
Ethene, 1,2-dichloro-, (E)-	06/15/21	1.32	0.5	0	UG/L	0	
Strontium-90	06/15/21	13.7	0.629	0.707	PCI/L	0	
8260 TVOC	07/14/21	0	0	0	UG/L	0	
Strontium-90	07/14/21	5.7	0.619	0.828	PCI/L	0	
8260 TVOC	08/03/21	0.28	0	0	UG/L	0	
Ethene, 1,2-dichloro-, (E)-	08/03/21	0.28	0.5	0	UG/L	0	J
8260 TVOC	09/07/21	0.41	0	0	UG/L	0	
Ethene, 1,2-dichloro-, (E)-	09/07/21	0.41	0.5	0	UG/L	0	J
Strontium-90	09/07/21	3.97	0.269	0.493	PCI/L	0	
8260 TVOC	10/06/21	0.39	0	0	UG/L	0	
Ethene, 1,2-dichloro-, (E)-	10/06/21	0.39	0.5	0	UG/L	0	J
Strontium-90	10/06/21	5.05	0.441	0.642	PCI/L	0	
8260 TVOC	11/10/21	0.36	0	0	UG/L	0	
Ethene, 1,2-dichloro-, (E)-	11/10/21	0.36	0.5	0	UG/L	0	J
Strontium-90	11/10/21	4.79	0.532	0.7	PCI/L	0	
1,1,1-Trichloroethane	12/06/21	0.85	0.5	0	UG/L	0	J
1,1-Dichloroethane	12/06/21	0.35	0.5	0	UG/L	0	J
8260 TVOC	12/06/21	1.54	0	0	UG/L	0	
Ethene, 1,2-dichloro-, (E)-	12/06/21	0.34	0.5	0	UG/L	0	J
Strontium-90	12/06/21	18.6	0.775	1.02	PCI/L	0	

J = Estimated Value below the method detection limit of 0.50 UG/L
B = Compound was found in both the sample and associated laboratory blank.

Table F-38
System Effluent Data
OU III BGRR/WCF Sr-90 System

2021 BNL Groundwater Status Report

Site ID: 066-219 (Effluent)

Chemical Name	Sample Date	Value	Detlim	Error	Units	Depth	Qual
524.2 TVOC	01/07/21	20.82	0	0	UG/L	0	
cis-1,2-Dichloroethylene	01/07/21	1.92	0.5	0	UG/L	0	
Ethene, 1,2-dichloro-, (E)-	01/07/21	18.9	0.5	0	UG/L	0	
1,1,1-Trichloroethane	02/16/21	0.28	0.5	0	UG/L	0	J
524.2 TVOC	02/16/21	0.46	0	0	UG/L	0	
Chloroform	02/16/21	0.18	0.5	0	UG/L	0	J
1,1,1-Trichloroethane	03/08/21	0.2	0.5	0	UG/L	0	J
524.2 TVOC	03/08/21	1.54	0	0	UG/L	0	
Chloroform	03/08/21	0.22	0.5	0	UG/L	0	J
Ethene, 1,2-dichloro-, (E)-	03/08/21	1.12	0.5	0	UG/L	0	
Strontium-90	04/08/21	0.987	0.777	0.508	PCI/L	0	
1,1,1-Trichloroethane	04/27/21	0.2	0.5	0	UG/L	0	J
524.2 TVOC	04/27/21	0.73	0	0	UG/L	0	
Ethene, 1,2-dichloro-, (E)-	04/27/21	0.53	0.5	0	UG/L	0	
524.2 TVOC	05/06/21	0.69	0	0	UG/L	0	
Chloroform	05/06/21	0.21	0.5	0	UG/L	0	J
Ethene, 1,2-dichloro-, (E)-	05/06/21	0.48	0.5	0	UG/L	0	J
Strontium-90	05/06/21	1.3	0.76	0.558	PCI/L	0	
524.2 TVOC	06/15/21	0	0	0	UG/L	0	
Strontium-90	06/15/21	1.29	0.788	0.49	PCI/L	0	
8260 TVOC	07/14/21	0	0	0	UG/L	0	
Strontium-90	07/14/21	2.12	0.739	0.632	PCI/L	0	
8260 TVOC	08/03/21	0	0	0	UG/L	0	
8260 TVOC	09/07/21	0	0	0	UG/L	0	
8260 TVOC	10/06/21	0	0	0	UG/L	0	
Strontium-90	10/06/21	0.734	0.453	0.33	PCI/L	0	J
8260 TVOC	11/10/21	0	0	0	UG/L	0	
8260 TVOC	12/06/21	0	0	0	UG/L	0	

J = Estimated Value below the method detection limit of 0.50 UG/L
B = Compound was found in both the sample and associated laboratory blank.

Table F-39
Cumulative Mass Removal
OU III BGRR/WCF Sr-90 System

2021 BNL Groundwater Status Report

Sample date	Influent Concentration (pCi/L)	Liters Pumped	picoCuries pumped	milliCuries pumped	Cumulative mCi
6/20/05	79.0	18927	1495238	0.00	0.16
7/13/05	349.0	769968	268718798	0.27	0.43
7/21/05	251	212755	53401576	0.05	0.48
7/27/05	223	322086	71825077	0.07	0.56
8/3/05	376	970829	365031863	0.37	0.92
8/11/05	436	1167095	508853618	0.51	1.43
8/17/05	401	325905	130687917	0.13	1.56
8/24/05	285	1029515	293411679	0.29	1.85
9/1/05	175	1342269	234897105	0.23	2.09
9/28/05	245	2176949	533352428	0.53	2.62
10/6/05	273	983420	268473579	0.27	2.89
10/13/05	373	1026013	382702907	0.38	3.27
10/19/05	315	537881	169432363	0.17	3.44
10/25/05	271	657772	178256234	0.18	3.62
11/8/05	278	565056	157085565	0.16	3.78
11/18/05	266	1057530	281303112	0.28	4.06
11/22/05	254	373794	94943745	0.09	4.15
1/13/06	386	639364	246794359	0.25	4.40
1/20/06	317	860992	272934437	0.27	4.67
1/25/06	304	585895	178111983	0.18	4.85
2/1/06	243	822120	199775043	0.20	5.05
2/10/06	184	1068451	196595059	0.20	5.25
2/15/06	191	559862	106933719	0.11	5.36
2/23/06	150	1016811	152521623	0.15	5.51
3/3/06	174	838669	145928465	0.15	5.65
3/8/06	71.6	339468	24305920	0.02	5.68
3/14/06	63.4	570091	36143743	0.04	5.72
3/21/06	52	806490	41937457	0.04	5.76
3/29/06	164	541480	88802793	0.09	5.85
4/18/06	130	973892	126605937	0.13	5.97
4/25/06	155	887433	137552117	0.14	6.11
5/3/06	187	1220932	228314206	0.23	6.34
5/9/06	140	629158	88082142	0.09	6.43
5/16/06	158	1046462	165340988	0.17	6.59
5/24/06	114	999894	113987895	0.11	6.71
6/7/06	104	1837568	191107030	0.19	6.90
6/14/06	96.4	778133	75012025	0.08	6.97
6/22/06	108	1062902	114793415	0.11	7.09
6/28/06	105	1023992	107519133	0.11	7.19
7/6/06	90.1	1200449	108160429	0.11	7.30
7/12/06	99.7	775256	77293035	0.08	7.38
7/19/06	91.9	936746	86086918	0.09	7.47
7/26/06	91.4	1036090	94698619	0.09	7.56
8/2/06	98.3	875721	86083370	0.09	7.65
8/8/06	90.8	690838	62728059	0.06	7.71
8/16/06	93.5	1097232	102591182	0.10	7.81
8/23/06	97.8	958409	93732448	0.09	7.91
8/30/06	84.8	938487	79583686	0.08	7.99
9/6/06	89.2	960401	85667735	0.09	8.07

Table F-39
Cumulative Mass Removal
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Sample date	Influent Concentration (pCi/L)	Liters Pumped	picoCuries pumped	milliCuries pumped	Cumulative mCi
10/4/06	101	1152268	116379068	0.12	8.19
10/11/06	102	948477	96744610	0.10	8.28
10/18/06	96.1	951406	91430162	0.09	8.38
11/9/06	127	818546	103955354	0.10	8.48
11/15/06	97.2	817649	79475478	0.08	8.56
11/29/06	167	1090199	182063166	0.18	8.74
12/5/06	125	643384	80422966	0.08	8.82
12/14/06	150	1125176	168776371	0.17	8.99
12/20/06	139	939191	130547542	0.13	9.12
12/27/06	148	941129	139287104	0.14	9.26
1/10/07	112	1883114	210908731	0.21	9.47
1/17/07	122	941557	114869934	0.11	9.59
1/24/07	137	941557	128993286	0.13	9.71
1/31/07	121	941557	113928377	0.11	9.83
2/7/07	103	879162	90553675	0.09	9.92
2/14/07	122	879162	107257751	0.11	10.03
3/2/07	47.2	1758293	82991453	0.08	10.11
3/8/07	50.6	22712	1149251	0.00	10.11
4/11/07	40.7	2882970	117336864	0.12	10.23
4/19/07	40.7	678346	27608674	0.03	10.26
4/25/07	41.1	508759	20910009	0.02	10.28
5/3/07	44.5	678346	30186388	0.03	10.31
5/8/07	38.9	413197	16073349	0.02	10.32
5/16/07	264	661115	174534254	0.17	10.50
5/24/07	415	663204	275229721	0.28	10.77
6/1/07	504	578475	291551539	0.29	11.06
6/12/07	451	506587	228470520	0.23	11.29
6/21/07	426	414480	176568429	0.18	11.47
6/27/07	426	276320	117712286	0.12	11.59
7/3/07	445	145360	64685117	0.06	11.65
9/6/07	391	143770	56214047	0.06	11.71
9/26/07	401	479233	192172487	0.19	11.90
10/18/07	308	1703057	524541485	0.52	12.42
11/8/07	363	1939077	703885022	0.70	13.13
11/20/07	321	1399088	449107313	0.45	13.58
12/6/07	209	1877564	392410929	0.39	13.97
12/20/07	114	1792392	204332744	0.20	14.17
1/4/08	137	1051966	144119334	0.14	14.32
1/15/08	127	824463	104706762	0.10	14.42
2/21/08	41.1	2095282	86116099	0.09	14.51
3/12/08	65.2	1196966	78042192	0.08	14.59
3/25/08	74.4	946069	70387537	0.07	14.66
4/9/08	61.3	1012219	62049032	0.06	14.72
4/22/08	65.9	939918	61940580	0.06	14.78
5/8/08	85.7	1474796	126390055	0.13	14.91
5/19/08	95.4	1232530	117583370	0.12	15.03
6/4/08	60.1	1685265	101284447	0.10	15.13
6/19/08	44.9	1697757	76229298	0.08	15.20
7/2/08	61.2	1130173	69166560	0.07	15.27

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Sample date	Influent Concentration (pCi/L)	Liters Pumped	picoCuries pumped	milliCuries pumped	Cumulative mCi
7/29/08	52.5	2502006	131355304	0.13	15.40
8/28/08	105	654119	68682512	0.07	15.47
9/12/08	59.7	1526278	91118799	0.09	15.56
9/23/08	55.9	1199218	67036312	0.07	15.63
10/10/08	73.4	2316672	170043726	0.17	15.80
10/22/08	53.2	1499023	79748027	0.08	15.88
11/5/08	43.4	1831534	79488560	0.08	15.96
11/19/08	44.6	1831534	81686401	0.08	16.04
12/2/08	35.1	1651045	57951687	0.06	16.10
12/17/08	25.6	1589873	40700748	0.04	16.14
1/13/09	33.1	3444725	114020389	0.11	16.25
1/27/09	36.6	1854852	67887575	0.07	16.32
2/10/09	32.6	1665581	54297947	0.05	16.38
3/25/09	53.9	3198673	172408473	0.17	16.55
4/1/09	50.9	715443	36416040	0.04	16.58
4/15/09	39.7	1788607	71007701	0.07	16.66
5/4/09	29.3	2265569	66381171	0.07	16.72
5/21/09	28.7	2104310	60393709	0.06	16.78
6/3/09	31.5	1485396	46789961	0.05	16.83
6/18/09	35.3	2225822	78571521	0.08	16.91
7/16/09	44.4	3040443	134995658	0.13	17.04
7/28/09	30.1	944839	28439647	0.03	17.07
8/10/09	20.8	792665	16487437	0.02	17.09
10/22/09	52.1	2639416	137513586	0.14	17.23
10/30/09	28.7	554184	15905089	0.02	17.24
11/10/09	51	921116	46976896	0.05	17.29
12/8/09	49.1	2540011	124714556	0.12	17.41
12/30/09	40.3	2109708	85021249	0.09	17.50
1/6/10	38.3	522387	20007416	0.02	17.52
1/27/10	37.6	1828354	68746107	0.07	17.59
2/4/10	32.5	696516	22636763	0.02	17.61
2/17/10	30	2066835	62005045	0.06	17.67
3/3/10	33.7	2066835	69652334	0.07	17.74
3/17/10	31.7	1960843	62158733	0.06	17.80
4/1/10	29.6	1820783	53895179	0.05	17.86
4/14/10	25.3	1640329	41500316	0.04	17.90
5/4/10	30.1	2398346	72190217	0.07	17.97
5/19/10	28.7	1423050	40841531	0.04	18.01
6/15/10	27.7	2122412	58790820	0.06	18.07
8/17/10	90.2	2176574	196326969	0.20	18.27
8/24/10	25.7	529958	13619912	0.01	18.28
9/1/10	51.7	529958	27398811	0.03	18.31
9/13/10	44.2	766137	33863258	0.03	18.34
10/6/10	24.3	2182184	53027069	0.05	18.39
10/19/10	35.3	1233408	43539313	0.04	18.44
11/4/10	28.5	1306739	37242070	0.04	18.48
11/15/10	53.6	723487	38778894	0.04	18.51
12/2/10	44.5	1127973	50194808	0.05	18.56
12/16/10	37	989802	36622671	0.04	18.60

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Sample date	Influent Concentration (pCi/L)	Liters Pumped	picoCuries pumped	milliCuries pumped	Cumulative mCi
1/7/11	30.5	1533470	46770845	0.05	18.65
1/19/11	31.8	808564	25712334	0.03	18.67
3/3/11	24.9	1667474	41520100	0.04	18.72
3/24/11	25.5	1486531	37906546	0.04	18.75
5/2/11	59.6	2949105	175766632	0.18	18.93
5/27/11	95.8	822759	78820337	0.08	19.01
6/13/11	61	3134272	191190577	0.19	19.20
7/6/11	51	5005514	255281233	0.26	19.45
7/19/11	48.7	2288872	111468064	0.11	19.57
8/9/11	49.7	3873203	192498193	0.19	19.76
8/26/11	38.7	3719546	143946416	0.14	19.90
9/2/11	40.7	1174485	47801522	0.05	19.95
9/29/11	88.1	1086758	95743350	0.10	20.05
10/5/11	39.4	1194449	47061284	0.05	20.09
10/25/11	136	3981496	541483474	0.54	20.63
11/10/11	63.9	2951561	188604766	0.19	20.82
11/15/11	68.8	978094	67292842	0.07	20.89
12/14/11	43.3	5010814	216968244	0.22	21.11
12/20/11	60.8	889943	54108519	0.05	21.16
1/4/12	33.9	2113657	71652959	0.07	21.23
1/25/12	48.5	2530998	122753415	0.12	21.36
2/13/12	21	3823395	80291287	0.08	21.44
2/22/12	43.4	2146328	93150656	0.09	21.53
3/2/12	27.6	2369539	65399279	0.07	21.59
3/14/12	24.1	4201035	101244940	0.10	21.70
4/6/12	22.1	7633245	168694715	0.17	21.86
4/16/12	23.3	2802454	65297176	0.07	21.93
5/2/12	16.8	4699566	78952709	0.08	22.01
5/15/12	16.2	5044849	81726547	0.08	22.09
6/6/12	22.9	7302968	167237964	0.17	22.26
6/19/12	24.5	3210976	78668901	0.08	22.34
6/25/12	24.5	1481989	36308724	0.04	22.37
7/24/12	20.3	1473097	29903865	0.03	22.40
7/30/12	14	304786	4267007	0.00	22.41
8/8/12	23.6	324031	7647138	0.01	22.41
8/20/12	29.3	486047	14241173	0.01	22.43
9/6/12	21.2	1331844	28235096	0.03	22.46
9/18/12	16.3	1853610	30213846	0.03	22.49
10/1/12	17.5	3394606	59405603	0.06	22.55
10/16/12	17.3	3602766	62327846	0.06	22.61
11/20/12	20.6	5711051	117647646	0.12	22.73
11/30/12	15.5	1174235	18200638	0.02	22.74
12/5/12	20.2	1494481	30188508	0.03	22.77
12/18/12	17.3	3885650	67221736	0.07	22.84
1/3/13	14.2	4338990	61613664	0.06	22.90
1/15/13	13.6	3008948	40921695	0.04	22.94
2/5/13	16	4497069	71953107	0.07	23.02
2/20/13	26	2207652	57398956	0.06	23.07
3/11/13	15.4	3819443	58819417	0.06	23.13

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Sample date	Influent Concentration (pCi/L)	Liters Pumped	picoCuries pumped	milliCuries pumped	Cumulative mCi
3/21/13	13.2	2642028	34874772	0.03	23.17
4/3/13	19	2542956	48316171	0.05	23.22
4/15/13	15.2	852444	12957156	0.01	23.23
5/7/13	14.7	2396980	35235599	0.04	23.26
5/28/13	13.6	3992568	54298931	0.05	23.32
6/4/13	13.7	1484570	20338614	0.02	23.34
6/17/13	22.2	3589059	79677103	0.08	23.42
7/2/13	13.4	3917542	52495057	0.05	23.47
7/19/13	14.6	2784575	40654801	0.04	23.51
8/6/13	17.5	3481167	60920421	0.06	23.57
8/20/13	18.1	3918560	70925934	0.07	23.64
9/4/13	15.7	3504103	55014413	0.06	23.70
9/17/13	11.5	2291677	26354285	0.03	23.72
10/3/13	19.9	2756374	54851845	0.05	23.78
10/22/13	24	2944017	70656407	0.07	23.85
11/6/13	13.6	3115367	42368997	0.04	23.89
11/19/13	12.4	3728472	46233048	0.05	23.94
12/2/13	10.7	3559900	38090927	0.04	23.98
12/16/13	14.2	2835273	40260883	0.04	24.02
1/8/14	14.1	5479989	77267848	0.08	24.09
1/23/14	11.7	4579118	53575681	0.05	24.15
2/4/14	16.3	3282558	53505690	0.05	24.20
4/8/14	30.1	6922761	208375109	0.21	24.41
4/21/14	19	3055963	58063296	0.06	24.47
5/7/14	21.7	3390215	73567661	0.07	24.54
5/19/14	20.7	2184940	45228252	0.05	24.59
6/5/14	19.5	3321453	64768330	0.06	24.65
6/17/14	15.8	3164619	50000987	0.05	24.70
7/1/14	13.1	3955774	51820643	0.05	24.75
7/16/14	15	2292067	34381003	0.03	24.79
8/5/14	16.6	3259065	54100486	0.05	24.84
8/18/14	10.5	2911580	30571588	0.03	24.87
9/9/14	9.85	3230429	31819724	0.03	24.90
9/30/14	9.85	1362445	13420087	0.01	24.92
11/6/14	16.5	1801303	29721505	0.03	24.95
11/18/14	13.4	3580076	47973017	0.05	25.00
12/2/14	14.4	3894515	56081015	0.06	25.05
12/16/14	14.4	4559366	65654867	0.07	25.12
1/6/15	14.9	4559366	67934550	0.07	25.18
1/21/15	13.7	1596460	21871496	0.02	25.21
2/12/15	18.3	3092167	56586649	0.06	25.26
2/25/15	16.5	2196849	36248002	0.04	25.30
3/10/15	13.7	3132943	42921320	0.04	25.34
3/23/15	10.7	3413771	36527354	0.04	25.38
4/1/15	11.8	2331144	27507495	0.03	25.41
4/14/15	13.4	2994696	40128927	0.04	25.45
5/6/15	10.3	5287554	54461807	0.05	25.50
5/27/15	6.3	5606210	35375185	0.04	25.54
6/10/15	18.7	2365413	44233223	0.04	25.58

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Sample date	Influent Concentration (pCi/L)	Liters Pumped	picoCuries pumped	milliCuries pumped	Cumulative mCi
6/22/15	13.0	1557485	20247305	0.02	25.60
7/10/15	13.6	2885998	39249572	0.04	25.64
7/22/15	10.2	2216737	22610719	0.02	25.66
8/5/15	14.8	2654331	39284095	0.04	25.70
8/18/15	12.7	2578623	32748506	0.03	25.73
9/2/15	10.2	3132807	31954629	0.03	25.77
9/23/15	8.8	5818935	50915681	0.05	25.82
10/1/15	9.5	2171691	20631062	0.02	25.84
10/20/15	9.9	4433035	43665397	0.04	25.88
11/5/15	7.2	3516065	25456308	0.03	25.91
11/23/15	12.6	3418454	43072520	0.04	25.95
12/2/15	8.4	1722347	14536611	0.01	25.97
12/15/15	10.1	2697659	27246352	0.03	25.99
1/7/16	7.1	4288429	30233422	0.03	26.02
2/9/16	46.7	5255859	245448606	0.25	26.27
2/18/16	8.3	1330690	10978189	0.01	26.28
3/3/16	7.9	2167977	17148700	0.02	26.30
3/29/16	8.4	4693684	39286131	0.04	26.34
4/11/16	8.2	3033228	24902800	0.02	26.36
4/25/16	5.8	3266553	18848011	0.02	26.38
5/4/16	7.8	2305217	17980695	0.02	26.40
5/17/16	7.1	3700422	26198986	0.03	26.42
6/7/16	10.1	5455119	55096703	0.06	26.48
6/21/16	8.9	2940099	26078679	0.03	26.50
7/18/16	8.6	6430945	55434748	0.06	26.56
7/25/16	6.4	1774722	11304980	0.01	26.57
8/3/16	7.5	2125285	15854629	0.02	26.59
8/16/16	7.5	2617745	19502198	0.02	26.61
9/20/16	9.8	4832078	47499328	0.05	26.65
10/4/16	7.9	1246135	9794620	0.01	26.66
10/26/16	16.4	2425586	39779609	0.04	26.70
11/17/16	9.4	4014887	37780089	0.04	26.74
11/29/16	7.5	2444907	18361249	0.02	26.76
12/8/16	9.7	2245502	21669099	0.02	26.78
12/19/16	9.0	2296980	20649853	0.02	26.80
1/5/17	9.5	1717438	16332831	0.02	26.82
1/18/17	7.2	3671437	26287488	0.03	26.84
2/2/17	6.2	3909032	24196908	0.02	26.87
3/7/17	7.1	4146506	29440193	0.03	26.90
3/20/17	8.1	1964428	15911868	0.02	26.91
4/5/17	8.3	2729801	22711940	0.02	26.94
4/20/17	3.7	3008778	11162566	0.01	26.95
5/3/17	8.6	2970678	25399294	0.03	26.97
5/17/17	7.2	4502520	32373120	0.03	27.01
6/6/17	7.1	6174817	43841199	0.04	27.05
6/20/17	8.1	3902025	31450323	0.03	27.08
7/14/17	8.2	6742803	55290982	0.06	27.14
7/25/17	6.4	3143368	20117556	0.02	27.16
8/1/17	7.7	1971215	15198070	0.02	27.17

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Sample date	Influent Concentration (pCi/L)	Liters Pumped	picoCuries pumped	milliCuries pumped	Cumulative mCi
8/16/17	5.3	3850218	20213645	0.02	27.19
9/7/17	6.1	5962894	36075510	0.04	27.23
9/19/17	5.2	3621731	18651913	0.02	27.25
10/6/17	7.9	4154853	32657143	0.03	27.28
10/18/17	8.6	2169677	18680918	0.02	27.30
11/2/17	4.3	2801636	12047036	0.01	27.31
11/15/17	3.5	2932494	10263730	0.01	27.32
12/13/17	9.6	5236368	50269130	0.05	27.37
12/19/17	4.4	855102	3728244	0.00	27.37
1/3/18	4.6	2206214	10170645	0.01	27.38
1/18/18	3.3	3198881	10396364	0.01	27.40
2/1/18	4.8	2922281	14026949	0.01	27.41
2/13/18	4.1	1799009	7375938	0.01	27.42
3/7/18	8.1	3659165	29639233	0.03	27.45
3/20/18	9.2	2619319	24176319	0.02	27.47
4/3/18	8.2	3350161	27471323	0.03	27.50
4/17/18	13.1	2658321	34824000	0.03	27.53
5/15/18	7.9	5319310	41916162	0.04	27.57
5/22/18	7.9	1330406	10510205	0.01	27.59
6/5/18	8.3	2238681	18581054	0.02	27.60
6/21/18	15.0	1690111	25351660	0.03	27.63
7/3/18	11.1	1546121	17161945	0.02	27.65
8/1/18	14.9	5662397	84369714	0.08	27.73
8/14/18	16.5	1365637	22533003	0.02	27.75
9/6/18	8.9	3024839	26800076	0.03	27.78
9/18/18	10.5	2688112	28225174	0.03	27.81
10/11/18	5.7	4164400	23612146	0.02	27.83
10/25/18	10.5	1878912	19728575	0.02	27.85
11/1/18	9.0	814583	7298662	0.01	27.86
01/17/19	19.4	1902953	36917288	0.04	27.90
02/05/19	19	3958042	75202793	0.08	27.97
03/12/19	11.5	4252918	48908554	0.05	28.02
04/02/19	13.3	2910853	38714345	0.04	28.06
05/02/19	13.5	4600025	62100335	0.06	28.12
06/06/19	17.2	5613599	96553905	0.10	28.22
07/31/19	21.1	5347068	112823141	0.11	28.33
08/31/19	16.5	4483271	73973978	0.07	28.40
9/31/2019	13.4	2616590	35062309	0.04	28.44
10/31/19	15.4	4238041	65265832	0.07	28.50
11/30/19	12.9	5477445	70659046	0.07	28.57
12/31/19	13	4063469	52825100	0.05	28.63
01/31/20	4.27	6572179	28063204	0.03	28.66
02/29/20	12.2	3810248	46485024	0.05	28.70
03/31/20	9.68	5301889	51322289	0.05	28.75
04/30/20	7.98	1931014	15409494	0.02	28.77
05/31/20	5.41	6297237	34068052	0.03	28.80
06/30/20	14.4	4140548	59623888	0.06	28.86
07/31/20	11.5	333949	3840414	0.00	28.87
08/31/20	11.5	1144709	13164148	0.01	28.88

Table F-39
Cumulative Mass Removal
OU III BGRR/WCF Sr-90 System

2021 BNL Groundwater Status Report

Sample date	Influent Concentration (pCi/L)	Liters Pumped	picoCuries pumped	milliCuries pumped	Cumulative mCi
09/30/20	8.62	6357489	54801558	0.05	28.93
10/31/20	2.36	4454018	10511482	0.01	28.95
11/30/20	5.03	6253591	31455563	0.03	28.98
12/31/20	7.63	1764793	13465371	0.01	28.99
01/31/21	1.01	5267491	5320166	0.01	29.00
02/28/21	8.15	3457989	28182609	0.03	29.02
03/31/21	20.5	5753186	117940317	0.12	29.14
04/30/21	9.99	4228517	42242884	0.04	29.18
05/31/21	10.6	6287141	66643697	0.07	29.25
06/30/21	13.7	2311437	31666684	0.03	29.28
07/31/21	5.7	6092363	34726468	0.03	29.32
08/31/21	7.9	4264808	33691981	0.03	29.35
09/30/21	3.97	6369326	25286226	0.03	29.38
10/31/21	5.05	3599158	18175749	0.02	29.39
11/30/21	4.79	4501422	21561813	0.02	29.42
12/31/21	18.6	1414677	26312983	0.03	29.44

Table F-40
Extraction Well Data
OU III Chemical/Animal Holes Sr-90 System

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Site ID : 106-92 (EW-1)

Chemical Name	Sample Date	Value	Detlim	Error	Units	Depth	Qual
Strontium-90	01/05/21	13.1	1.14	1.02	PCI/L	0	
Strontium-90	04/26/21	19.6	0.771	1.5	PCI/L	0	
Strontium-90	07/15/21	20.5	0.785	1.49	PCI/L	0	
Strontium-90	10/05/21	18.4	0.788	1.13	PCI/L	0	

Site ID : 106-123 (EW-2)

Chemical Name	Sample Date	Value	Detlim	Error	Units	Depth	Qual
Strontium-90	01/05/21	2.52	0.915	0.613	PCI/L	0	
Strontium-90	04/26/21	4.02	0.784	0.791	PCI/L	0	
Strontium-90	07/15/21	2.87	0.688	0.606	PCI/L	0	
Strontium-90	10/05/21	4.34	0.777	0.688	PCI/L	0	

Site ID : 106-124 (EW-3)

Chemical Name	Sample Date	Value	Detlim	Error	Units	Depth	Qual
Strontium-90	01/05/21	0.987	0.775	0.489	PCI/L	0	
Strontium-90	04/26/21	0.917	0.775	0.508	PCI/L	0	
Strontium-90	07/15/21	0.958	0.542	0.399	PCI/L	0	
Strontium-90	10/05/21	3.94	0.794	0.75	PCI/L	0	

Table F-41
System Influent Data
OU III Chemical/Animal Holes Sr-90 System

2021 BNL Groundwater Status Report

No Influent samples collected as sytem has been in stand-by mode since 7/1/2018.

Table F-42
System Effluent Data
OU III Chemical/Animal Holes Sr-90 System

2021 BNL Groundwater Status Report

Site ID: 106-118 (Effluent)

No samples were collected due to the system being in stand-by mode since 7/1/2018.

Table F-43
Cumulative Mass Removal
OU III Chemical/Animal Holes Sr-90 System

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Sample Date	Influent Concentration (pCi/L)	Millicuries pumped	Cumulative mCi
December 31, 2003	31.7	0.884	
January 2, 2004	35.7	0.002	0.887
January 5, 2004	31.8	0.003	0.890
January 7, 2004	37.8	0.000	0.890
January 9, 2004	31.7	0.002	0.892
January 12, 2004	35.9	0.002	0.894
January 14, 2004	38.2	0.002	0.897
January 16, 2004	34.5	0.002	0.899
January 21, 2004	35.3	0.006	0.905
January 23, 2004	32.4	0.002	0.907
January 26, 2004	34.3	0.003	0.910
January 28, 2004	34.7	0.002	0.913
January 30, 2004	33.8	0.002	0.915
February 2, 2004	34.4	0.003	0.918
February 4, 2004	33.2	0.002	0.920
February 6, 2004	37.4	0.002	0.923
February 9, 2004	39.5	0.004	0.927
February 11, 2004	35.6	0.002	0.929
February 13, 2004	41.2	0.003	0.932
February 18, 2004	37.1	0.004	0.936
February 20, 2004	32.1	0.002	0.938
February 23, 2004	46.1	0.001	0.939
February 25, 2004	35.2	0.002	0.941
February 27, 2004	34.6	0.002	0.944
March 1, 2004	36.8	0.004	0.947
March 3, 2004	35.0	0.002	0.950
March 5, 2004	36.7	0.002	0.952
March 8, 2004	40.7	0.004	0.956
March 10, 2004	38.4	0.003	0.958
March 12, 2004	34.9	0.002	0.961
March 15, 2004	36.8	0.004	0.964
April 2, 2004	66.7	0.004	0.969
April 5, 2004	57.1	0.006	0.974
May 21, 2004	169.0	0.006	0.980
May 25, 2004	82.8	0.011	0.991
May 28, 2004	78.6	0.008	0.998
June 2, 2004	66.5	0.011	1.009
June 8, 2004	52.9	0.010	1.020
June 11, 2004	56.6	0.006	1.025
June 15, 2004	51.4	0.007	1.032
June 18, 2004	62.8	0.006	1.038
June 22, 2004	51.8	0.007	1.045
June 25, 2004	67.6	0.007	1.052
June 29, 2004	61.5	0.008	1.060
July 2, 2004	68.5	0.007	1.066
July 7, 2004	93.1	0.015	1.082
July 9, 2004	73.9	0.005	1.086
July 13, 2004	71.1	0.009	1.096
July 16, 2004	64.4	0.006	1.102
October 15, 2004	124.0	0.024	1.126
January 12, 2005	181.0	0.086	1.213
January 14, 2005	136.0	0.004	1.217
January 18, 2005	185.0	0.012	1.229
January 21, 2005	157.0	0.005	1.234
January 31, 2005	278.0	0.045	1.280
May 26, 2005	566.0	0.296	1.576

Table F-43
Cumulative Mass Removal
OU III Chemical/Animal Holes Sr-90 System

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Sample Date	Influent Concentration (pCi/L)	Millicuries pumped	Cumulative mCi
June 1, 2005	496.0	0.097	1.673
June 7, 2005	277.0	0.054	1.728
June 15, 2005	204.0	0.053	1.781
June 22, 2005	162.0	0.037	1.818
June 28, 2005	119.0	0.023	1.841
July 7, 2005	102	0.030	1.871
July 13, 2005	73.9	0.002	1.873
July 26, 2005	56.3	0.013	1.886
August 3, 2005	80.7	0.021	1.907
August 11, 2005	68.3	0.020	1.927
August 17, 2005	57.5	0.014	1.941
August 24, 2005	55.7	0.013	1.954
September 1, 2005	50.8	0.013	1.967
September 8, 2005	50	0.011	1.979
September 15, 2005	50.6	0.013	1.992
September 20, 2005	46.4	0.007	1.999
September 27, 2005	42.7	0.010	2.009
October 6, 2005	44.1	0.013	2.022
October 13, 2005	43.9	0.010	2.032
October 19, 2005	37	0.007	2.039
October 25, 2005	37.2	0.007	2.046
November 1, 2005	33	0.003	2.050
November 8, 2005	31.8	0.007	2.057
November 18, 2005	33.6	0.007	2.064
November 22, 2005	37.8	0.006	2.070
December 1, 2005	32.2	0.012	2.081
February 9, 2006	36	0.000	2.081
February 15, 2006	40	0.008	2.089
February 23, 2006	32.2	0.008	2.098
February 28, 2006	27.1	0.003	2.101
March 8, 2006	31.4	0.008	2.109
March 14, 2006	33.6	0.007	2.116
March 21, 2006	36.9	0.008	2.124
March 29, 2006	31.1	0.009	2.133
April 4, 2006	26.3	0.003	2.137
April 10, 2006	24.1	0.004	2.140
April 18, 2006	23	0.005	2.145
April 25, 2006	28.7	0.005	2.150
May 1, 2006	31.7	0.005	2.154
May 9, 2006	34.3	0.009	2.163
May 16, 2006	24.9	0.006	2.169
May 24, 2006	22.7	0.006	2.174
May 31, 2006	26.3	0.006	2.180
June 7, 2006	26.7	0.005	2.185
June 14, 2006	24.6	0.005	2.190
June 22, 2006	27.7	0.006	2.196
June 28, 2006	26.2	0.004	2.200
July 6, 2006	16	0.003	2.203
July 12, 2006	23.9	0.005	2.208
August 8, 2006	22	0.010	2.218
August 16, 2006	21.7	0.006	2.224
August 23, 2006	25.6	0.007	2.231
August 30, 2006	25.9	0.003	2.234
September 6, 2006	27.6	0.008	2.241
September 12, 2006	24.3	0.006	2.247
September 19, 2006	19	0.005	2.252
September 28, 2006	21.6	0.007	2.260

Table F-43
Cumulative Mass Removal
OU III Chemical/Animal Holes Sr-90 System

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Sample Date	Influent Concentration (pCi/L)	Millicuries pumped	Cumulative mCi
October 4, 2006	24.1	0.007	2.266
October 11, 2006	20.9	0.005	2.271
October 18, 2006	20.1	0.006	2.277
October 25, 2006	21.6	0.006	2.283
November 1, 2006	18.5	0.004	2.287
November 9, 2006	19.9	0.006	2.293
November 20, 2006	22.8	0.004	2.297
November 29, 2006	26.1	0.010	2.307
December 5, 2006	18.1	0.004	2.311
December 14, 2006	20.4	0.006	2.318
December 20, 2006	20.4	0.004	2.322
December 27, 2006	22.6	0.006	2.328
January 3, 2007	22.8	0.006	2.333
January 10, 2007	17.2	0.005	2.338
January 17, 2007	20.7	0.006	2.345
January 24, 2007	19.4	0.006	2.350
January 31, 2007	14.5	0.004	2.355
February 7, 2007	18.2	0.005	2.359
February 14, 2007	17.1	0.004	2.363
February 27, 2007	17.3	0.008	2.371
March 2, 2007	18.5	0.002	2.373
March 15, 2007	18.5	0.009	2.382
March 28, 2007	6.26	0.003	2.385
April 5, 2007	16.6	0.004	2.389
April 11, 2007	17.6	0.003	2.392
April 19, 2007	18.7	0.005	2.397
April 25, 2007	18.1	0.003	2.400
May 3, 2007	17.3	0.004	2.404
May 8, 2007	16.9	0.002	2.407
May 16, 2007	18	0.004	2.411
May 24, 2007	17.4	0.004	2.415
May 30, 2007	18.4	0.003	2.418
June 12, 2007	22.9	0.002	2.419
June 21, 2007	22.7	0.001	2.421
July 27, 2007	26.6	0.007	2.427
August 14, 2007	28.8	0.008	2.435
September 6, 2007	31.6	0.012	2.446
September 25, 2007	32.5	0.012	2.459
October 4, 2007	32.2	0.008	2.467
October 10, 2007	29.1	0.005	2.471
October 17, 2007	26.8	0.005	2.476
November 15, 2007	78.7	0.040	2.516
November 20, 2007	66.4	0.003	2.519
November 30, 2007	62	0.005	2.524
December 4, 2007	47	0.013	2.537
December 13, 2007	40.1	0.026	2.563
December 20, 2007	36.7	0.018	2.581
December 26, 2007	41.2	0.018	2.599
January 4, 2008	38.5	0.030	2.629
January 15, 2008	36.8	0.035	2.664
January 23, 2008	32.7	0.023	2.687
January 31, 2008	35.9	0.025	2.712
February 6, 2008	30.3	0.012	2.724
February 12, 2008	51.4	0.021	2.745
February 20, 2008	30.8	0.016	2.761
February 27, 2008	34.1	0.015	2.776
March 5, 2008	34.9	0.015	2.791

Table F-43
Cumulative Mass Removal
OU III Chemical/Animal Holes Sr-90 System

2021 BNL Groundwater Status Report

Sample Date	Influent Concentration (pCi/L)	Millicuries pumped	Cumulative mCi
March 11, 2008	28.5	0.012	2.804
March 17, 2008	28.9	0.012	2.816
March 25, 2008	27.9	0.016	2.832
April 2, 2008	32.5	0.017	2.850
April 9, 2008	33.4	0.018	2.867
April 14, 2008	28.3	0.013	2.880
April 21, 2008	39.1	0.021	2.901
April 25, 2008	26.2	0.008	2.909
May 6, 2008	19.8	0.013	2.922
May 12, 2008	18.4	0.005	2.927
May 19, 2008	18.2	0.006	2.932
May 29, 2008	19.3	0.008	2.941
June 4, 2008	21.5	0.008	2.949
June 9, 2008	23.7	0.009	2.958
June 16, 2008	23.3	0.012	2.970
June 23, 2008	15	0.008	2.978
July 1, 2008	18.2	0.006	2.984
July 16, 2008	15.8	0.009	2.993
July 22, 2008	20.5	0.005	2.998
July 28, 2008	17.3	0.004	3.002
August 11, 2008	33.4	0.033	3.035
August 22, 2008	23.5	0.018	3.053
August 28, 2008	23.7	0.010	3.063
September 3, 2008	21.8	0.006	3.070
September 9, 2008	18.5	0.005	3.075
September 17, 2008	15.2	0.006	3.081
September 22, 2008	13	0.003	3.084
September 29, 2008	12.1	0.004	3.088
October 7, 2008	43.2	0.028	3.116
October 13, 2008	41.4	0.018	3.133
October 22, 2008	22.4	0.014	3.148
October 27, 2008	23.3	0.008	3.156
November 5, 2008	26.6	0.016	3.172
November 13, 2008	15.5	0.008	3.180
November 18, 2008	16.5	0.005	3.186
November 24, 2008	14.3	0.006	3.191
December 2, 2008	13.2	0.013	3.205
December 9, 2008	28.2	0.021	3.225
December 19, 2008	40.9	0.043	3.269
December 26, 2008	51.2	0.038	3.307
December 31, 2008	45.8	0.024	3.331
January 8, 2009	25.1	0.008	3.339
January 16, 2009	15.6	0.005	3.343
January 21, 2009	15.1	0.003	3.346
February 4, 2009	30.2	0.016	3.363
February 9, 2009	28.8	0.006	3.369
February 19, 2009	22.7	0.010	3.378
February 23, 2009	22.7	0.004	3.382
March 4, 2009	26.4	0.012	3.394
March 10, 2009	15.9	0.006	3.400
March 16, 2009	14.8	0.005	3.405
March 24, 2009	12.6	0.006	3.411
April 1, 2009	10.6	0.003	3.414
April 7, 2009	25	0.014	3.428
April 14, 2009	23.1	0.013	3.442
April 20, 2009	16.8	0.008	3.450
April 27, 2009	18.3	0.010	3.460

Table F-43
Cumulative Mass Removal
OU III Chemical/Animal Holes Sr-90 System

2021 BNL Groundwater Status Report

Sample Date	Influent Concentration (pCi/L)	Millicuries pumped	Cumulative mCi
May 7, 2009	13.4	0.011	3.471
May 11, 2009	20.8	0.007	3.478
May 21, 2009	18.7	0.016	3.494
May 27, 2009	17.4	0.009	3.502
June 3, 2009	14.6	0.008	3.511
June 8, 2009	17.1	0.006	3.517
June 18, 2009	17.8	0.013	3.531
June 24, 2009	15.3	0.007	3.538
July 6, 2009	13.2	0.010	3.547
July 15, 2009	8.56	0.005	3.552
July 23, 2009	11.3	0.006	3.558
July 28, 2009	9.81	0.003	3.561
August 4, 2009	11.3	0.005	3.566
August 10, 2009	20.1	0.009	3.576
August 18, 2009	21.7	0.013	3.589
August 25, 2009	20.2	0.011	3.600
September 2, 2009	17.5	0.010	3.609
September 8, 2009	13	0.005	3.615
September 16, 2009	8.47	0.005	3.619
September 21, 2009	11.3	0.004	3.623
October 1, 2009	9.66	0.007	3.630
October 8, 2009	21.4	0.014	3.644
October 12, 2009	22.2	0.008	3.652
October 19, 2009	19.7	0.013	3.665
November 4, 2009	15.6	0.018	3.683
December 16, 2009	49.8	0.088	3.771
December 29, 2009	33.7	0.022	3.793
January 6, 2010	14	0.005	3.798
January 20, 2010	10.2	0.009	3.806
February 2, 2010	12.1	0.009	3.815
February 17, 2010	23	0.037	3.852
March 2, 2010	20.9	0.027	3.878
March 15, 2010	9.19	0.009	3.887
April 1, 2010	5.95	0.007	3.894
April 13, 2010	17.1	0.016	3.910
May 4, 2010	14	0.022	3.932
May 17, 2010	6.42	0.005	3.938
June 3, 2010	9.53	0.011	3.949
June 15, 2010	18.7	0.021	3.970
July 1, 2010	13.6	0.021	3.991
July 14, 2010	13	0.014	4.005
August 4, 2010	8.33	0.014	4.019
August 16, 2010	6.06	0.005	4.024
September 1, 2010	5.98	0.006	4.030
September 13, 2010	11.5	0.007	4.038
October 6, 2010	7.36	0.009	4.047
October 19, 2010	6.14	0.005	4.051
November 4, 2010	16.1	0.015	4.066
November 15, 2010	13.7	0.009	4.075
December 1, 2010	20.3	0.020	4.095
December 14, 2010	14.3	0.005	4.100
January 6, 2011	6.68	0.006	4.106
January 19, 2011	22.3	0.024	4.130
February 7, 2011	16.6	0.022	4.152
February 14, 2011	6.3	0.000	4.152
March 1, 2011	8.38	0.008	4.160
March 14, 2011	15.4	0.010	4.170

Table F-43
Cumulative Mass Removal
OU III Chemical/Animal Holes Sr-90 System

2021 BNL Groundwater Status Report

Sample Date	Influent Concentration (pCi/L)	Millicuries pumped	Cumulative mCi
April 5, 2011	9.49	0.018	4.188
April 18, 2011	7.28	0.005	4.193
May 5, 2011	15.8	0.017	4.210
May 19, 2011	19.5	0.027	4.237
June 2, 2011	15.6	0.021	4.257
June 13, 2011	8.3	0.006	4.264
July 6, 2011	13	0.021	4.285
July 18, 2011	15.5	0.015	4.300
August 3, 2011	10.7	0.012	4.312
August 15, 2011	7.14	0.006	4.318
September 8, 2011	19.8	0.030	4.348
September 27, 2011	13.2	0.014	4.362
October 4, 2011	15.8	0.006	4.368
October 17, 2011	9.82	0.006	4.374
November 2, 2011	12.1	0.011	4.385
November 15, 2011	14.2	0.018	4.403
December 6, 2011	12.2	0.022	4.424
December 13, 2011	6.71	0.002	4.427
January 4, 2012	12.3	0.017	4.444
January 18, 2012	12.6	0.021	4.465
February 1, 2012	8.51	0.010	4.476
February 14, 2012	6.34	0.003	4.480
March 1, 2012	4.41	0.002	4.483
March 13, 2012	14.5	0.004	4.485
April 3, 2012	12.1	0.003	4.489
April 16, 2012	5.06	0.006	4.492
May 2, 2012	7.55	0.011	4.499
May 16, 2012	8.4	0.012	4.510
June 5, 2012	8.27	0.002	4.523
June 19, 2012	3.55	0.010	4.525
July 11, 2012	7.16	0.009	4.535
July 24, 2012	8.15	0.002	4.545
August 1, 2012	4.13	0.002	4.547
August 13, 2012	3.39	0.009	4.550
September 5, 2012	6.13	0.010	4.559
September 17, 2012	8.43	0.005	4.569
October 4, 2012	4.51	0.002	4.575
October 16, 2012	2.59	0.002	4.577
November 5, 2012	4.04	0.006	4.584
November 19, 2012	5.41	0.007	4.592
December 4, 2012	5.37	0.007	4.600
December 18, 2012	2.52	0.002	4.602
January 2, 2013	1.33	0.001	4.601
January 15, 2013	4.94	0.007	4.608
January 22, 2013	4.43	0.003	4.611
February 4, 2013	4.24	0.005	4.615
February 20, 2013	1.98	0.001	4.617
March 5, 2013	4.98	0.003	4.619
March 27, 2013	7.58	0.007	4.626
April 2, 2013	6.54	0.002	4.628
April 15, 2013	2.06	0.001	4.629
May 1, 2013	2.69	0.002	4.632
May 14, 2013	5.95	0.010	4.642
June 3, 2013	4.11	0.009	4.651
June 17, 2013	1.09	0.001	4.652
July 2, 2013	3.07	0.003	4.655
July 15, 2013	11.8	0.010	4.665

Table F-43
Cumulative Mass Removal
OU III Chemical/Animal Holes Sr-90 System

2021 BNL Groundwater Status Report

Sample Date	Influent Concentration (pCi/L)	Millicuries pumped	Cumulative mCi
August 5, 2013	3.8	0.005	4.670
August 20, 2013	1.62	0.001	4.672
September 4, 2013	2.21	0.002	4.674
September 16, 2013	4.73	0.006	4.681
November 18, 2013	8.5	0.025	4.705
November 25, 2013	7.3	0.003	4.709
January 10, 2014	7.57	0.003	4.711
January 31, 2014	7.88	0.006	4.718
March 4, 2014	6.84	0.003	4.721
March 18, 2014	5.5	0.008	4.729
May 6, 2014	4.61	0.010	4.738
May 19, 2014	5.13	0.008	4.746
July 8, 2014	4.23	0.008	4.755
July 24, 2014	3.59	0.002	4.757
September 3, 2014	5.03	0.003	4.759
September 17, 2014	4.12	0.005	4.764
December 2, 2014	5.93	0.011	4.775
December 23, 2014	5.08	0.010	4.785
March 6, 2015	6.05	0.008	4.818
March 23, 2015	2.61	0.006	4.824
June 2, 2015	8.83	0.002	4.826
June 30, 2015	4.33	0.015	4.840
September 2, 2015	6.79	0.002	4.842
September 16, 2015	3.46	0.006	4.848
November 23, 2015	5.07	0.021	4.869
December 1, 2015	5.22	0.002	4.872
December 15, 2015	2.45	0.004	4.876
January 5, 2016	2.25	0.005	4.881
February 17, 2016	4.45	0.004	4.885
March 2, 2016	4.34	0.003	4.887
March 15, 2016	3.81	0.006	4.893
April 15, 2016	1.64	0.003	4.897
April 25, 2016	7	0.000	4.897
May 4, 2016	5.15	0.001	4.897
May 17, 2016	3.15	0.002	4.899
June 8, 2016	2.92	0.004	4.903
June 21, 2016	1.9	0.003	4.906
July 11, 2016	3.26	0.004	4.909
July 25, 2016	2.55	0.001	4.911
September 1, 2016	1.66	0.000	4.911
September 12, 2016	1.83	0.001	4.912
November 1, 2016	1.36	0.003	4.915
November 14, 2016	0.904	0.000	4.916
December 1, 2016	1.78	0.001	4.917
December 15, 2016	1.67	0.00001	4.917
January 15, 2017	2.69	0.00187	4.920
January 30, 2017	0.79	0.00055	4.921
March 15, 2017	3.42	0.00123	4.922
March 31, 2017	0.63	0.00028	4.923
June 6, 2017	2.31	0.00130	4.924
July 12, 2017	3	0.00155	4.925
July 25, 2017	1.37	0.00112	4.926
September 14, 2017	3.76	0.00160	4.928
September 26, 2017	1.17	0.00061	4.929
November 30, 2017	1	0.00085	4.930
January 9, 2018	2.63	0.00252	4.932
March 1, 2018	0.94	0.00039	4.932

Table F-43
Cumulative Mass Removal
OU III Chemical/Animal Holes Sr-90 System

2021 BNL Groundwater Status Report

Sample Date	Influent Concentration (pCi/L)	Millicuries pumped	Cumulative mCi
March 14, 2018	2.78	0.00115	4.934
May 2, 2018	3.45	0.00146	4.935
May 16, 2018	5.09	0.00215	4.937

*Systen in stand-by mode as of July 2018

Table F-44
Extraction Well VOC Data
OU VI EDB Pump and Treat System

2021 BNL Groundwater Status Report

Site ID: 000-503 (EW-1)

Chemical Name	Sample Date	Value	Detlim	Units	Depth	Qual
524.2 TVOC	01/05/21	1.23	0	UG/L	0	
Chloroform	01/05/21	1.23	0.5	UG/L	0	
524.2 TVOC	04/06/21	0.9	0	UG/L	0	
Chloroform	04/06/21	0.9	0.5	UG/L	0	
EDB	04/06/21	0.0142	0.0204	UG/L	0	J
8260 TVOC	07/07/21	0.91	0	UG/L	0	
Chloroform	07/07/21	0.91	0.5	UG/L	0	J
EDB	07/07/21	0.00962	0.019	UG/L	0	J
8260 TVOC	10/04/21	0.95	0	UG/L	0	
Chloroform	10/04/21	0.95	0.5	UG/L	0	J

Site ID : 000-504 (EW-2)

Chemical Name	Sample Date	Value	Detlim	Units	Depth	Qual
524.2 TVOC	01/05/21	1.34	0	UG/L	0	
Chloroform	01/05/21	1.34	0.5	UG/L	0	
EDB	01/05/21	0.0573	0.0189	UG/L	0	
524.2 TVOC	04/06/21	1.17	0	UG/L	0	
Chloroform	04/06/21	1.17	0.5	UG/L	0	
EDB	04/06/21	0.0167	0.0203	UG/L	0	J
8260 TVOC	07/07/21	0.93	0	UG/L	0	
Chloroform	07/07/21	0.93	0.5	UG/L	0	J
EDB	07/07/21	0.053	0.0189	UG/L	0	
8260 TVOC	10/04/21	0.78	0	UG/L	0	
Chloroform	10/04/21	0.78	0.5	UG/L	0	J
EDB	10/04/21	0.047	0.0193	UG/L	0	

J = Estimated Value below the method detection limit of 0.50 UG/L
B = Compound was found in both the sample and associated laboratory blank.

Table F-45
System Influent VOC Data
OU VI EDB Pump and Treat System

2021 BNL Groundwater Status Report

Site ID: 000-512 (Combined Influent)

Chemical Name	Sample Date	Value	Detlim	Units	Depth	Qual
524.2 TVOC	01/05/21	1.38	0	UG/L	0	
Chloroform	01/05/21	1.38	0.5	UG/L	0	
EDB	01/05/21	0.036	0.019	UG/L	0	
524.2 TVOC	02/04/21	1.35	0	UG/L	0	
Chloroform	02/04/21	1.35	0.5	UG/L	0	
EDB	02/04/21	0.0331	0.0203	UG/L	0	
524.2 TVOC	03/02/21	1.09	0	UG/L	0	
Chloroform	03/02/21	1.09	0.5	UG/L	0	
EDB	03/02/21	0.0415	0.0188	UG/L	0	
524.2 TVOC	04/06/21	0.87	0	UG/L	0	
Chloroform	04/06/21	0.87	0.5	UG/L	0	
EDB	04/06/21	0.0119	0.0201	UG/L	0	J
524.2 TVOC	05/04/21	1.04	0	UG/L	0	
Chloroform	05/04/21	1.04	0.5	UG/L	0	
EDB	05/04/21	0.0412	0.0203	UG/L	0	
524.2 TVOC	06/02/21	1.27	0	UG/L	0	
Chloroform	06/02/21	1.27	0.5	UG/L	0	
EDB	06/02/21	0.0302	0.0191	UG/L	0	
8260 TVOC	07/07/21	0.96	0	UG/L	0	
Chloroform	07/07/21	0.96	0.5	UG/L	0	J
EDB	07/07/21	0.0349	0.0188	UG/L	0	
8260 TVOC	08/03/21	0.96	0	UG/L	0	
Chloroform	08/03/21	0.96	0.5	UG/L	0	J
EDB	08/03/21	0.0272	0.0191	UG/L	0	
8260 TVOC	09/09/21	0.97	0	UG/L	0	
Chloroform	09/09/21	0.97	0.5	UG/L	0	
EDB	09/09/21	0.054	0.01	UG/L	0	
8260 TVOC	10/04/21	0.77	0	UG/L	0	
Chloroform	10/04/21	0.77	0.5	UG/L	0	J
EDB	10/04/21	0.028	0.0192	UG/L	0	
8260 TVOC	11/01/21	0.97	0	UG/L	0	
Chloroform	11/01/21	0.97	0.5	UG/L	0	J
EDB	11/01/21	0.0241	0.0192	UG/L	0	
8260 TVOC	12/02/21	0.66	0	UG/L	0	
Chloroform	12/02/21	0.66	0.5	UG/L	0	J
EDB	12/02/21	0.0239	0.0188	UG/L	0	

J - Estimated value.
B = Compound was found in both the sample and associated laboratory blank.

Table F-46
System Effluent VOC Data
OU VI EDB Pump and Treat System

2021 BNL Groundwater Status Report

Site ID: 000-510 (Effluent)

Chemical Name	Sample Date	Value	Detlim	Units	Depth	Qual
524.2 TVOC	01/05/21	0.59	0	UG/L	0	
Chloroform	01/05/21	0.59	0.5	UG/L	0	
524.2 TVOC	02/04/21	1.07	0	UG/L	0	
Chloroform	02/04/21	1.07	0.5	UG/L	0	
524.2 TVOC	03/02/21	0	0	UG/L	0	
524.2 TVOC	04/27/21	0.51	0	UG/L	0	
Chloroform	04/27/21	0.51	0.5	UG/L	0	
524.2 TVOC	05/04/21	0.57	0	UG/L	0	
Chloroform	05/04/21	0.57	0.5	UG/L	0	
524.2 TVOC	06/02/21	1.11	0	UG/L	0	
Chloroform	06/02/21	1.11	0.5	UG/L	0	
8260 TVOC	07/07/21	1.01	0	UG/L	0	
Chloroform	07/07/21	1.01	0.5	UG/L	0	
8260 TVOC	08/03/21	1	0	UG/L	0	
Chloroform	08/03/21	1	0.5	UG/L	0	
8260 TVOC	09/09/21	0	0	UG/L	0	
8260 TVOC	10/04/21	0	0	UG/L	0	
8260 TVOC	11/01/21	0.4	0	UG/L	0	
Chloroform	11/01/21	0.4	0.5	UG/L	0	J
8260 TVOC	12/02/21	0.63	0	UG/L	0	
Chloroform	12/02/21	0.63	0.5	UG/L	0	J

J = Estimated Value below the method detection limit of 0.50 UG/L

B = Compound was found in both the sample and associated laboratory blank.

Table F-47
Extraction Wells VOC and Tritium Data
OU III Tritium Pump and Recharge System

2021 BNL Groundwater Status Report

No extraction well samples collected in 2021.

APPENDIX G

USABILITY REPORTS

Attachment 2

Brookhaven National Laboratory

Analytical Data Package Verification Checklist

Project :	SITEWD - O3A
Sampling Contractor :	EPD Field Sampling Team
Analytical Laboratory :	Test America - Missouri
Analytical Method and/or Parameter :	524.2
Sample Delivery Group :	42624
COC No. / Sample IDs :	42624 / TB-3, 000-272, 000-271, 000-267, 000-268, 000-265, 000-531, 000-543, 000-280, 000-537, 000-538, 000-112, 000-114, 000-541, 000-278, 000-277, 000-530, 000-542
Date Sampled :	12/9/2020, 12/10/2020, 12/11/2020

	Satisfactory	Unsatisfactory	NA	Comments
Sample IDs :	X			
Detection Limits (CRDL) :		X		Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for

				Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Lab MDLs are lower than groundwater standards
Duplicates :			X	
Matrix Spike (MS/MSD) :			X	
MS/MSD Recoveries :			X	
Trip Blanks :		X		Bromoform, 0.14 UG/L. Associated samples did not have any positive result for this analyte
Field Blanks :			X	
Equipment Blanks :			X	
Method Blanks :		X		Methylene chloride, 0.488 UG/L. Naphthalene, 0.097 UG/L. Associated samples did not have any positive result for these analytes
Chain of Custody Forms :	X			
Field Sampling Logs :			X	
Holding Times :	X			
Non-Conformance Summary :			X	
Laboratory Control Standard :		X		LCS Methylene chloride response above upper control limit. LCS Methylene chloride response above upper control limit. Associated samples did not have any positive result for this analyte
Surrogates :	X			
Other :			X	

Reviewed by : Larry D. Singh (Subject Matter Expert) Date : 01/11/2021

Reviewed by : Larry D. Singh (Project Manager) Date : 01/11/2021

Site ID Verification Data

Sample ID	Site ID
42624-001	TB-3
42624-002	000-272
42624-003	000-271
42624-004	000-267
42624-005	000-268
42624-006	000-265
42624-007	000-531
42624-008	000-543
42624-009	000-280
42624-010	000-537
42624-011	000-538
42624-012	000-112
42624-013	000-114
42624-014	000-541
42624-015	000-278
42624-016	000-277
42624-017	000-530
42624-018	000-542

Triple Blank Verification Data

Sample ID	Compound	Prev Val	Prev Det Lim	New Val	New Det Lim	Lab Qual	New Qual
42624-001	Bromoform						

Attachment 1

Brookhaven National Laboratory

Analytical Data Package Verification Checklist

Project	OU3 - SB-P&T
Sampling Contractor	EPD Field Sampling Team
Analytical Laboratory	Test America - Missouri
Analytical Method	906.0
Sample Delivery Group	42687
COC No./Sample IDs	42687 / 121-41
Date Sampled	1/20/2021
Parameter(s)	Radionuclides

	Satisfactory	Unsatisfactory	NA	Comments
Sample IDs	X			
Detection Limits (CRDL)	X			
Duplicates			X	
Matrix Spike (MS/MSD)	X			
MS/MSD Recoveries	X			
Field Blanks			X	
Equipment Blanks			X	
Method Blanks	X			
Chain-of-Custody Forms	X			
Field Sampling Logs			X	
Holding Times	X			
Nonconformance			X	
Other			X	

Reviewed by : _____
(Project Manager)
Larry D. Singh

Date : _____
02/28/2021

Site ID Verification Data

Sample ID	Site ID
42687-001	
42687-001	121-41

Attachment 2

Brookhaven National Laboratory

Analytical Data Package Verification Checklist

Project :	OU8 - PFAS14
Sampling Contractor :	Dvirka & Bartilucci
Analytical Laboratory :	General Engineering
Analytical Method and/or Parameter :	EPA 537.1
Sample Delivery Group :	42730
COC No. / Sample IDs :	42730 / PFC-GP-88, FRB-1
Date Sampled :	1/25/2021, 1/26/2021

	Satisfactory	Unsatisfactory	NA	Comments
Sample IDs :	X			
Detection Limits (CRDL) :	X			
Duplicates :			X	
Matrix Spike (MS/MSD) :			X	
MS/MSD Recoveries :			X	
Trip Blanks :			X	
Field Blanks :	X			
Equipment Blanks :			X	
Method Blanks :	X			
Chain of Custody Forms :	X			
Field Sampling Logs :			X	
Holding Times :	X			
Non-Conformance Summary :			X	
Laboratory Control Standard :		X		LCS Fluorotelomer sulfonate 6:2 (6:2 FTS) response above upper control limit. Associated samples have been qualified as needed
Surrogates :	X			
Other :			X	

Reviewed by : Larry D. Singh
(Subject Matter Expert)

Date : 03/01/2021

Reviewed by : _____
(Project Manager)

Date : _____

Site ID Verification Data

Sample ID	Site ID
42730-001	PFC-GP-88
42730-002	PFC-GP-88
42730-003	PFC-GP-88
42730-004	PFC-GP-88
42730-005	PFC-GP-88
42730-006	PFC-GP-88
42730-007	PFC-GP-88
42730-008	PFC-GP-88
42730-009	PFC-GP-88
42730-010	FRB-1

Attachment 2

Brookhaven National Laboratory

Analytical Data Package Verification Checklist

Project :	OU3 - EM-50
Sampling Contractor :	EPD Field Sampling Team
Analytical Laboratory :	Test America - Missouri
Analytical Method and/or Parameter :	524.2
Sample Delivery Group :	42745
COC No. / Sample IDs :	42745 / TB-1, 000-231, 000-233, 000-235, 000-237, 000-239, 000-241, 000-243
Date Sampled :	1/27/2021

	Satisfactory	Unsatisfactory	NA	Comments
Sample IDs :	X			
Detection Limits (CRDL) :		X		Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met.

				Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Lab MDLs are lower than groundwater standards
Duplicates :			X	
Matrix Spike (MS/MSD) :			X	
MS/MSD Recoveries :			X	
Trip Blanks :			X	
Field Blanks :			X	
Equipment Blanks :			X	
Method Blanks :	X			
Chain of Custody Forms :	X			
Field Sampling Logs :			X	
Holding Times :	X			
Non-Conformance Summary :			X	
Laboratory Control Standard :	X			
Surrogates :	X			
Other :			X	

Reviewed by : Larry D. Singh
(Subject Matter Expert)

Date : 02/19/2021

Reviewed by : _____
(Project Manager)

Date : _____

Site ID Verification Data

Sample ID	Site ID
42745-001	TB-1
42745-002	000-231
42745-003	000-233
42745-004	000-235
42745-005	000-237
42745-006	000-239
42745-007	000-241
42745-008	000-243

Attachment 2

Brookhaven National Laboratory

Analytical Data Package Verification Checklist

Project :	OU3 - SB-P&T
Sampling Contractor :	EPD Field Sampling Team
Analytical Laboratory :	Test America - Missouri
Analytical Method and/or Parameter :	524.2
Sample Delivery Group :	42770
COC No. / Sample IDs :	42770 / 121-41
Date Sampled :	2/10/2021

	Satisfactory	Unsatisfactory	NA	Comments
Sample IDs :	X			
Detection Limits (CRDL) :		X		Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Lab MDLs are lower than groundwater standards
Duplicates :			X	
Matrix Spike (MS/MSD) :			X	
MS/MSD Recoveries :			X	
Trip Blanks :			X	
Field Blanks :			X	
Equipment Blanks :			X	
Method Blanks :	X			
Chain of Custody Forms :	X			
Field Sampling Logs :			X	
Holding Times :	X			
Non-Conformance Summary :			X	
Laboratory Control Standard :			X	
Surrogates :	X			
Other :			X	

Reviewed by : Larry D. Singh (Subject Matter Expert) Date : 03/10/2021

Reviewed by : _____ (Project Manager) Date : _____

Site ID Verification Data

Sample ID	Site ID
42770-001	
42770-001	121-41

Attachment 2

Brookhaven National Laboratory

Analytical Data Package Verification Checklist

Project :	SITEWD - O3A
Sampling Contractor :	EPD Field Sampling Team
Analytical Laboratory :	Test America - Missouri
Analytical Method and/or Parameter :	524.2
Sample Delivery Group :	42786
COC No. / Sample IDs :	42786 / TB-1, 000-528, 000-548
Date Sampled :	2/18/2021

	Satisfactory	Unsatisfactory	NA	Comments
Sample IDs :	X			
Detection Limits (CRDL) :		X		Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Contract Required Detection Limit for 1,2,4-Trichlorobenzene was not met. Contract Required Detection Limit for Methyl bromide was not met. Contract Required Detection Limit for Methylene chloride was not met. Contract Required Detection Limit for Dichlorodifluoromethane was not met. Contract Required Detection Limit for 1,2,3-Trichlorobenzene was not met. Contract Required Detection Limit for Naphthalene was not met. Contract Required Detection Limit for DBCP was not met. Lab MDLs are lower than groundwater standards
Duplicates :			X	
Matrix Spike (MS/MSD) :			X	
MS/MSD Recoveries :			X	
Trip Blanks :		X		Styrene, 0.15 UG/L. Methyl chloride, 0.43 UG/L. Associated samples did not have any positive result for these analytes
Field Blanks :			X	
Equipment Blanks :			X	
Method Blanks :	X			

Chain of Custody Forms :	X			
Field Sampling Logs :			X	
Holding Times :	X			
Non-Conformance Summary :			X	
Laboratory Control Standard :	X			
Surrogates :	X			
Other :			X	

Reviewed by : Larry D. Singh
(Subject Matter Expert)

Date : 03/08/2021

Reviewed by : Larry D. Singh
(Project Manager)

Date : 03/08/2021

Site ID Verification Data

Sample ID	Site ID
42786-001	TB-1
42786-002	000-528
42786-003	000-548

Triple Blank Verification Data

Sample ID	Compound	Prev Val	Prev Det Lim	New Val	New Det Lim	Lab Qual	New Qual
42786-001	Methyl chloride						
42786-001	Styrene						

Attachment 1

Brookhaven National Laboratory

Analytical Data Package Verification Checklist

Project	OU3 - SB-P&T
Sampling Contractor	EPD Field Sampling Team
Analytical Laboratory	Test America - Missouri
Analytical Method	906.0
Sample Delivery Group	42826
COC No./Sample IDs	42826 / 121-41, TB-1
Date Sampled	3/3/2021
Parameter(s)	Radionuclides

	Satisfactory	Unsatisfactory	NA	Comments
Sample IDs	X			
Detection Limits (CRDL)	X			
Duplicates			X	
Matrix Spike (MS/MSD)			X	
MS/MSD Recoveries			X	
Field Blanks			X	
Equipment Blanks			X	
Method Blanks	X			
Chain-of-Custody Forms	X			
Field Sampling Logs			X	
Holding Times	X			
Nonconformance			X	
Other			X	

Reviewed by : _____ Date : _____
(Project Manager)

Larry D. Singh EI.80.QR.21 03/30/2021

Site ID Verification Data

Sample ID	Site ID
42826-001	
42826-001	121-41
42826-003	TB-1

Attachment 2

Brookhaven National Laboratory

Analytical Data Package Verification Checklist

Project :	SITEWD - LIPA
Sampling Contractor :	EPD Field Sampling Team
Analytical Laboratory :	Test America-Colorado
Analytical Method and/or Parameter :	524.2
Sample Delivery Group :	43080
COC No. / Sample IDs :	43080 / TB-1, 000-425, 000-131, 000-451, 000-452, 000-448
Date Sampled :	6/2/2021, 6/3/2021

	Satisfactory	Unsatisfactory	NA	Comments
Sample IDs :	X			
Detection Limits (CRDL) :	X			
Duplicates :			X	
Matrix Spike (MS/MSD) :			X	
MS/MSD Recoveries :			X	
Trip Blanks :	X			
Field Blanks :			X	
Equipment Blanks :			X	
Method Blanks :	X			
Chain of Custody Forms :	X			
Field Sampling Logs :			X	
Holding Times :	X			
Non-Conformance Summary :			X	
Laboratory Control Standard :			X	
Surrogates :	X			
Other :			X	

Reviewed by : Larry D. Singh
(Subject Matter Expert)

Date : 07/10/2021

Reviewed by : Larry D. Singh
(Project Manager)

Date : 07/10/2021

Site ID Verification Data

Sample ID	Site ID
43080-001	TB-1
43080-002	000-425
43080-003	000-131
43080-004	000-451
43080-005	000-452
43080-006	000-448

Attachment 2

Brookhaven National Laboratory

Analytical Data Package Verification Checklist

Project :	SITEWD - APT
Sampling Contractor :	EPD Field Sampling Team
Analytical Laboratory :	Test America-Colorado
Analytical Method and/or Parameter :	524.2
Sample Delivery Group :	43116
COC No. / Sample IDs :	43116 / TB-1, 800-100, 800-108, 800-103, 800-101, 800-102, 800-104, 800-105, 800-131, 800-127, 800-128, 800-126
Date Sampled :	6/14/2021, 6/15/2021, 6/16/2021

	Satisfactory	Unsatisfactory	NA	Comments
Sample IDs :	X			
Detection Limits (CRDL) :	X			
Duplicates :			X	
Matrix Spike (MS/MSD) :			X	
MS/MSD Recoveries :			X	
Trip Blanks :	X			
Field Blanks :			X	
Equipment Blanks :			X	
Method Blanks :	X			
Chain of Custody Forms :	X			
Field Sampling Logs :			X	
Holding Times :	X			
Non-Conformance Summary :			X	
Laboratory Control Standard :	X			
Surrogates :	X			
Other :			X	

Reviewed by : Larry D. Singh
(Subject Matter Expert)

Date : 07/28/2021

Reviewed by : Larry D. Singh
(Project Manager)

Date : 07/28/2021

Site ID Verification Data

Sample ID	Site ID
43116-001	TB-1
43116-002	800-100
43116-003	800-108
43116-004	800-103
43116-005	800-101
43116-006	800-102
43116-007	800-104
43116-008	800-105
43116-009	800-131
43116-010	800-127
43116-011	800-128
43116-012	800-126

Attachment 2

Brookhaven National Laboratory

Analytical Data Package Verification Checklist

Project :	SITEWD - CLF
Sampling Contractor :	EPD Field Sampling Team
Analytical Laboratory :	General Engineering
Analytical Method and/or Parameter :	EPA 8260D Low Level
Sample Delivery Group :	43231
COC No. / Sample IDs :	43231 / TB-1, 087-09, 088-109, 088-110, 087-23
Date Sampled :	7/28/2021

	Satisfactory	Unsatisfactory	NA	Comments
Sample IDs :	X			
Detection Limits (CRDL) :	X			
Duplicates :			X	
Matrix Spike (MS/MSD) :	X			
MS/MSD Recoveries :	X			
Trip Blanks :		X		Methylene chloride, 1.05 UG/L. associated samples have been qualified as needed
Field Blanks :			X	
Equipment Blanks :			X	
Method Blanks :	X			
Chain of Custody Forms :	X			
Field Sampling Logs :			X	
Holding Times :	X			
Non-Conformance Summary :			X	
Laboratory Control Standard :		X		LCS Dichlorodifluoromethane response above upper control limit. associated samples do not have any positive results for this analyte
Surrogates :	X			
Other :			X	

Reviewed by : Larry D. Singh (Subject Matter Expert) Date : 08/31/2021

Reviewed by : Larry D. Singh (Project Manager) Date : 08/31/2021

Site ID Verification Data

Sample ID	Site ID
43231-001	TB-1
43231-002	087-09
43231-003	
43231-003	
43231-003	088-109
43231-004	088-110
43231-005	087-23

Triple Blank Verification Data

Sample ID	Compound	Prev Val	Prev Det Lim	New Val	New Det Lim	Lab Qual	New Qual
43231-001	Methylene chloride						
43231-002	Methylene chloride	1.26	0.50	1.26	1.26	J	U
43231-003	Methylene chloride	1.24	0.50	1.24	1.24	J	U
43231-004	Methylene chloride	1.23	0.50	1.23	1.23	J	U
43231-005	Methylene chloride	1.18	0.50	1.18	1.18	J	U

Attachment 2

Brookhaven National Laboratory

Analytical Data Package Verification Checklist

Project :	OU3 - B96
Sampling Contractor :	EPD Field Sampling Team
Analytical Laboratory :	Test America-Colorado
Analytical Method and/or Parameter :	6020A, 8260C
Sample Delivery Group :	43354
COC No. / Sample IDs :	43354 / 095-151, 095-152, TB-1
Date Sampled :	9/14/2021

	Satisfactory	Unsatisfactory	NA	Comments
Sample IDs :	X			
Detection Limits (CRDL) :	X			
Duplicates :			X	
Matrix Spike (MS/MSD) :			X	
MS/MSD Recoveries :			X	
Trip Blanks :	X			
Field Blanks :			X	
Equipment Blanks :			X	
Method Blanks :		X		Methylene chloride, 0.33 UG/L. Samples did not have any positive results for this analyte
Chain of Custody Forms :	X			
Field Sampling Logs :			X	
Holding Times :	X			
Non-Conformance Summary :			X	
Laboratory Control Standard :	X			
Surrogates :	X			
Other :			X	

Reviewed by : Larry D. Singh
(Subject Matter Expert)

Date : 10/20/2021

Reviewed by : Larry D. Singh
(Project Manager)

Date : 10/20/2021

Site ID Verification Data

Sample ID	Site ID
43354-001	095-151
43354-002	095-152
43354-003	TB-1

Attachment 1

Brookhaven National Laboratory

Analytical Data Package Verification Checklist

Project	SITEWD - O3M
Sampling Contractor	EPD Field Sampling Team
Analytical Laboratory	Test America-Colorado
Analytical Method	906.0
Sample Delivery Group	43457
COC No./Sample IDs	43457 / TB-1, 104-36, 104-37, 104-11, 105-68, 104-38, 113-29, 105-53, 113-22, 105-66, 113-30, 105-67, 113-07, 105-25, 113-08, 113-17, 106-56, 113-31, 113-11, 105-44, 113-18, 113-09, 113-19, FB-1, BD-1, 114-12
Date Sampled	11/1/2021, 11/2/2021, 11/3/2021
Parameter(s)	Radionuclides

	Satisfactory	Unsatisfactory	NA	Comments
Sample IDs	X			
Detection Limits (CRDL)	X			
Duplicates			X	
Matrix Spike (MS/MSD)			X	
MS/MSD Recoveries			X	
Field Blanks			X	
Equipment Blanks			X	
Method Blanks		X		Tritium, 1068 PCI/L. Associated samples do not have any positive results for this analyte
Chain-of-Custody Forms	X			
Field Sampling Logs			X	
Holding Times	X			
Nonconformance			X	
Other			X	

Reviewed by : Larry D. Singh
(Project Manager)

Date : 12/10/2021

Site ID Verification Data

Sample ID	Site ID
43457-001	TB-1
43457-002	104-36
43457-003	104-37
43457-004	104-11
43457-005	105-68
43457-006	104-38
43457-007	113-29
43457-008	105-53
43457-009	113-22
43457-010	105-66
43457-011	113-30
43457-012	105-67
43457-013	113-07
43457-014	105-25
43457-015	113-08
43457-016	113-17
43457-017	106-56
43457-018	113-31
43457-019	113-11
43457-020	105-44
43457-020	
43457-021	113-18
43457-022	113-09
43457-022	113-09
43457-022	113-09
43457-023	113-19
43457-024	FB-1
43457-025	BD-1
43457-026	114-12

APPENDIX H

MODELING

REPORTS

Memo

SUBJECT
Assessment of OU VI EDB Capture and Cleanup Timeframe

DATE
May 3, 2021

DEPARTMENT
ENVIRONMENT

COPIES TO
Art Zahradnik, Arcadis
File

TO
Vinnie Racaniello, BNL
Bill Dorsch, BNL

OUR REF

PROJECT NUMBER
30066636.00002

NAME
Rob Porsche
631.391.5223
robert.porsche@arcadis.com

Arcadis evaluated the Operable Unit (OU) VI ethylene dibromide (EDB) off-site plume and remedial system in support of Brookhaven National Laboratory's (BNL) Five-Year Review considering recently collected data. Originally, Arcadis was planning to use modeling to aid in the assessment of the remedial system to achieve the cleanup goals in the specified timeframe, specifically:

- if the OU VI EDB off-site remedial system is achieving capture of EDB impacts; and
- if the ROD-required clean up timeframe of 2030 to reach the groundwater standard of 0.05 micrograms per Liter (µg/L) will be achieved.

However, based on review of the recent data collected in 2020 and 2021, modeling was not considered to be necessary to assess OU VI EDB capture and cleanup timeframe for purposes of the Five-Year Review as further described below. Therefore, this memo provides a technical assessment of capture and cleanup timeframe based on an understanding of the updated current hydrogeologic conditions, including groundwater quality.

Background

The OU VI EDB Treatment System addresses an EDB plume in off-site groundwater extending south of North Street for approximately 2,500 ft (Figure 3.4-1). EDB was used during the 1970s as a fumigant for the BNL Biology Department's biology fields located in the southeastern portion of the site. EDB has not been detected on BNL property since 2009. The groundwater remediation system to address the off-site EDB plume began operations in August 2004. The OU VI EDB Treatment System includes 2 extraction wells and 2 recharge wells.

As indicated on Figure 3.5-4, in the last 21 years, the EDB contamination has migrated several thousand feet south and overall concentration has declined as portions of the plume are captured by extraction wells EW-1E and EW-2E. As is shown on Figure 3.4-3, the peak concentrations have generally migrated through most monitoring wells leaving relatively low levels of EDB concentrations remaining in the aquifer.

However, there was a concern that further EDB groundwater contamination may be deeper in the aquifer than is currently being monitored (Figure 3.4-2). The existing monitoring well network is generally screened between 100 and 150 ft below ground surface (bgs). Additional groundwater investigation activities were conducted in 2020 and 2021 to further delineate the aquifer deeper than the existing monitoring well and hydraulic capture network.

Vinnie Racaniello
Bill Dorsch
Brookhaven National Laboratory
May 3, 2021

Current Hydrogeologic Conditions

The original interpretation of hydrogeologic conditions in the vicinity of OU VI EDB plume extrapolated the presence of the Gardiners Clay and Gardiners Clay-Silt between the Upper Glacial aquifer and the Magothy aquifer, including in the vicinity of OU VI EDB Treatment System. Based on Vertical Profile boring EDB VP-1-2020 (drilled and sampled in August/September 2020), it was noted that EDB impacts appeared deeper than had been previously understood, with EDB impacts noted in what was originally interpreted as the Gardiners Clay-Silt and Magothy aquifer. These data suggested the need for additional characterization of both geology and extent of EDB impacts, particularly at depth.

Three additional vertical profile borings were drilled and sampled March/April 2021.

- EDB-VP-01-2021,
- EDB-VP-02-2021, and
- EDB-VP-03-2021.

Hydrogeologic data from these more recently completed profile borings were used to update Hydrogeologic Cross Section Q-Q' (Figure 3.4-2), which focuses on the offsite OU VI EDB Area and is roughly aligned North to South through the axis of the OU VI EDB plume.

The data collected from these boring significantly refined the understanding of local hydrogeologic conditions. Specifically, this vertical profile boring set confirmed the presence of a locally continuous Upper Glacial Silt and Clay deposit, approximately 10 ft thick, ranging in elevation from about -75 to -85 ft msl (approximately 145 -155 ft bgs). The presence of this silt deposit was evident in the gamma logs collected at each of the profile borings. The boring logs indicated the following:

- This zone was primarily silty sand, as clay was not noted in the boring logs,
- The Gardiners Clay and Gardiners Clay- Silt were not present such that the Upper Glacial aquifer was directly above the Magothy aquifer, and
- The Upper Glacial aquifer extended to approximately elevation -135 ft msl, approximately 50 ft deeper than the original interpretation.

In addition to refining the understanding of local geology, the vertical profile borings indicated that EDB was present at concentrations of more than 1.4 µg/L (based on discrete grab samples) below the newly recognized Upper Glacial Silt and Clay deposit, and the EDB plume extended to depths of up to 60 feet below the remedial systems' extraction wells (i.e., EW-1E and EW-2E). The vertical profile boring sampling also indicated these newly identified deeper EDB impacts do not extend as far south as the existing bypass monitoring wells 000-519 and 000-527, located approximately 400 ft downgradient of extraction well EW-2E.

Capture Assessment

Effectively, the EDB impacts below the Upper Glacial Silt and Clay deposit have been interpreted to be beyond the hydraulic influence of the EDB remedial system. The Upper Glacial Silt and Clay deposit will impede the vertical movement of groundwater and will limit the vertical extent of the capture zones associated with extraction wells EW-1E and EW-2E. In addition, the vertical anisotropy of the Upper Glacial aquifer, generally considered to be a ratio of 10:1 (horizontal: vertical) in the Regional Groundwater Flow Model, also limits the vertical extent of capture zones. Lastly, although water level data for monitoring well clusters in the vicinity were not reviewed,

downward vertical hydraulic gradients are expected given regional groundwater conditions and local treated water recharge through nearby diffusion wells associated with the OU VI EDB Treatment System. Such vertical hydraulic gradients are unlikely to be overcome by pumping to the degree necessary to achieve an additional 50 to 60 ft of capture vertically. As such, it is unlikely this deep portion of the EDB plume is captured by the current OUV EDB Treatment System. The updated hydrogeologic conditions, including groundwater quality, are significant enough to change the original basis of design for the OU VI EDB Treatment System.

Cleanup Timeframe Assessment

The cleanup timeframe assessment considered an overall look at groundwater quality changes over time, specifically overall historic plume migration and specific EDB trends in monitoring wells, as documented by the existing monitoring well network and summarized on Figures 3.4-4 and 3.4-3, respectively.

Upon high-level review of Figure 3.4-4, it appears that the center of mass of the EDB plume migrated approximately 2,200 ft from 1999 to 2020. This bulk movement yields an average velocity of about 0.5 ft/day. Based on this average velocity, it would take low level impacts near the standard of 0.05 µg/L at monitoring wells 000-284 and 000-283 approximately 9 to 10 years to travel approximately 1,700 ft to the extraction wells. Although there is uncertainty in the actual location of the trailing edge, it is possible that the trailing edge would take longer to migrate to the extraction wells, pushing the cleanup timeframe past 2030.

Upon closer review of Figure 3.4-3, it appears the movement of the plume off-site has slowed with continued migration south of North Street towards the extraction wells. Comparison of peak EDB concentrations between monitoring wells 000-209 and 000-284 suggests the EDB plume moved approximately 800 ft over 3 years (1999 to 2003), yielding an average velocity of approximately 0.73 ft/day. However, comparison of peak EDB concentrations between monitoring wells 000-284 and 000-178 suggest the EDB plume moved an additional 800 ft south over 10 years (2003 to 2013), yielding an average velocity of approximately 0.22 ft/day. At this velocity, it would take low level impacts near the standard of 0.05 µg/L at monitoring wells 000-284 approximately 21 years to travel approximately 1,700 ft to extraction well EW-2E.

This reduction in average velocity from north to south does align with the recently observed hydrogeologic conditions described above in the vicinity south of monitoring well 000-284 (Figure 3.4-2), specifically the presence of the Upper Glacial Silt and Clay deposit. In addition to impeding vertical flow, this unit would also impede horizontal flow relative to the sandier portions of the Upper Glacial aquifer above and below. The average velocity of 0.22 ft/day is reasonable when calculating a hydraulic conductivity representative of the lower horizons of the Upper Glacial aquifer in this area. Assuming a hydraulic gradient of 0.001 ft/ft (based on site-wide water table configuration mapping) and a porosity of 30 percent, this velocity represents a hydraulic conductivity of approximately 66 ft/day, which is more typical of Magothy aquifer sediments. However, this hydraulic conductivity is reasonable considering the presence of the Upper Glacial Silt and Clay deposit in the lower horizons of the Upper Glacial aquifer where EDB impacts are migrating as opposed to 200 to 250 ft/day typically used for the Upper Glacial aquifer in the current Regional Groundwater Flow Model in this area.

Based on this assessment, it does not seem likely the ROD-required clean up timeframe of 2030 to reach the groundwater standard of 0.05 micrograms per Liter (µg/L) will be achieved by operation of the current remedial system, even if it was providing full capture of the newly-identified EDB impacts beyond the depths originally anticipated.

Vinnie Racaniello
Bill Dorsch
Brookhaven National Laboratory
May 3, 2021

Summary

In summary, the current hydrogeologic conditions, including groundwater quality, based on the recently collected 2020 and 2021 data represent a significant update such that modeling was not needed to conduct a technical assessment in support of BNL's Five-Year Review. Furthermore, the technical assessment that was completed, factoring the current hydrogeologic conditions (including groundwater quality), indicated the following:

- The OU VI EDB system is not likely to achieve capture without additional extraction wells targeting the newly-identified deeper EDB impacts.
- The OU VI EDB system is not likely to achieve the ROD-required clean up timeframe of 2030 without additional enhancements or modifications (e.g., additional extraction wells upgradient of existing extraction wells).

Although modeling was not necessary for the current technical assessment, an update of the Regional Groundwater Flow Model reflecting the current hydrogeologic conditions in the OU VI EDB off-site plume area should be completed before continuing to use the model to support an evaluation of extraction/recharge scenarios expanding or modifying the current remedial system so that capture and cleanup timeframe objectives for OU VI EDB plume are achieved.

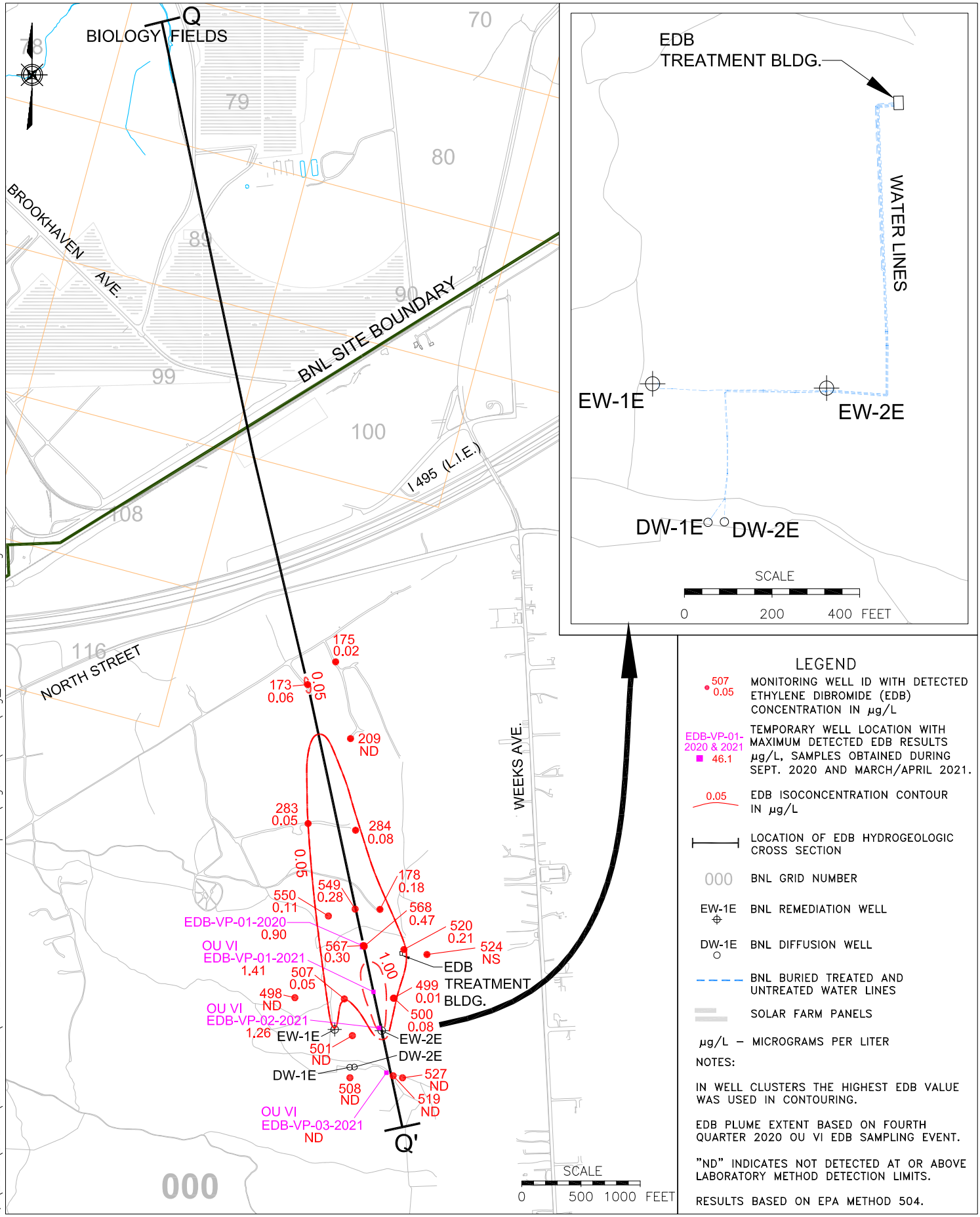
Enc.

Figure 3.4-1. OU VI EDB Plume Distribution (*April 2021 Draft*)

Figure 3.4-2. OU VI Hydrogeologic Cross-Section (Q-Q') (*April 2021 Draft*)

Figure 3.4-3. OU VI Historical EDB Trends (*April 2021 Draft*)

Figure 3.4-4. OU VI EDB Plume Comparison 1999-2020 (*April 2021 Draft*)



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BROOKHAVEN NATIONAL LABORATORY
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU VI EDB PLUME DISTRIBUTION

2020 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	04/13/21	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD		–

FIGURE NO.: 3.4–1

NORTH
Q

SOUTH
Q'

LONG ISLAND EXPRESSWAY

NORTH STREET

ELEVATION (In Feet; Mean Sea Level)

100
50
0
−50
−100
−150
−200

000−175
000−173
000−209
000−284
EDB−VP−01−2020
000−549
EDB−VP−01−2021
000−567
000−568
000−499
000−500
EDB−VP−02−2021
EW−2E
DW−2E
EDB−VP−03−2021
000−519
000−527

EDBVP−01−2018

DW−2E

EW−2E

0.02
0.06
0.05
ND
0.08
0.28
0.30
0.47
0.01
0.08
1.00
0.05

ND
.011
.0227
.0828
.279
.727
.903
.197
.0286
.027
ND

ND
.059
.099
.297
1.41
.892
.048
ND
ND

ND
.011
.068
.167
.54
.976
1.26
.521
.343

ND

0.21
0.26
0.29
0.57
0.05

?

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LEGEND

Upper Glacial aquifer

- UG Upper Glacial Sands
- UC Upper Glacial Silts & Clays
- UU Upton Unit

Gardiners Clay

- GL Gardiners Clay
- GS Gardiners Clay – Silt

Magothy aquifer

- MA Magothy Sands and Clay
- MB Magothy Brown Clay
- MC Magothy Clays (undifferentiated)
- MO Magothy – OTHER

000−500 BNL Well ID

ND Indicates not detected at or above laboratory method detection limits

NS Indicates not sampled

.080 Ethylene dibromide (EDB) Concentration (µg/L)

0.05 EDB Contour (µg/L) (Dashed Where Inferred)

µg/L – Micrograms Per Liter

Water Table As Of JAN. 8 – Jan. 10, 2020

Monitoring Well Screen

Extraction Well Screen

HORIZONTAL SCALE
0 300 600

Monitoring Well IDs are stacked in order of the depth of the well from shallow to deep

000−499
000−500

NOTES:

1) GEOLOGIC INFORMATION SHOWN IS BASED ON ADDITIONAL EXPLORATIONS (e.g., HYDROPUNCHES, GEOPROBES, VERTICAL PROFILES, AND/OR TEST WELLS) DOCUMENTED IN PREVIOUS, MORE DETAILED REPORTS.

2) EDB EXTENT IS BASED ON FOURTH QUARTER 2020 OU VI SAMPLING EVENTS.

3) RESULTS BASED ON EPA METHOD 504.

BROOKHAVEN NATIONAL LABORATORY

ENVIRONMENTAL PROTECTION DIVISION

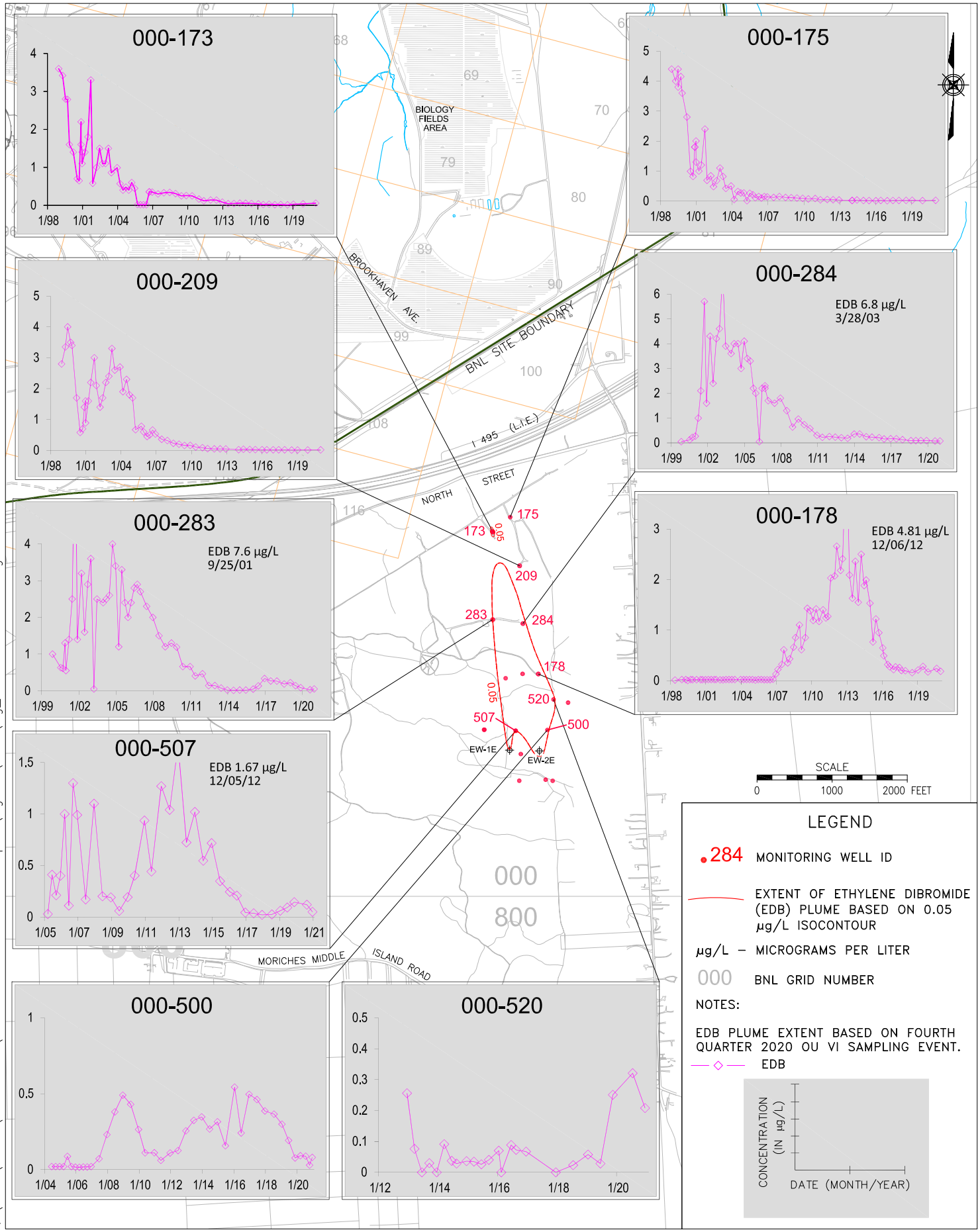
TITLE:

OU VI
EDB HYDROGEOLOGIC CROSS SECTION (Q–Q')

2020 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	25:1	04/14/21	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD		–

FIGURE NO.: 3.4–2



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BROOKHAVEN NATIONAL LABORATORY
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU VI HISTORICAL EDB TRENDS

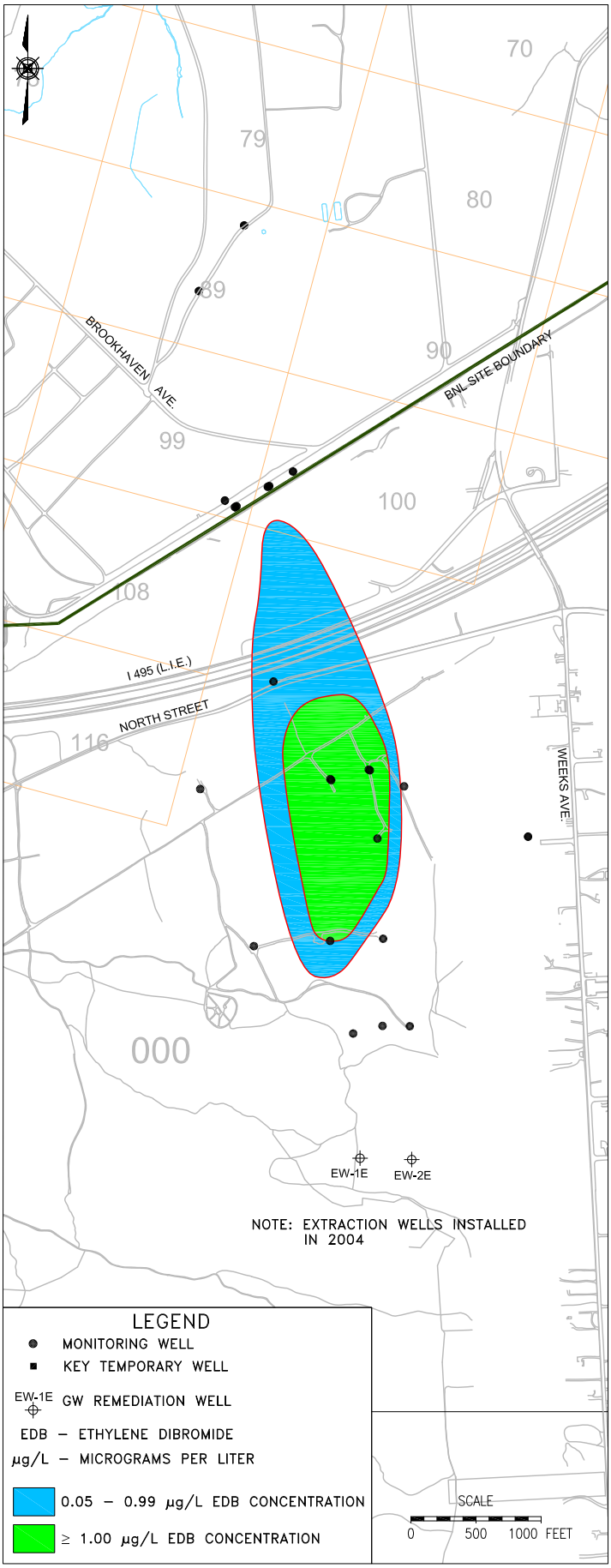
2020 BNL GROUNDWATER STATUS REPORT

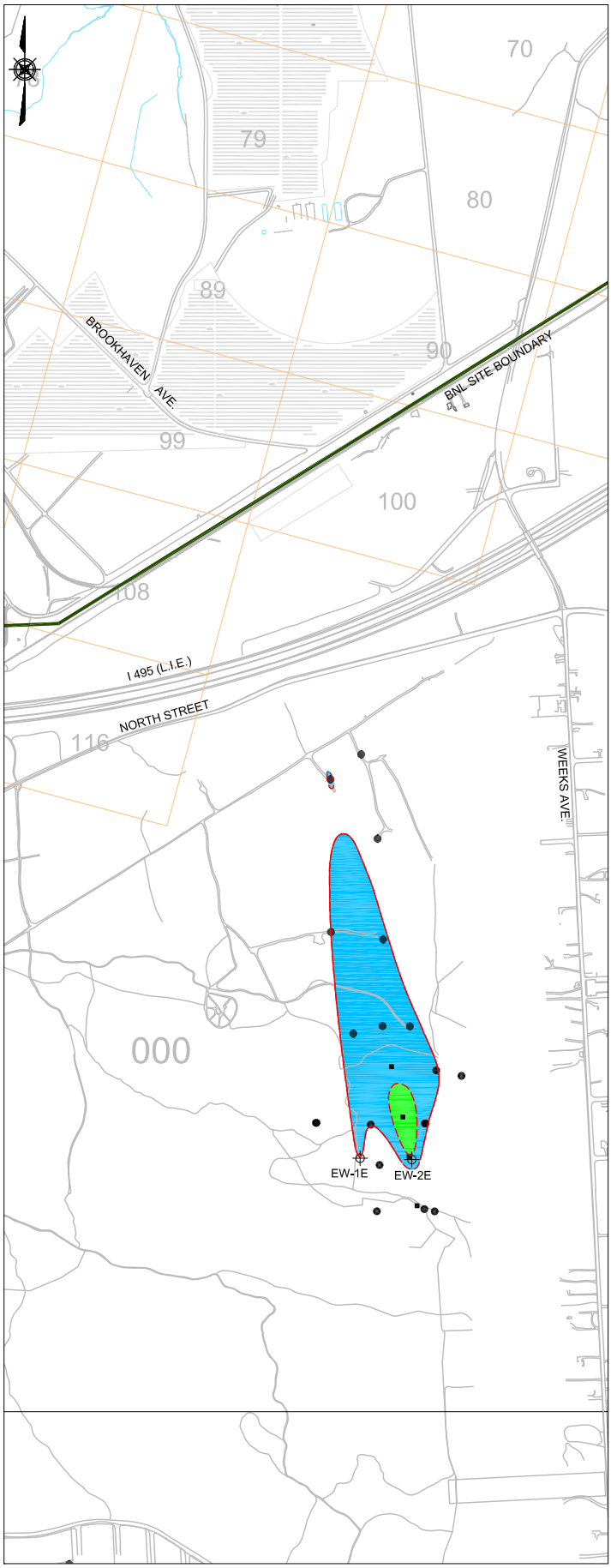
DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	04/13/21	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.4-3

1999 EDB PLUME DISTRIBUTION

2020 EDB PLUME DISTRIBUTION





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BROOKHAVEN NATIONAL LABORATORY

ENVIRONMENTAL PROTECTION DIVISION

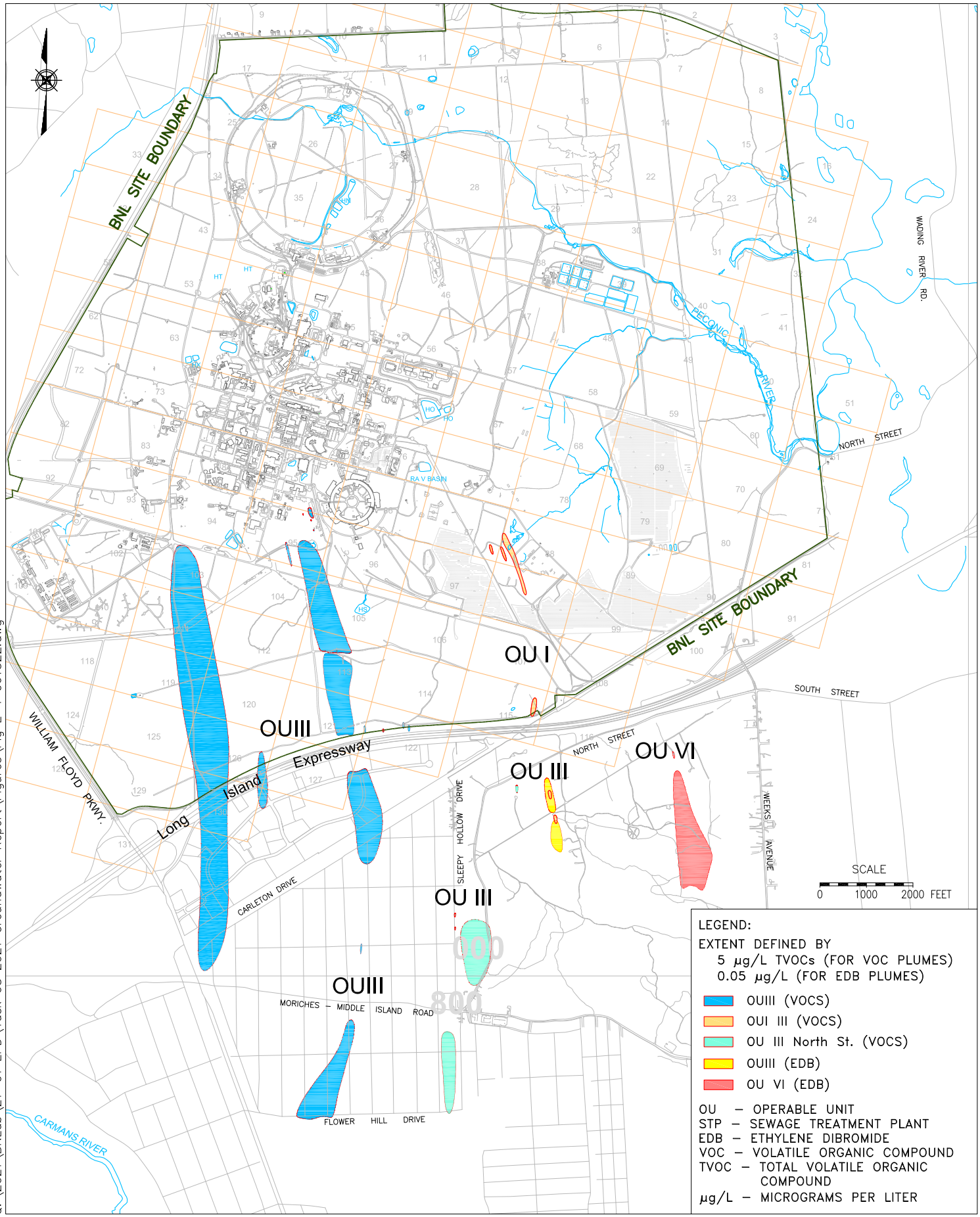
TITLE:

OU VI
EDB PLUME COMPARISON
1999 – 2020

2020 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	04/13/21	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.4-4



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

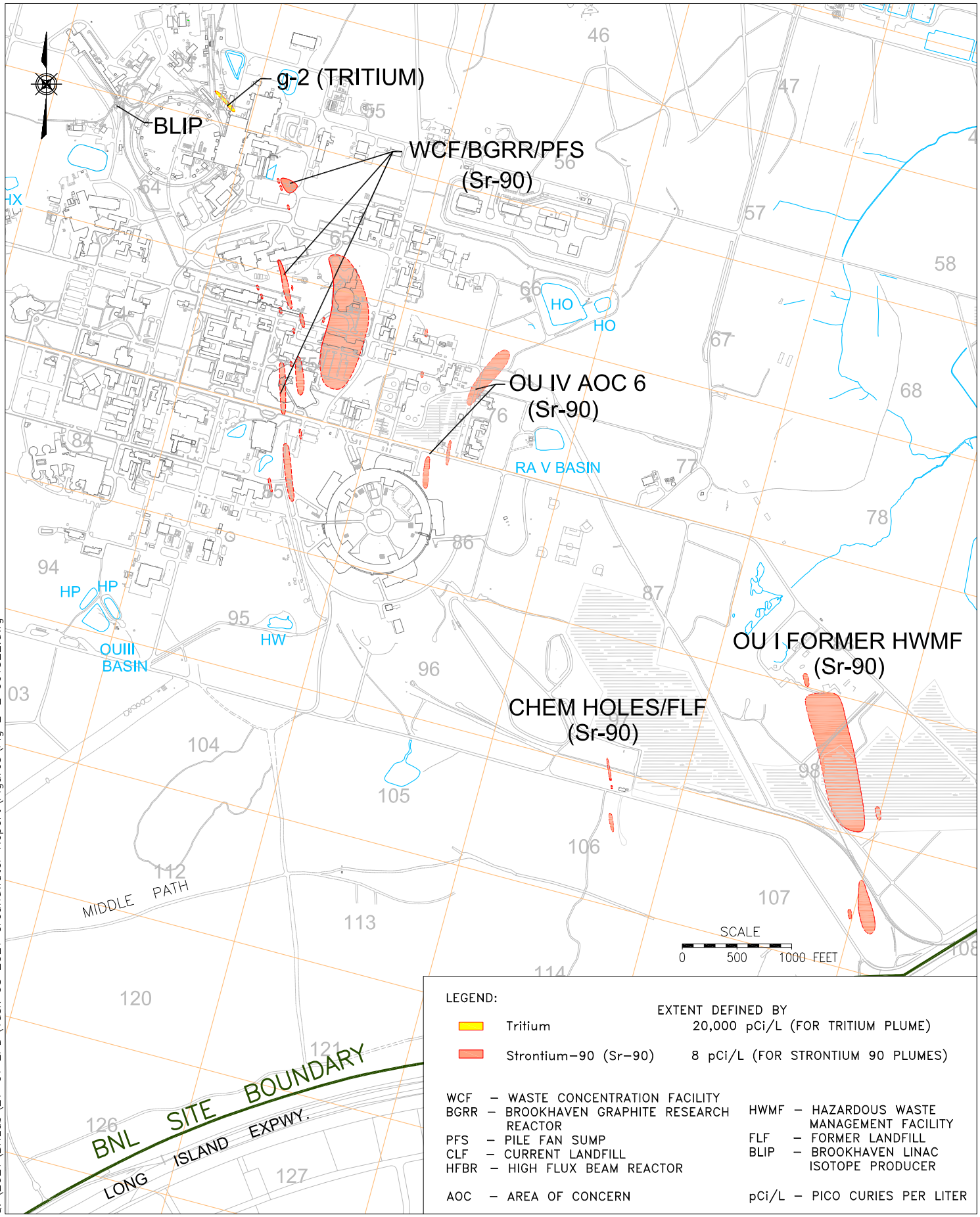
TITLE:

2021 EXTENT OF PRIMARY BNL VOC PLUMES

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: E-1



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

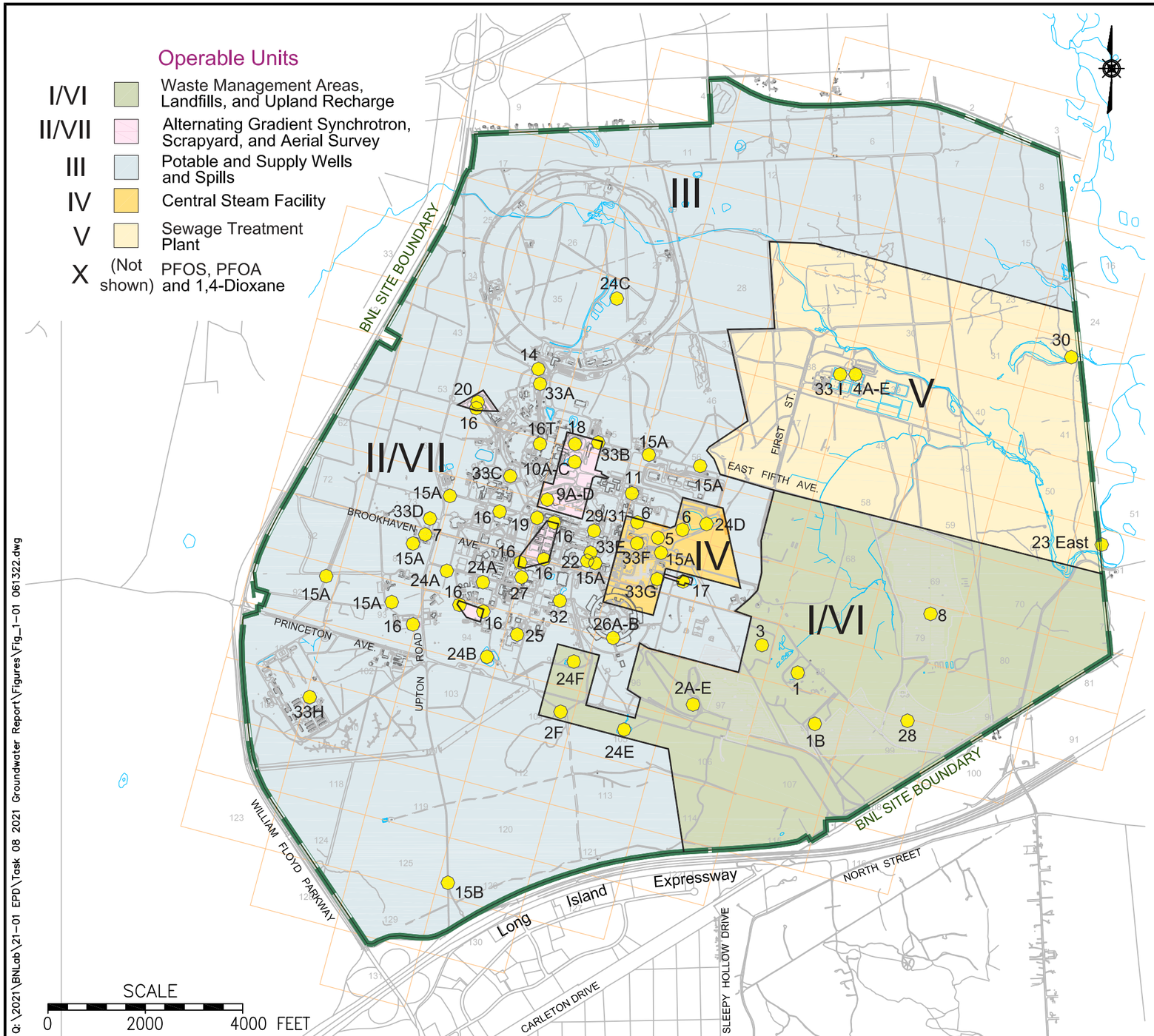
TITLE:

2021 EXTENT OF PRIMARY BNL RADIONUCLIDE PLUMES

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: E-2



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Operable Units and Areas of Concern

Areas of Concern

1	Hazardous Waste Management Facility
1B	Groundwater
2A-E	Former/Interim Landfills, Slit Trench, and Chemical/Animal/Glass Holes
2F	Ash Pit
3	Current Landfill
4A-E	Sewage Treatment Plant (A - Sludge Drying Beds; B - Sand Filter Beds; C - Imhoff Tanks; D - Hold-Up Ponds; E - Satellite Disposal Area)
5	Central Steam Facility
6	Building 650 Sump and Sump Outfall Area
7	Paint Shop
8	Upland Recharge/Meadow Marsh
9A-D	Brookhaven Graphite Research Reactor (A - BGRR Canal; B - Underground Ductwork; C - Spill Sites; D- Pile Fan Sump)
10A-C	(A - Tanks D1, D2, D3; B – Underground Pipelines; C- Six A/B USTs)
11	Building 830 Pipe Leak
12	Underground Storage Tanks (not shown)
13	Cesspools and Septic Tanks (not shown)
14	Bubble Chamber Spill Area
15A	Potable/Supply Wells
15B	Monitoring Well 130-02
16A-S	Aerial Radioactive Monitoring System Results
16T	g-2 Source Area and Tritium Groundwater Plume
17	Area Adjacent to Former Low-Mass Criticality Facility
18	AGS Storage Yards
19	TCE Spill Area
20	Particle Beam Dump, North End of Linear Accelerator
21	Leaking Sewer Pipes (not shown)
22	Old Firehouse
23 East	Eastern Tritium Plume
24A	Process Supply Wells 104, 105
24B	Recharge Basin HP
24C	Recharge Basin HN
24D	Recharge Basin HO
24E	Recharge Basin HS
24F	Weaver Drive Basin HW
25	Heavy Machine Shop (Building 479)
26A-B	Warehouse Area (A - Building 208; B - Former Scrapyard/Drum Storage Area South of Building 96)
27	Building 464 Mercury Contaminated Soil
28	EDB Plume
29	HFBR Spent Fuel Pool and Tritium Plume
30	Peconic River
31	HFBR
32	Building 452 Freon-11
33A-I	PFOS and PFOA Groundwater and Soil Contamination
34	1,4- Dioxane Groundwater Contamination (Not Shown)

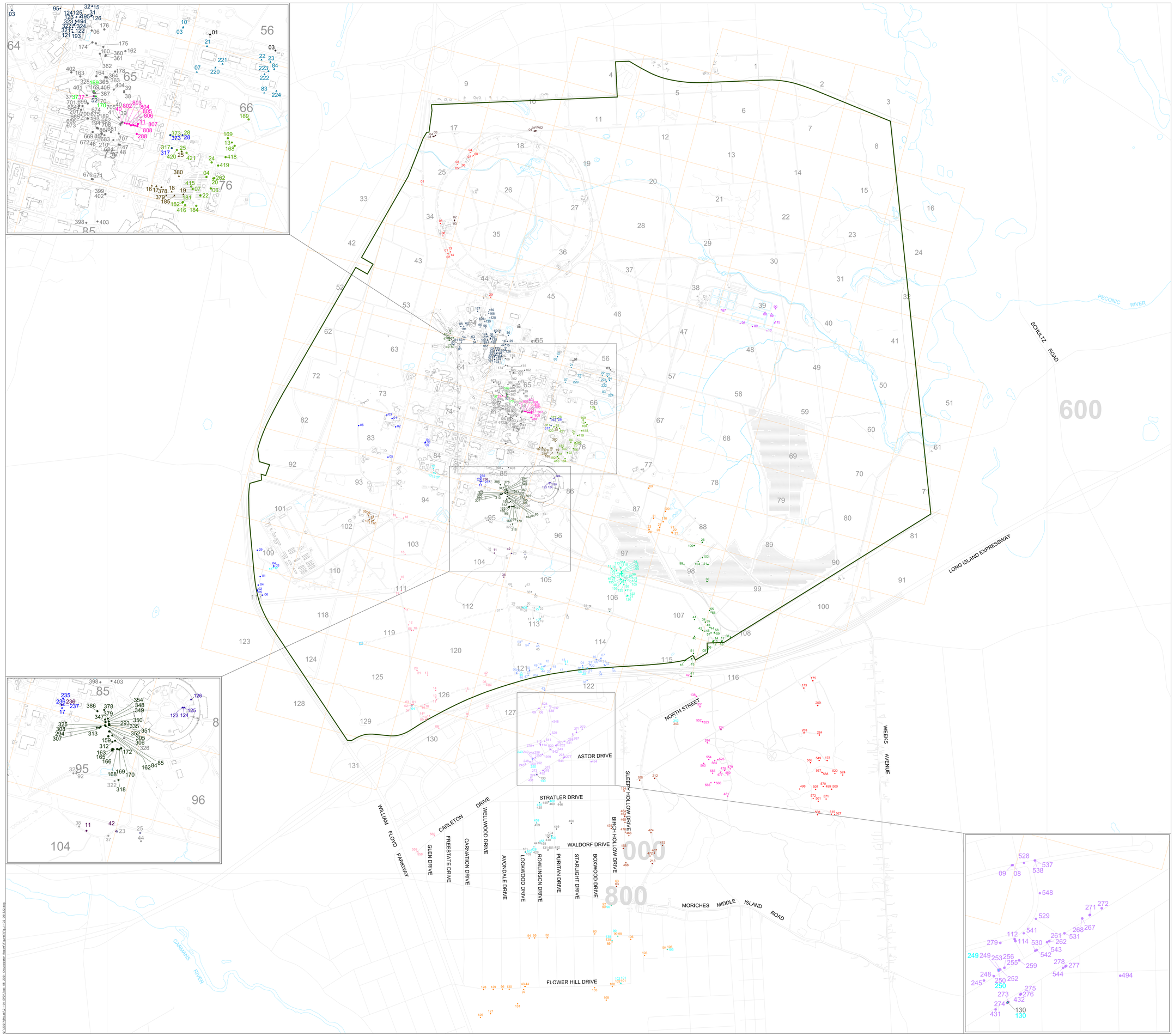
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OPERABLE UNITS AND AREAS OF CONCERN

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–
FIGURE NO.:	1–1		



Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

2021 BNL GROUNDWATER STATUS REPORT

06/13/22

FIGURE: 1-2

MONITORING WELL LOCATIONS

LEGEND

CERCLA MONITORING PROJECTS

- OU III (North Street)
- OU III (South Boundary)
- OU III (WF Wellfield Sentinel)
- OU III (Middle Road)
- OU III (BGRR / WCF Sr-90)
- OU III AOC 29 (HFBR)
- OU III (Industrial Park)
- OU III (Building 96)
- OU III (Western South Boundary)
- OU III (Magothy)
- OU III (LIPA)
- OU III (Airport)
- OU III (North Street East)
- OU IV (AOC 6 Sr-90)
- OU I (South Boundary)
- OU VI EDB
- Site Background
- Current Landfill
- Chemical / Animal Holes Sr-90

FACILITY MONITORING PROJECTS (ES)

- AGS Research Areas
- BLIP Facility
- RHIC Facility
- Medical Research Reactor
- STP and Peconic River
- Major Petroleum Facility
- Motor Pool Area
- Service Station (Bldg 630)
- New Waste Management Facility
- National Synchrotron Light Source II

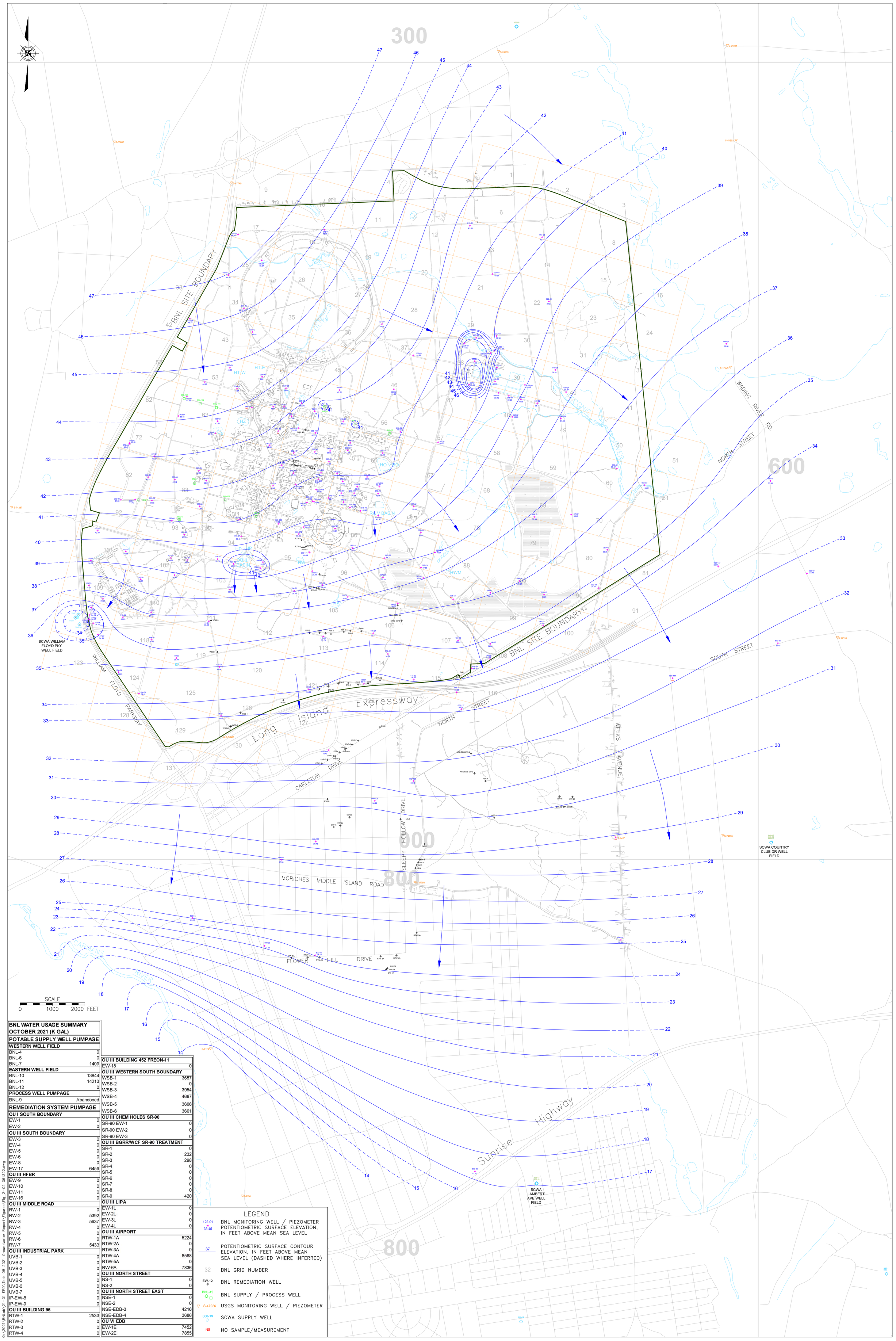
- BNL Site Boundary
- Surface Water
- Solar Farm Panels

NOTE: Wells monitored under multiple programs are duplicated on the figure for each program under which they are monitored. Latest revision 04/13/22

SCALE

0 1000 2000 FEET

* Enlarged views are not to scale



BNL WATER USAGE SUMMARY OCTOBER 2021 (K GAL)	
POTABLE SUPPLY WELL PUMPAGE	
WESTERN WELL FIELD	
BNL-4	0
BNL-6	0
BNL-7	1409
EASTERN WELL FIELD	
BNL-10	13844
BNL-11	14213
BNL-12	0
PROCESS WELL PUMPAGE	
BNL-9	Abandoned
REMEDIATION SYSTEM PUMPAGE	
OU I SOUTH BOUNDARY	
EW-1	0
EW-2	0
OU III SOUTH BOUNDARY	
EW-3	0
EW-4	0
EW-5	0
EW-6	0
EW-8	0
EW-17	6459
OU III HFBR	
EW-9	0
EW-10	0
EW-11	0
EW-16	0
OU III MIDDLE ROAD	
RW-1	0
RW-2	5392
RW-3	5937
RW-4	0
RW-5	0
RW-6	0
RW-7	5433
OU III INDUSTRIAL PARK	
UVB-1	0
UVB-2	0
UVB-3	0
UVB-4	0
UVB-5	0
UVB-6	0
UVB-7	0
IP-EW-8	0
IP-EW-9	0
OU III BUILDING 96	
RTW-1	2533
RTW-2	0
RTW-3	0
RTW-4	0
OU III BUILDING 452 FREON-11	
EW-18	0
OU III WESTERN SOUTH BOUNDARY	
WSB-1	3657
WSB-2	0
WSB-3	3954
WSB-4	4667
WSB-5	3606
WSB-6	3661
OU III CHEM HOLES SR-90	
SR-90 EW-1	0
SR-90 EW-2	0
SR-90 EW-3	0
OU III BGRR/WCF SR-90 TREATMENT	
SR-1	0
SR-2	232
SR-3	298
SR-4	0
SR-5	0
SR-6	0
SR-7	0
SR-8	0
SR-9	420
OU III LIPA	
EW-1L	0
EW-2L	0
EW-3L	0
EW-4L	0
OU III AIRPORT	
RTW-1A	5224
RTW-2A	0
RTW-3A	0
RTW-4A	8568
RTW-5A	0
RW-6A	7836
OU III NORTH STREET	
NS-1	0
NS-2	0
OU III NORTH STREET EAST	
NSE-1	0
NSE-2	0
NSE-EDB-3	4216
NSE-EDB-4	3686
OU VI EDB	
EW-1E	7452
EW-2E	7855

LEGEND

- 122-01 / 33.45 — BNL MONITORING WELL / PIEZOMETER POTENTIOMETRIC SURFACE ELEVATION, IN FEET ABOVE MEAN SEA LEVEL
- 37 — POTENTIOMETRIC SURFACE CONTOUR ELEVATION, IN FEET ABOVE MEAN SEA LEVEL (DASHED WHERE INFERRED)
- 32 — BNL GRID NUMBER
- EW-12 — BNL REMEDIATION WELL
- BNL-12 — BNL SUPPLY / PROCESS WELL
- S-47226 — USGS MONITORING WELL / PIEZOMETER
- 800-19 — SCWA SUPPLY WELL
- NS — NO SAMPLE/MEASUREMENT

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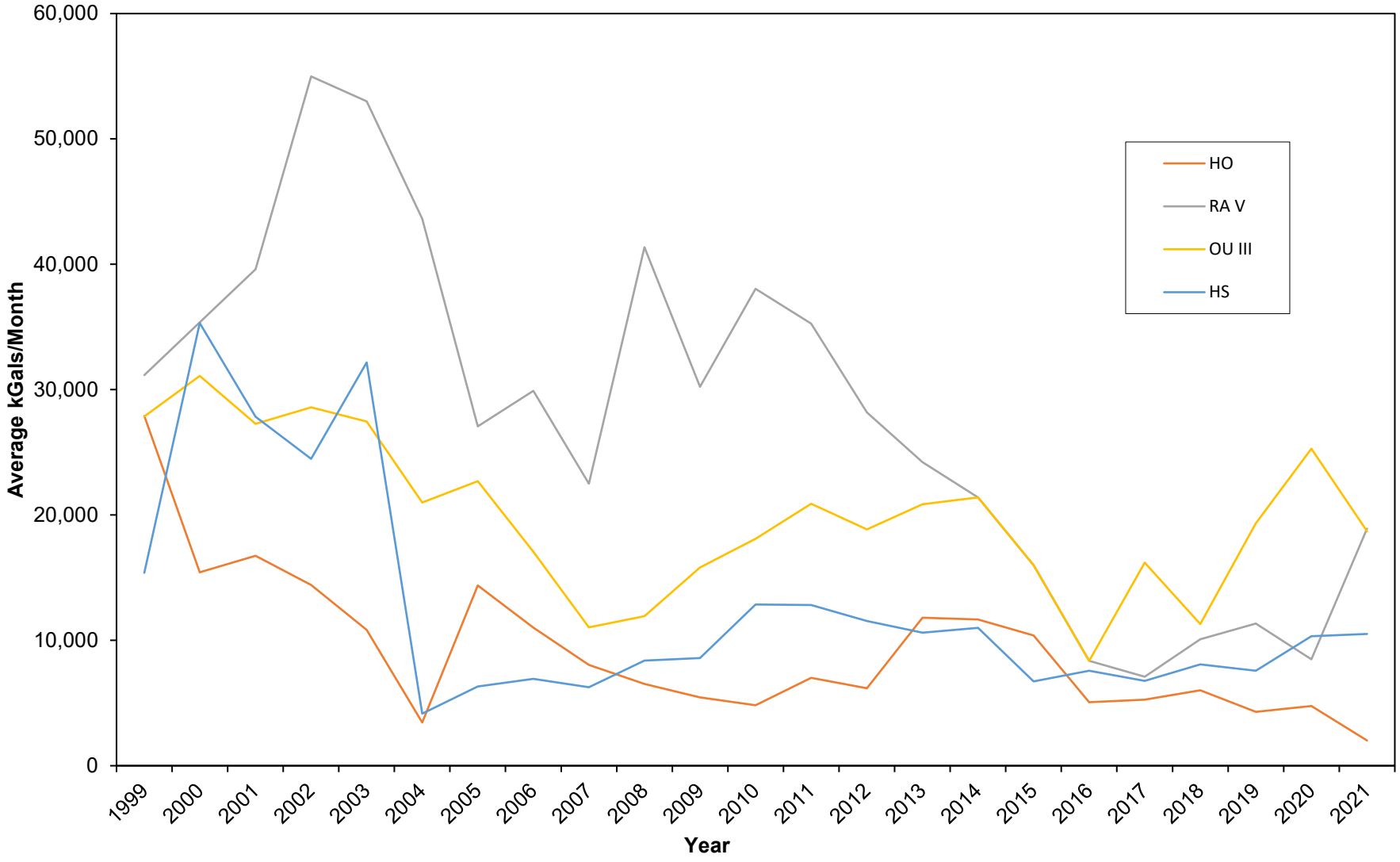
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
WATER-TABLE CONTOURS
OF THE SHALLOW GLACIAL ZONE
OCTOBER 13 – OCTOBER 18, 2021
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VS:HS.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
DEP	WRD	–	–
FIGURE NO.:	2-2		

Figure 2-5
Select Recharge Basin Flow Trends

2021 BNL Groundwater Status Report



BGRR
WCF
Sr-90

OU IV
AOC 6

Bldg 452
Freon-11

Carbon
Tetrachloride

Bldg
96

HFBR
Tritium

Chem
Holes
Sr-90

Waste
Management
Area - AOC 1

Middle Road

OU I South
Boundary

OU III South Boundary

Industrial
Park
East

Western South
Boundary

Industrial Park

North
Street
East EDB

North
Street
East

OU VI
EDB

LIPA

North
Street

Brookhaven Airport

SCALE
0 500 1000 FEET

LEGEND

- 32 — BNL GRID NUMBER
- EW-12 — BNL REMEDIATION WELL
- BNL-12 — BNL SUPPLY / PROCESS WELL

- OPERATING REMEDIATION SYSTEMS
- REMEDIATION SYSTEM PLACED IN SHUTDOWN MODE
- DECOMMISSIONED REMEDIATION SYSTEM

Note:
Treatment system status is as of December 2021

REMEDIATION WELL STATUS
(AS OF DECEMBER 2021)

- RTW-4A — ON-FULL TIME
- RTW-3A — PULSED PUMPING
- RTW-5A — STAND BY-OFF

- 2021 TVOC PLUME UNLESS SPECIFIED. CONCENTRATION AS INDICATED. (DASHED WHERE INFERRED)
- 2021 TRITIUM PLUME. OUTLINE IS 20,000 pCi/L.
- 2021 STRONTIUM 90 PLUME. OUTLINE IS 8 pCi/L.
- 2021 NORTH STREET EAST AND OU VI EDB PLUMES. OUTLINE IS 0.05 µg/L.

06/13/22 FIGURE: 3.0 -1
GROUNDWATER REMEDIATION SYSTEMS

Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

2021 BNL GROUNDWATER STATUS REPORT

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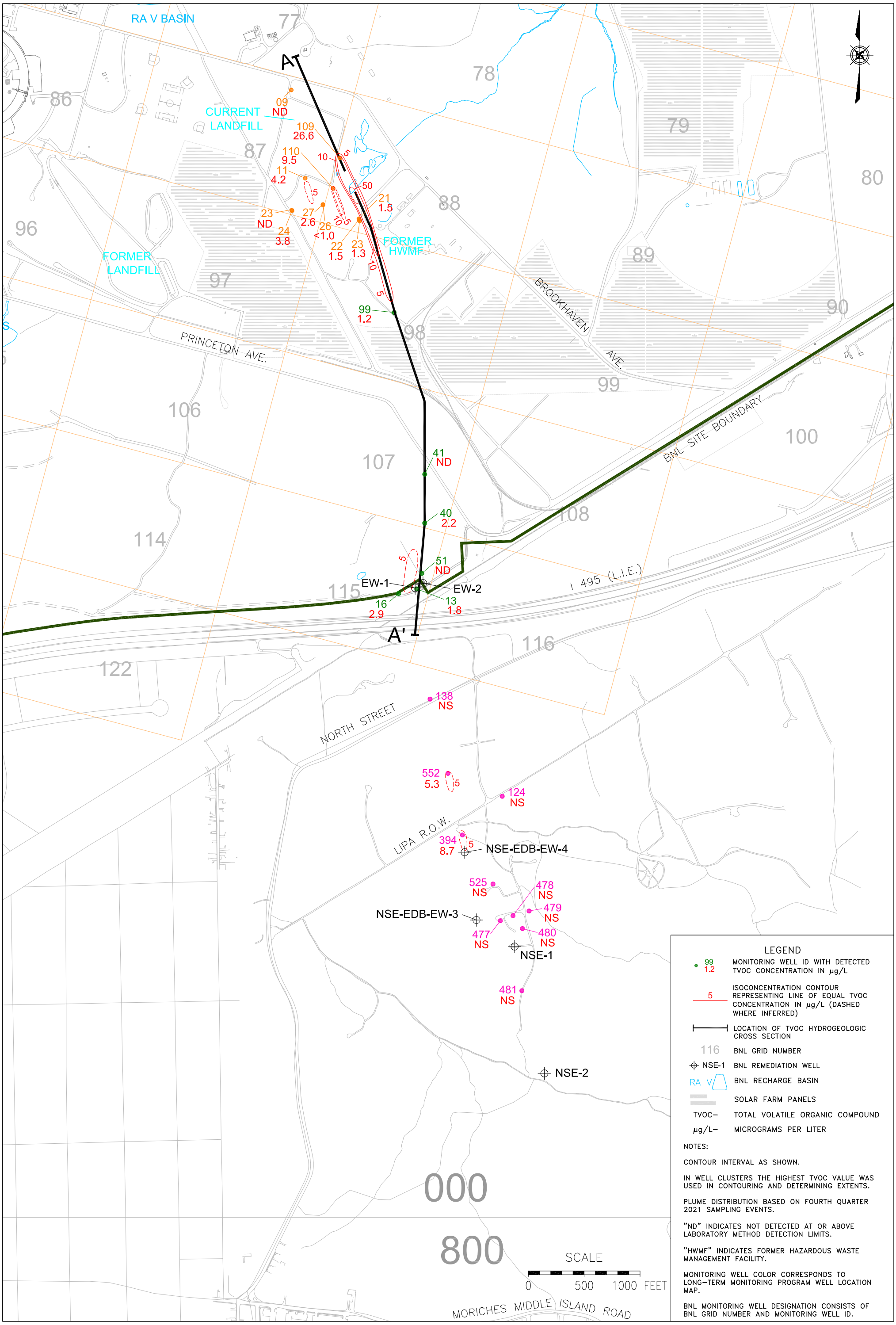

NOTES:

CONTOUR INTERVAL AS SHOWN.

IN WELL CLUSTERS THE HIGHEST TVOC VALUE WAS USED IN CONTOURING AND DETERMINING EXTENTS.

PLUME DISTRIBUTION BASED ON FOURTH QUARTER 2021 SAMPLING EVENTS.

"ND" INDICATES NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMITS.

"HWMF" INDICATES FORMER HAZARDOUS WASTE MANAGEMENT FACILITY.

MONITORING WELL COLOR CORRESPONDS TO LONG–TERM MONITORING PROGRAM WELL LOCATION MAP.

BNL MONITORING WELL DESIGNATION CONSISTS OF BNL GRID NUMBER AND MONITORING WELL ID.

Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU I SOUTH BOUNDARY/ NORTH STREET EAST TVOC PLUME DISTRIBUTION

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
VJR	WRD	–	–
FIGURE NO.:		3.1–1	

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LEGEND

Upper Glacial aquifer

- UG Upper Glacial Sands
- UC Upper Glacial Silts & Clays
- UU Upton Unit

Gardiners Clay

- GL Gardiners Clay
- GS Gardiners Clay – Silt

Magothy aquifer

- MA Magothy Sands and Clay
- MB Magothy Brown Clay
- MC Magothy Clays (undifferentiated)
- MO Magothy – OTHER

098–99 BNL Well ID

ND Indicates not detected at or above laboratory method detection limits

7.54 TVOC Concentration (µg/L)

— 5 — TVOC Contour (µg/L) (Dashed Where Inferred)

TVOC– Total Volatile Organic Compound

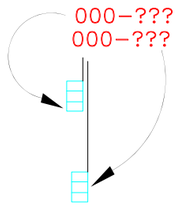
µg/L– Micrograms Per Liter

Water Table As Of Oct 13 – Oct 18, 2021

Monitoring Well Screen

Extraction Well Screen

Monitoring Well IDs are stacked in order of the depth of the well from shallow to deep



NOTES:

1) GEOLOGIC INFORMATION SHOWN IS BASED ON ADDITIONAL EXPLORATIONS (e.g., HYDROPUNCHES, GEOPROBES, VERTICAL PROFILES, AND/OR TEST WELLS) DOCUMENTED IN PREVIOUS, MORE DETAILED REPORTS AND THE 2002 PREDESIGN CHARACTERIZATION.

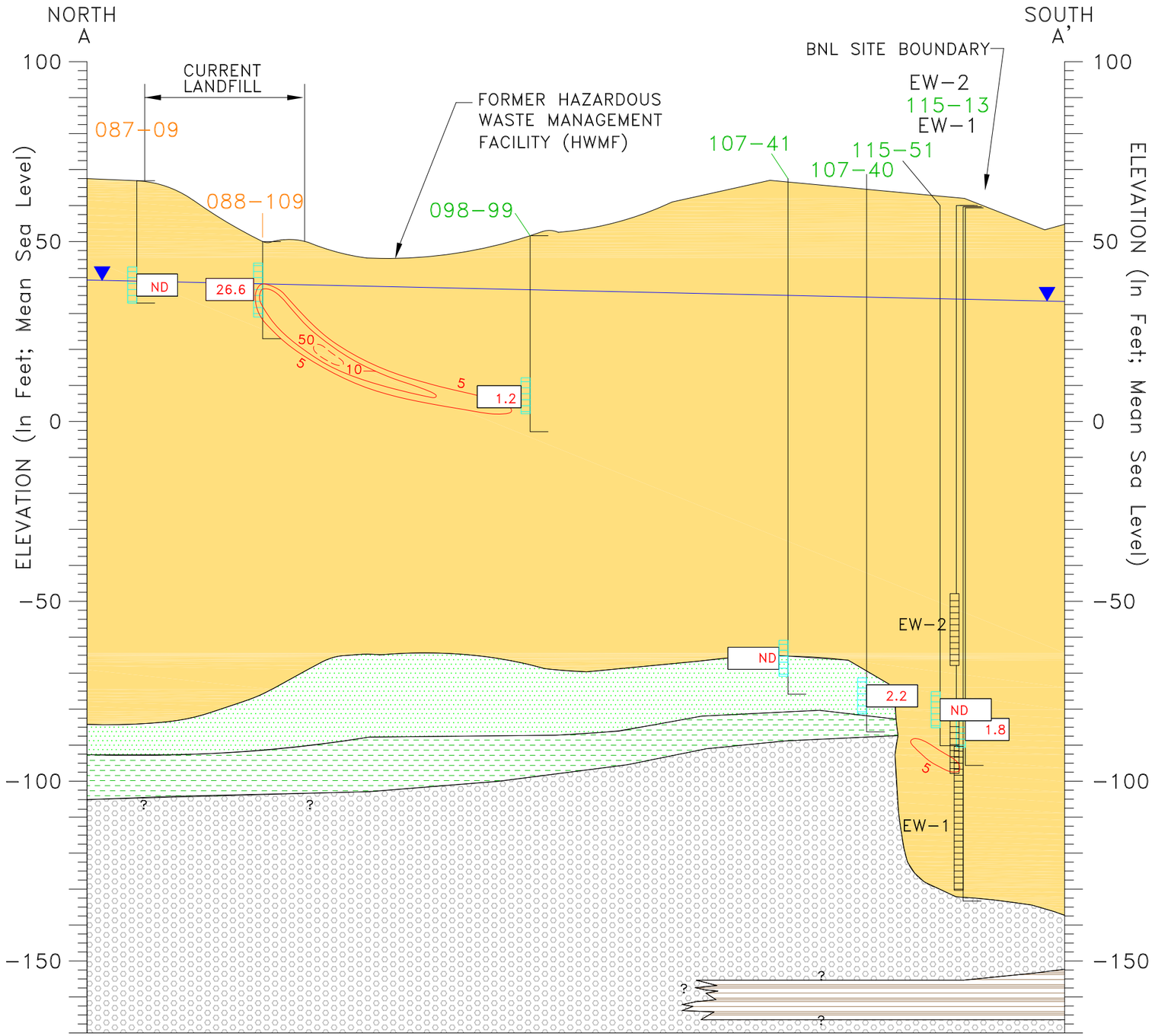
2) PLUME DISTRIBUTION BASED ON FOURTH QUARTER 2021 SOUTH BOUNDARY / NORTH STREET EAST SAMPLING EVENT.

3) CONTOUR INTERVAL IS AS SHOWN.

4) BNL WELL ID COLOR CORRESPONDS TO LONG–TERM MONITORING PROGRAM WELL LOCATION MAP.

HORIZONTAL SCALE

0 500 1000 FEET



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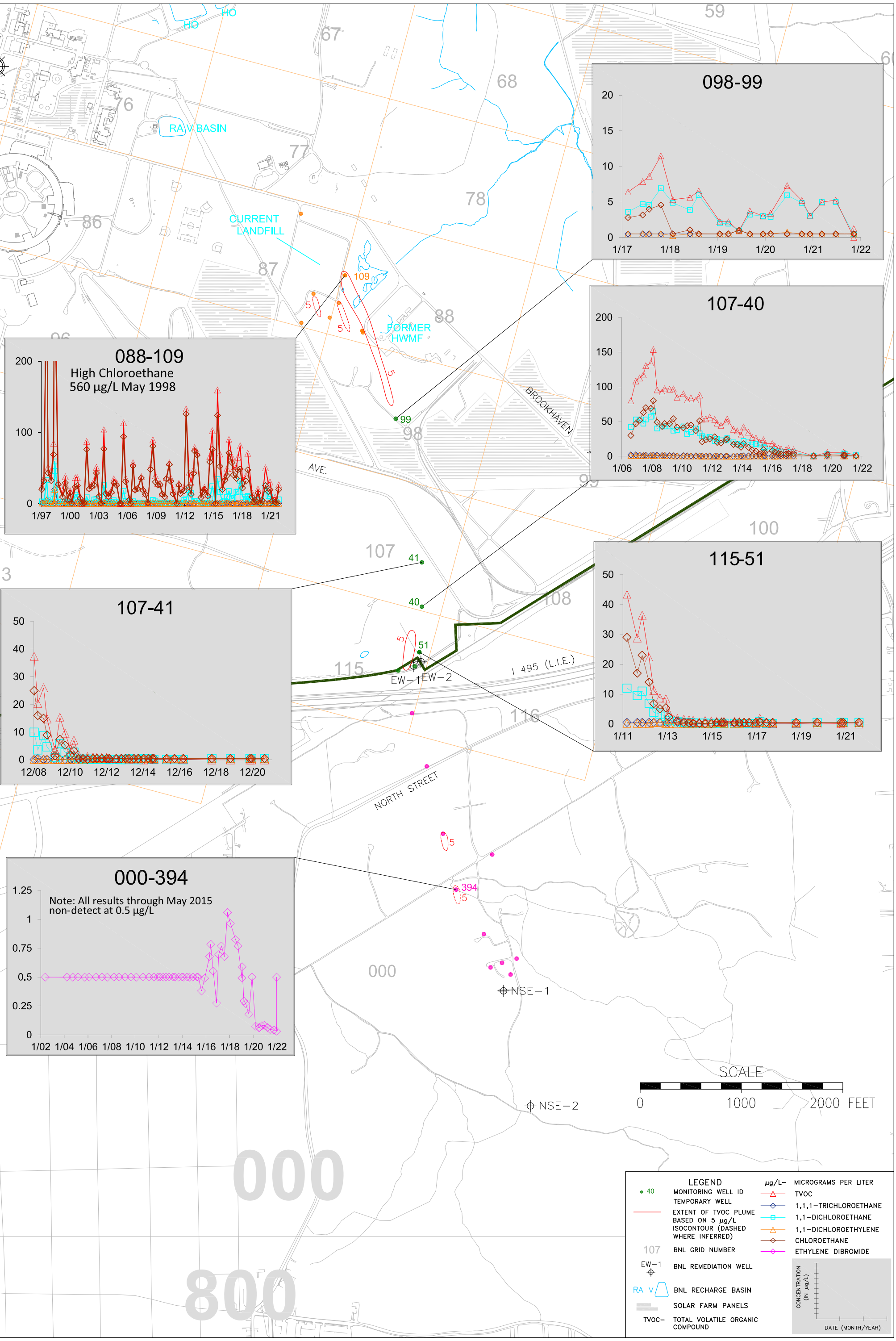
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU I SOUTH BOUNDARY
TVOC HYDROGEOLOGIC CROSS SECTION (A–A')
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	20:1	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–
FIGURE NO.:			
3.1–2			



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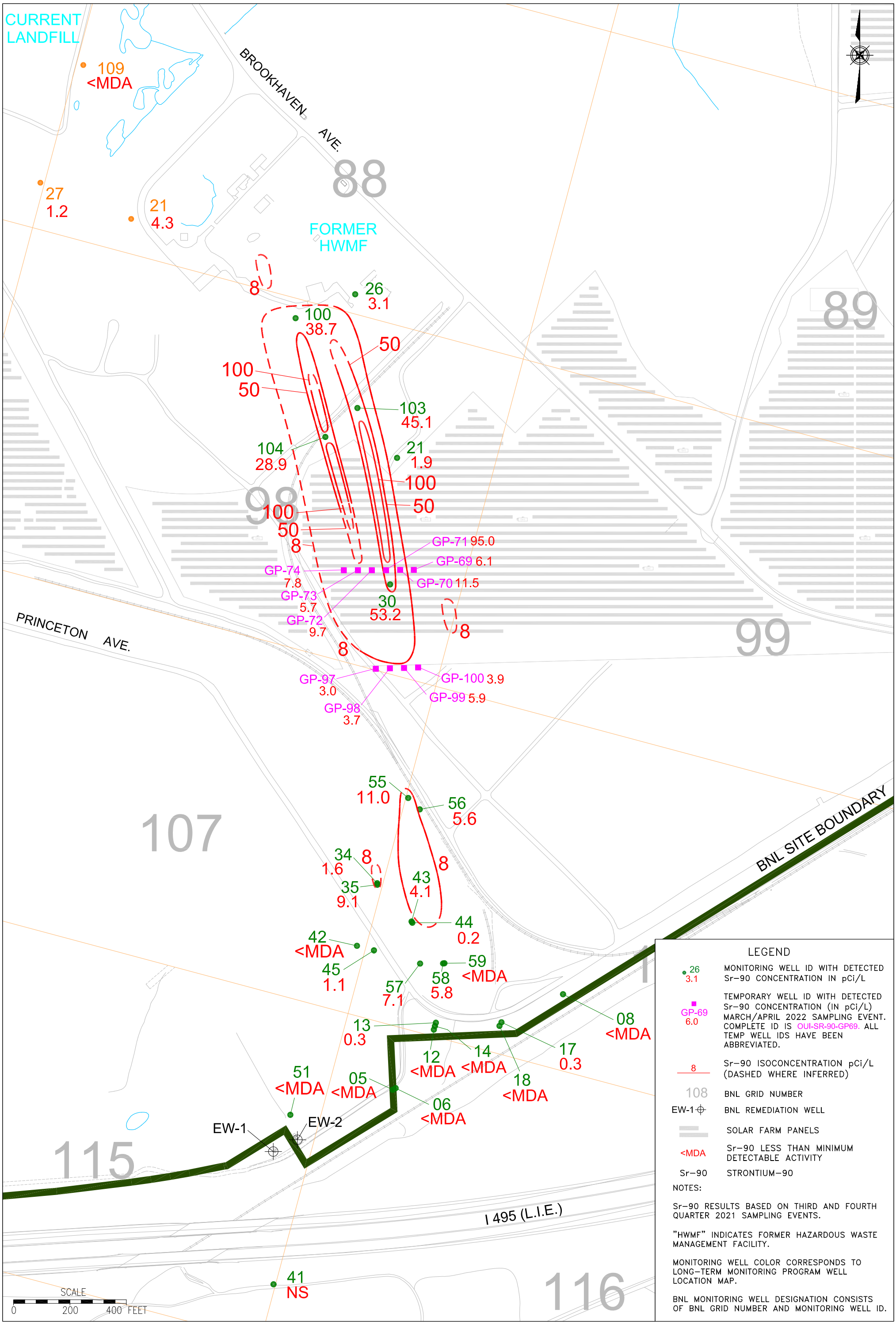
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
OU I /CURRENT LANDFILL/ SOUTH BOUNDARY/ NORTH STREET EAST HISTORICAL VOC TRENDS
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.1-3



LEGEND

- 26 / 3.1 — MONITORING WELL ID WITH DETECTED Sr–90 CONCENTRATION IN pCi/L
- GP-69 / 6.0 — TEMPORARY WELL ID WITH DETECTED Sr–90 CONCENTRATION (IN pCi/L) MARCH/APRIL 2022 SAMPLING EVENT. COMPLETE ID IS OUI-SR-90-GP69. ALL TEMP WELL IDS HAVE BEEN ABBREVIATED.
- 8 — Sr–90 ISOCONCENTRATION pCi/L (DASHED WHERE INFERRED)
- 108 — BNL GRID NUMBER
- EW-1 — BNL REMEDIATION WELL
- SOLAR FARM PANELS
- <MDA — Sr–90 LESS THAN MINIMUM DETECTABLE ACTIVITY
- Sr–90 — STRONTIUM–90

NOTES:

Sr–90 RESULTS BASED ON THIRD AND FOURTH QUARTER 2021 SAMPLING EVENTS.

"HWMF" INDICATES FORMER HAZARDOUS WASTE MANAGEMENT FACILITY.

MONITORING WELL COLOR CORRESPONDS TO LONG–TERM MONITORING PROGRAM WELL LOCATION MAP.

BNL MONITORING WELL DESIGNATION CONSISTS OF BNL GRID NUMBER AND MONITORING WELL ID.

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

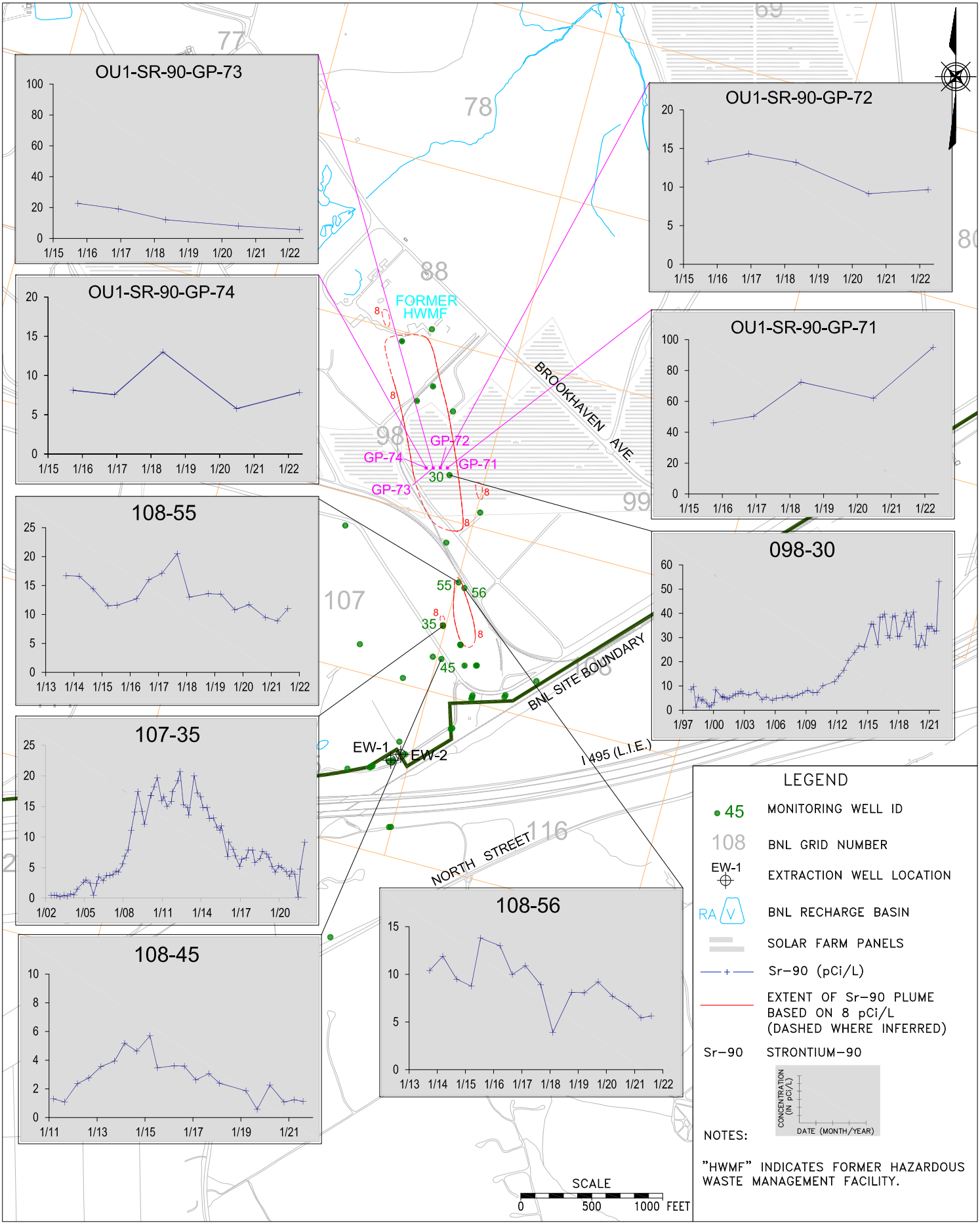
TITLE:

OU I SOUTH BOUNDARY Sr–90 PLUME DISTRIBUTION

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.1–4



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU I SOUTH BOUNDARY HISTORICAL Sr-90 TRENDS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.1-5

Figure 3.1-6
OU I South Boundary Groundwater Remediation System
Historic Total Volatile Organic Compound Trends in Extraction Wells

2021 BNL Groundwater Status Report

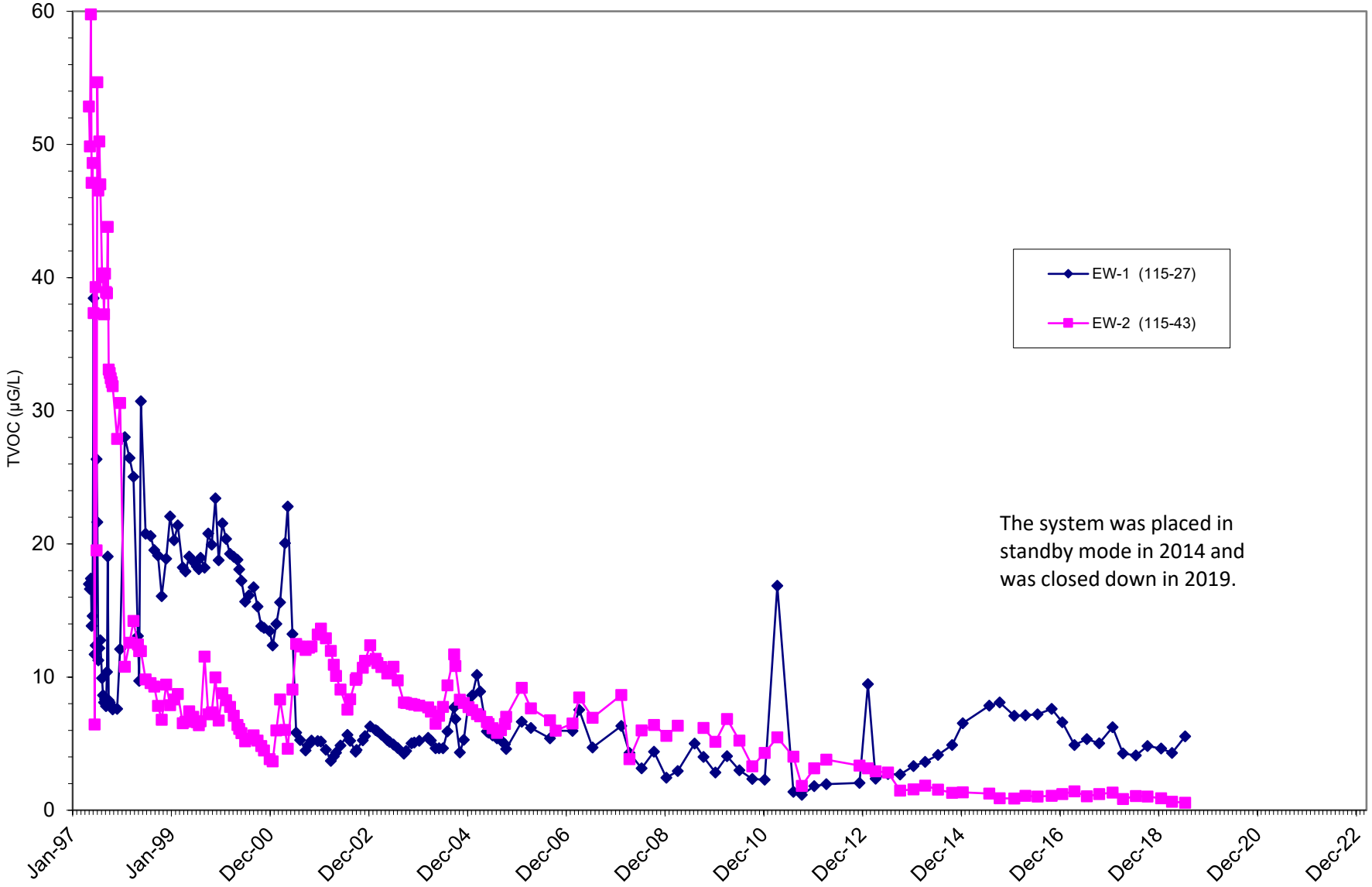
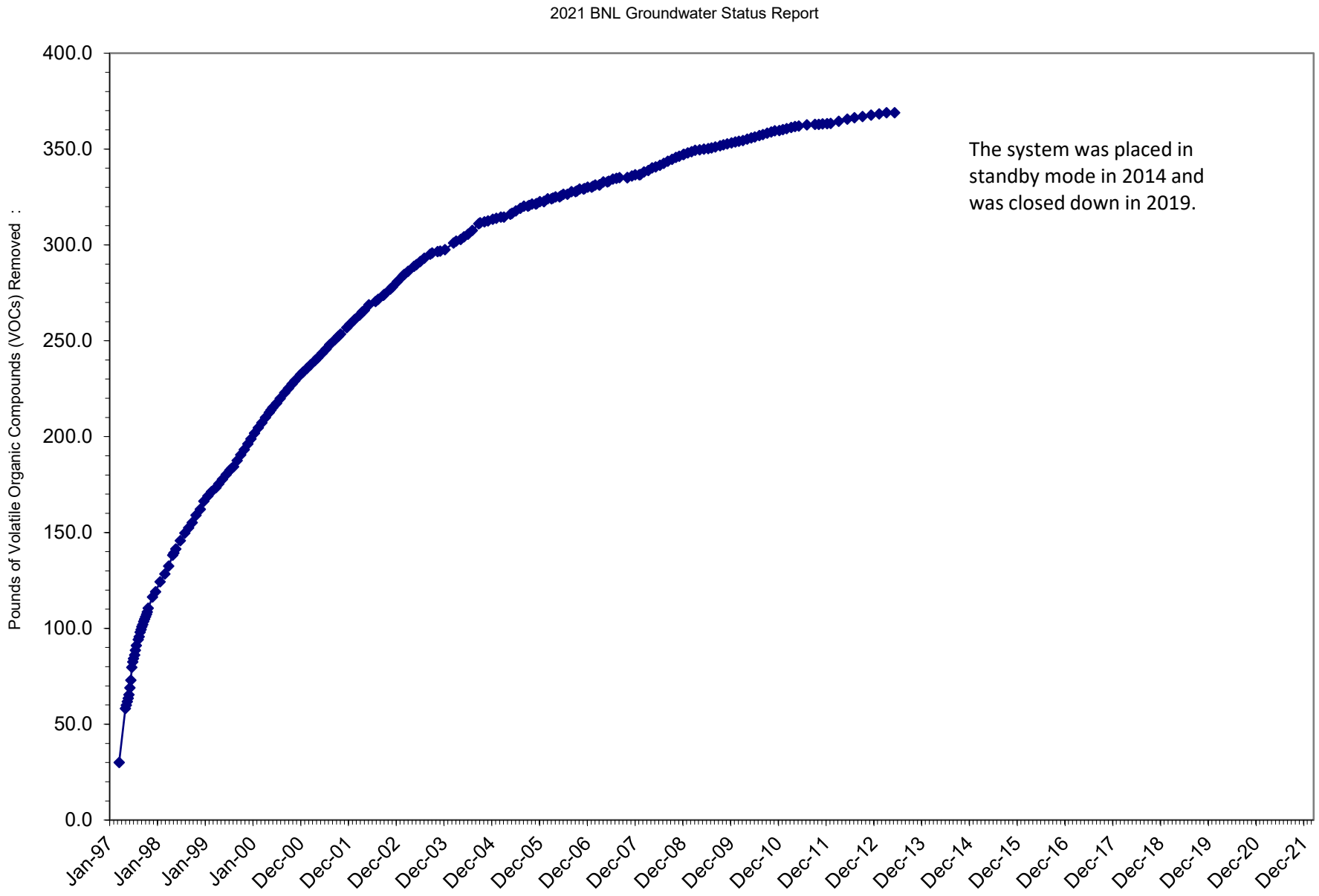


Figure 3.1-7
OU I South Boundary Groundwater Remediation System
Cumulative VOC Mass Removed



1997

2002

2007

2021

CURRENT LANDFILL
CAPPED NOVEMBER 1995

BROOKHAVEN AVE.

PRINCETON AVE.

BNL SITE BOUNDARY

OU I SOUTH BOUNDARY
TREATMENT SYSTEM

EW-1

EW-2

I 495 (L.I.E.)

NORTH STREET

SLEEPY HOLLOW DR.

NSE-1

NSE-2

LEGEND

- MONITORING WELL
- KEY TEMPORARY WELL
- EW-2 GW REMEDIATION WELL
- 5 – 49 µg/L TVOC CONCENTRATION
- 50 – 99 µg/L TVOC CONCENTRATION
- 100 – 499 µg/L TVOC CONCENTRATION
- SOLAR FARM PANELS

TVOC – TOTAL VOLATILE ORGANIC COMPOUND
µg/L – MICROGRAMS PER LITER

SCALE
0 500 1000 FEET

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Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

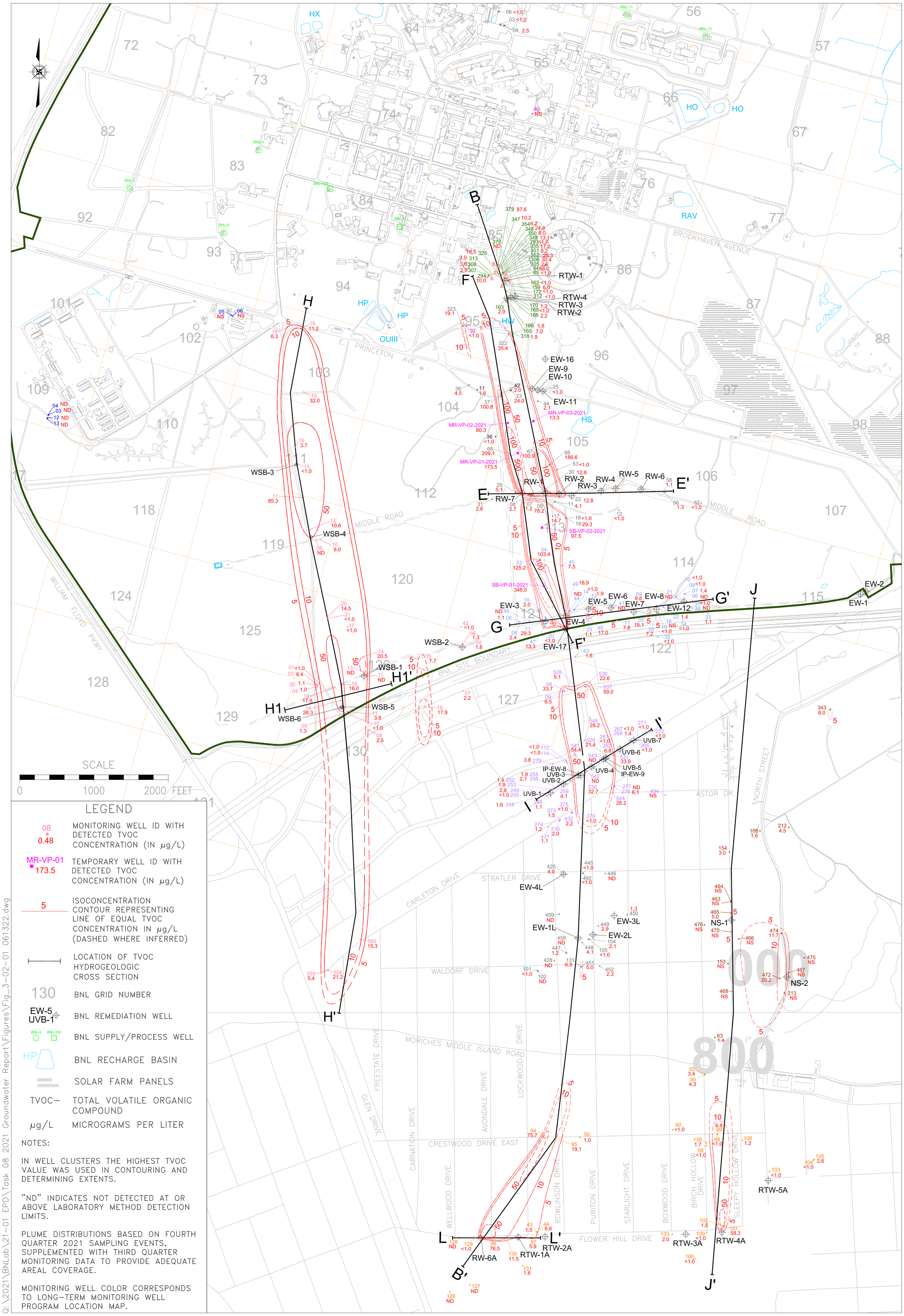
TITLE:

OU I SOUTH BOUNDARY/NORTH STREET EAST
TVOC PLUME COMPARISON
1997 – 2021

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.1–8



LEGEND

- 08 / 0.48 — MONITORING WELL ID WITH DETECTED TVOC CONCENTRATION (IN µg/L)
- MR-VP-01 / 173.5 — TEMPORARY WELL ID WITH DETECTED TVOC CONCENTRATION (IN µg/L)
- 5 — ISOCONCENTRATION CONTOUR REPRESENTING LINE OF EQUAL TVOC CONCENTRATION IN µg/L (DASHED WHERE INFERRED)
- LOCATION OF TVOC HYDROGEOLOGIC CROSS SECTION
- 130 — BNL GRID NUMBER
- EW-5 / UVB-1 — BNL REMEDIATION WELL
- BNL-4 BNL-105 — BNL SUPPLY/PROCESS WELL
- HP — BNL RECHARGE BASIN
- SOLAR FARM PANELS
- TVOC — TOTAL VOLATILE ORGANIC COMPOUND
- µg/L — MICROGRAMS PER LITER

NOTES:

IN WELL CLUSTERS THE HIGHEST TVOC VALUE WAS USED IN CONTOURING AND DETERMINING EXTENTS.

"ND" INDICATES NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMITS.

PLUME DISTRIBUTIONS BASED ON FOURTH QUARTER 2021 SAMPLING EVENTS, SUPPLEMENTED WITH THIRD QUARTER MONITORING DATA TO PROVIDE ADEQUATE AREAL COVERAGE.

MONITORING WELL COLOR CORRESPONDS TO LONG-TERM MONITORING WELL PROGRAM LOCATION MAP.

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

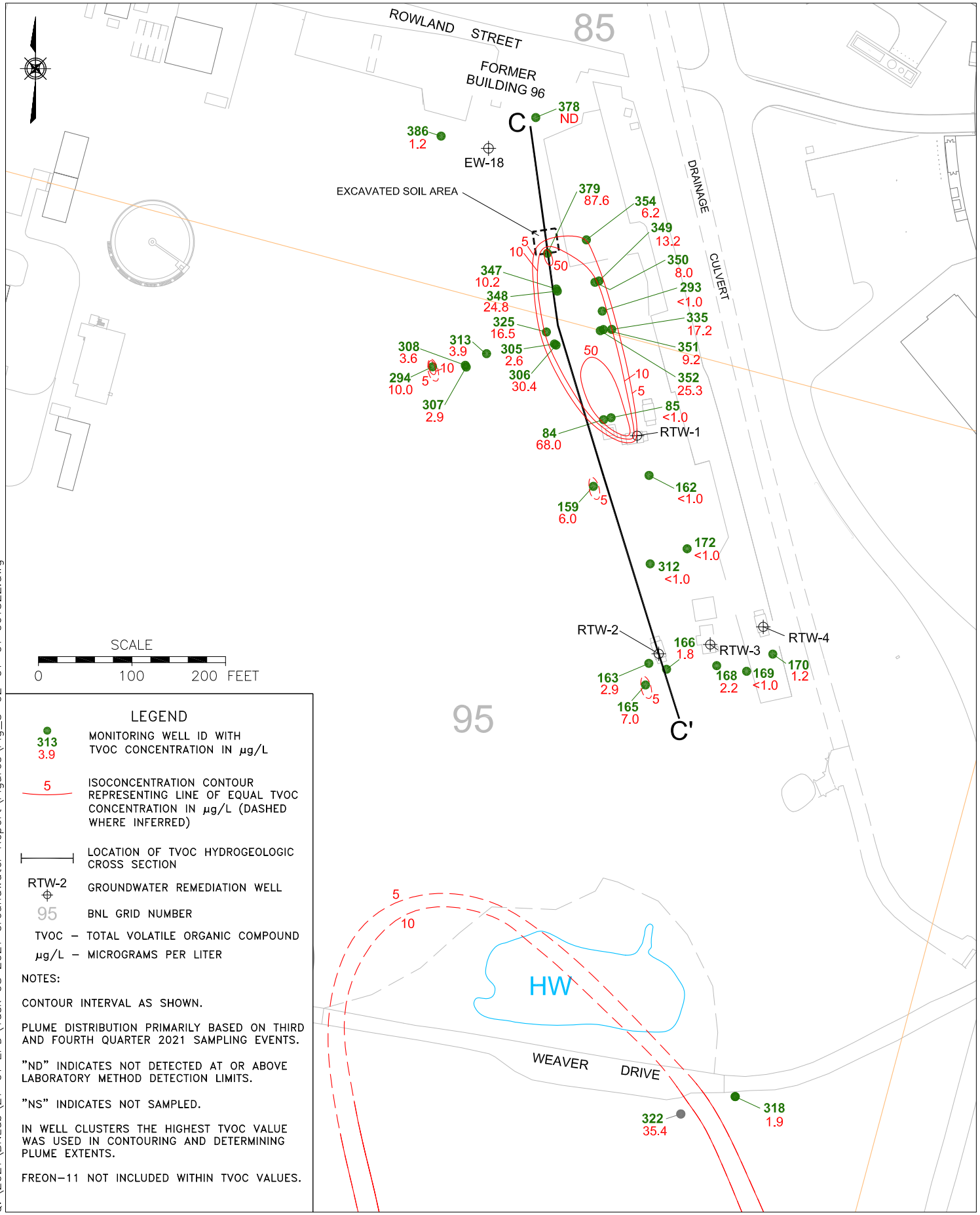
TITLE:

OU III/ OU IV/ NORTH STREET TVOC PLUME DISTRIBUTIONS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	

FIGURE NO.: 3.2-1



LEGEND

313 / 3.9 — MONITORING WELL ID WITH TVOC CONCENTRATION IN µg/L

5 — ISOCONCENTRATION CONTOUR REPRESENTING LINE OF EQUAL TVOC CONCENTRATION IN µg/L (DASHED WHERE INFERRED)

LOCATION OF TVOC HYDROGEOLOGIC CROSS SECTION

RTW-2 — GROUNDWATER REMEDIATION WELL

95 — BNL GRID NUMBER

TVOC – TOTAL VOLATILE ORGANIC COMPOUND

µg/L – MICROGRAMS PER LITER

NOTES:

CONTOUR INTERVAL AS SHOWN.

PLUME DISTRIBUTION PRIMARILY BASED ON THIRD AND FOURTH QUARTER 2021 SAMPLING EVENTS.

"ND" INDICATES NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMITS.

"NS" INDICATES NOT SAMPLED.

IN WELL CLUSTERS THE HIGHEST TVOC VALUE WAS USED IN CONTOURING AND DETERMINING PLUME EXTENTS.

FREON-11 NOT INCLUDED WITHIN TVOC VALUES.

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Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

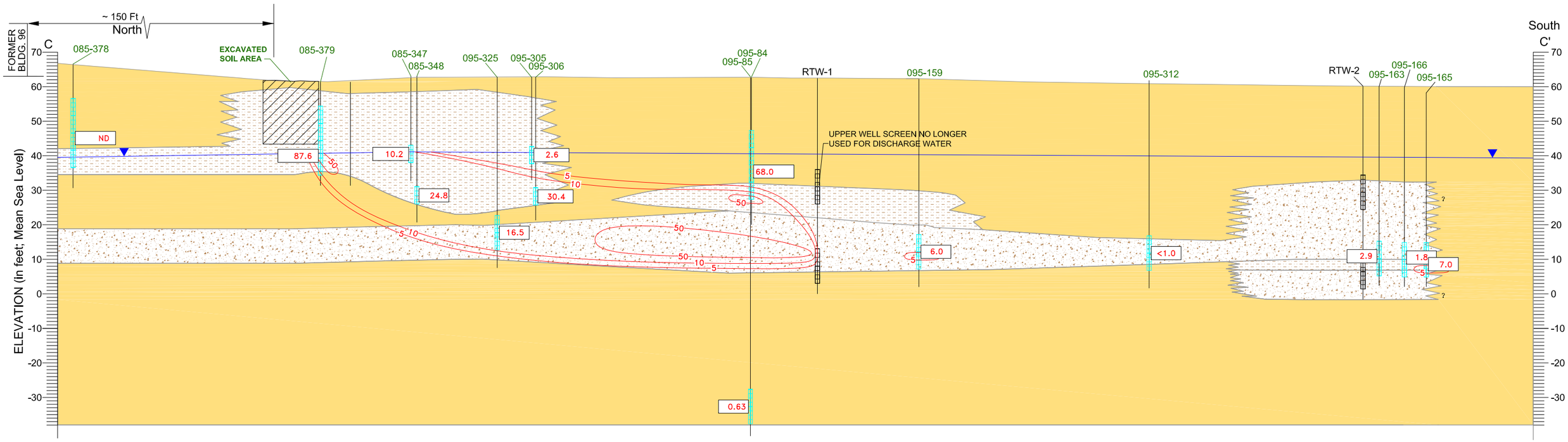
TITLE:

OU III BUILDING 96 AREA TVOC PLUME DISTRIBUTION

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.1-1



LEGEND

Upper Glacial aquifer

Fine to coarse sand, trace to little silt and/or fine to medium gravel.

Very fine sand and/or silt, with silt and sand lenses interbedded.

Coarse to very coarse sand, with or without gravel or gravel with sand.

095-85 BNL Monitoring Well ID

10.2 TVOC Concentration (µg/L)

NS Not Sampled

50 TVOC Contour (µg/L) (Dashed Where Inferred)

RTW–1 Recirculation Well

Monitoring Well Screen

Extraction Well Screen

Water Table As Of Oct 13 – Oct 18, 2021

TVOC – Total Volatile Organic Compound

µg/L – Micrograms Per Liter

PCE – Tetrachloroethylene

Monitoring Well IDs are stacked in order of the depth of the well from shallow to deep

095–84
095–85

NOTES:

1) GEOLOGIC INFORMATION SHOWN IS BASED ON GEOLOGIC DATA FROM 1999, SUPPLEMENTED WITH LITHOLOGIC DATA COLLECTED JUNE AND NOV. 2004.

2) PLUME DISTRIBUTION BASED ON FOURTH QUARTER 2021 BLDG 96 SAMPLING EVENTS.

3) CONTOUR INTERVAL IS AS SHOWN.

4) BNL WELL ID COLOR CORRESPONDS TO LONG–TERM MONITORING PROGRAM WELL LOCATION MAP.

HORIZONTAL SCALE
0 30 60
FEET

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

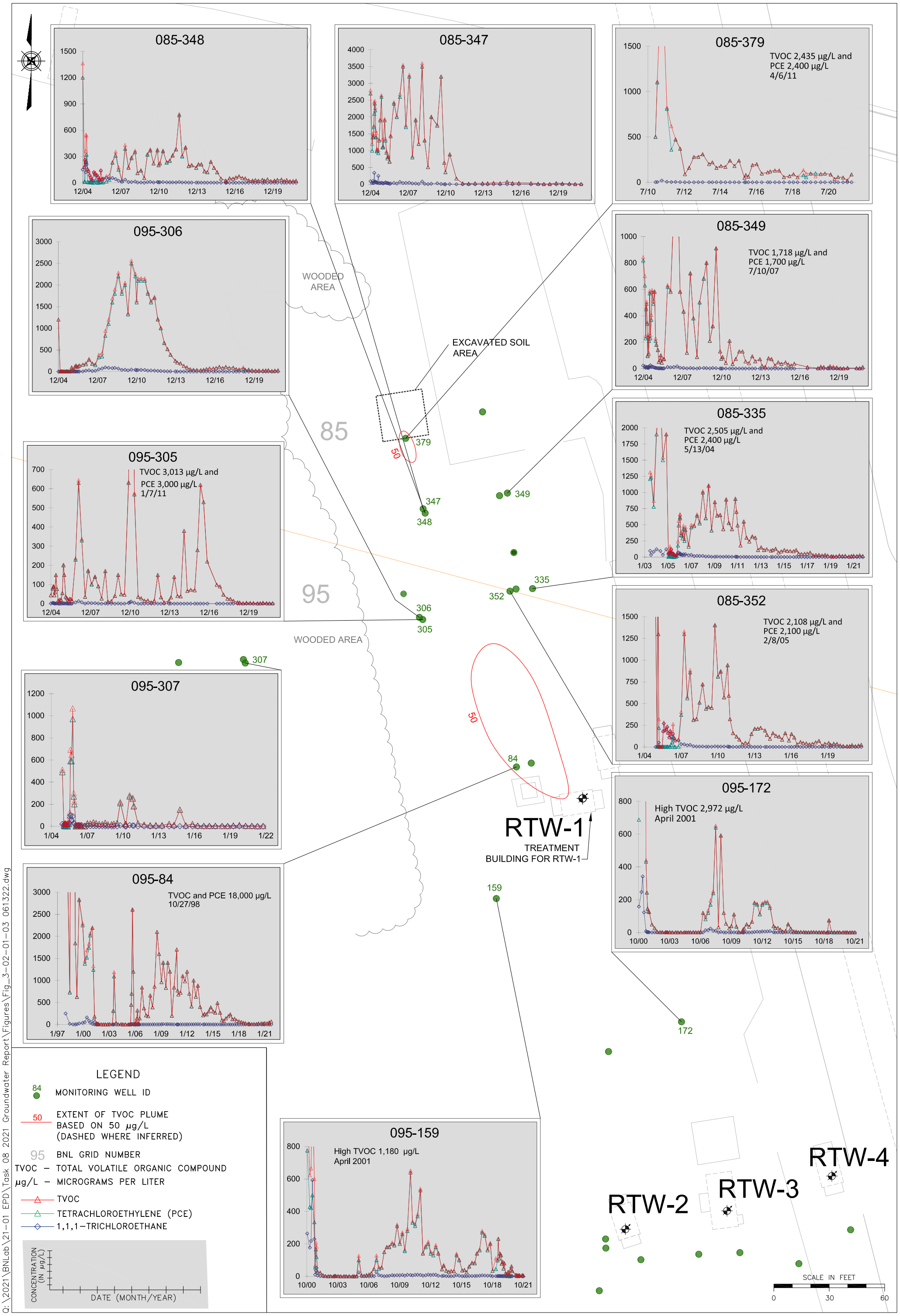
TITLE:

OU III BUILDING 96 AREA
TVOC HYDROGEOLOGIC CROSS SECTION (C–C')

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	1.5:1	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.1–2



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III BUILDING 96 AREA HISTORICAL VOC TRENDS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VS: HS.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.1–3

Figure 3.2.1-4
OU III Building 96 Area
Extraction Well TVOC Concentrations

2021 BNL Groundwater Status Report

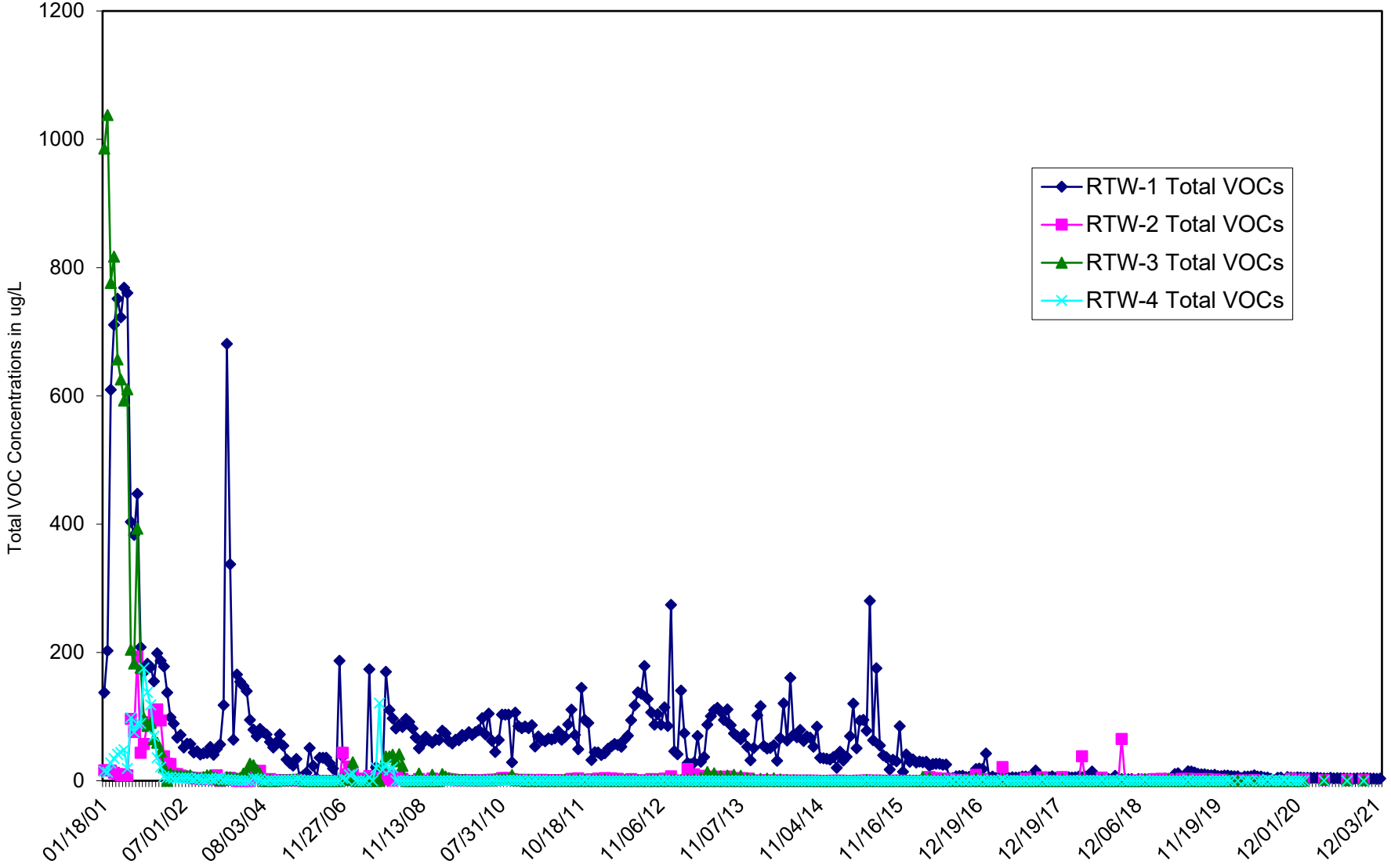
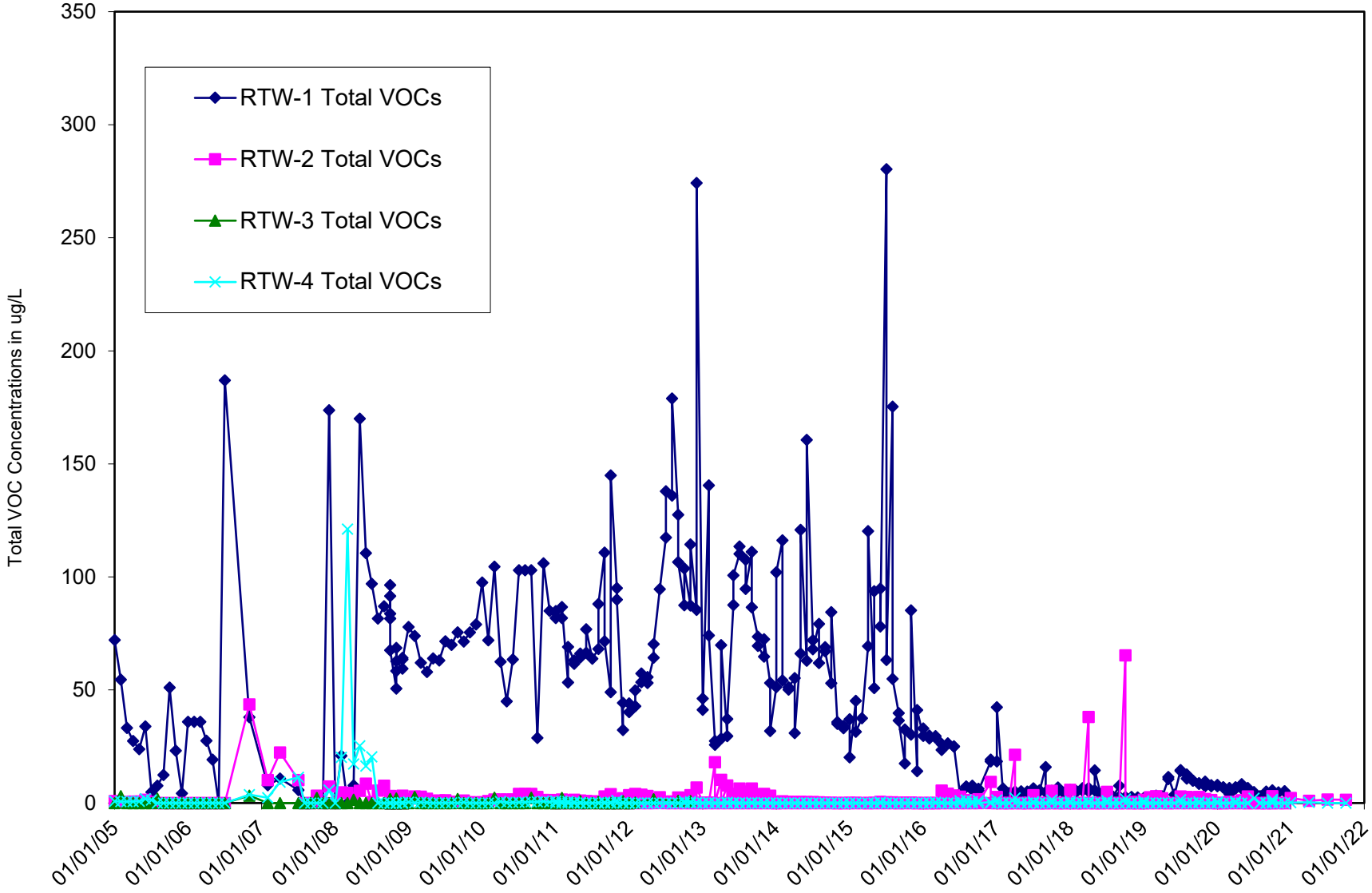
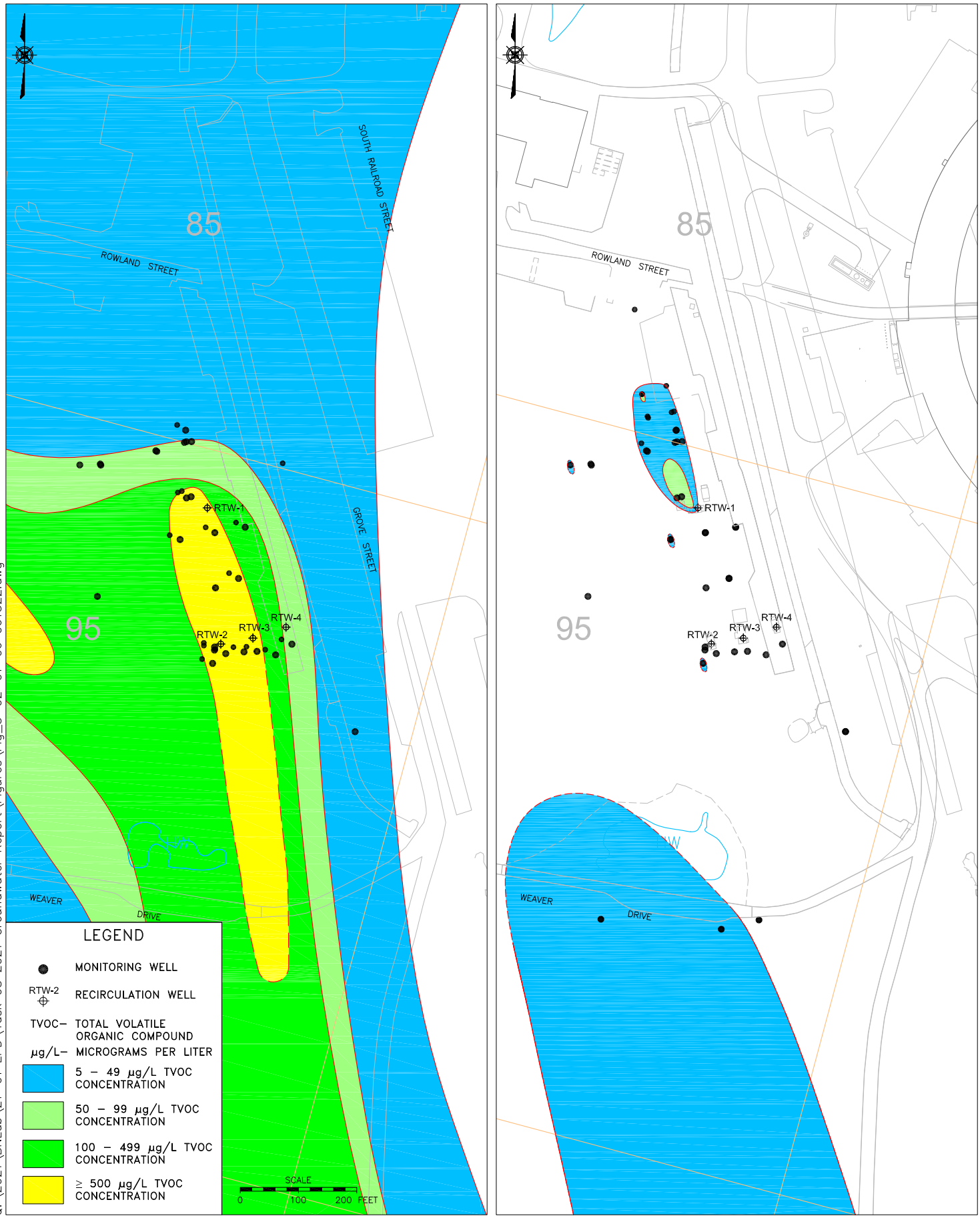


Figure 3.2.1-5
OU III Building 96 Area
Extraction Well TVOC Concentrations From January 1, 2005

2021 BNL Groundwater Status Report





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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

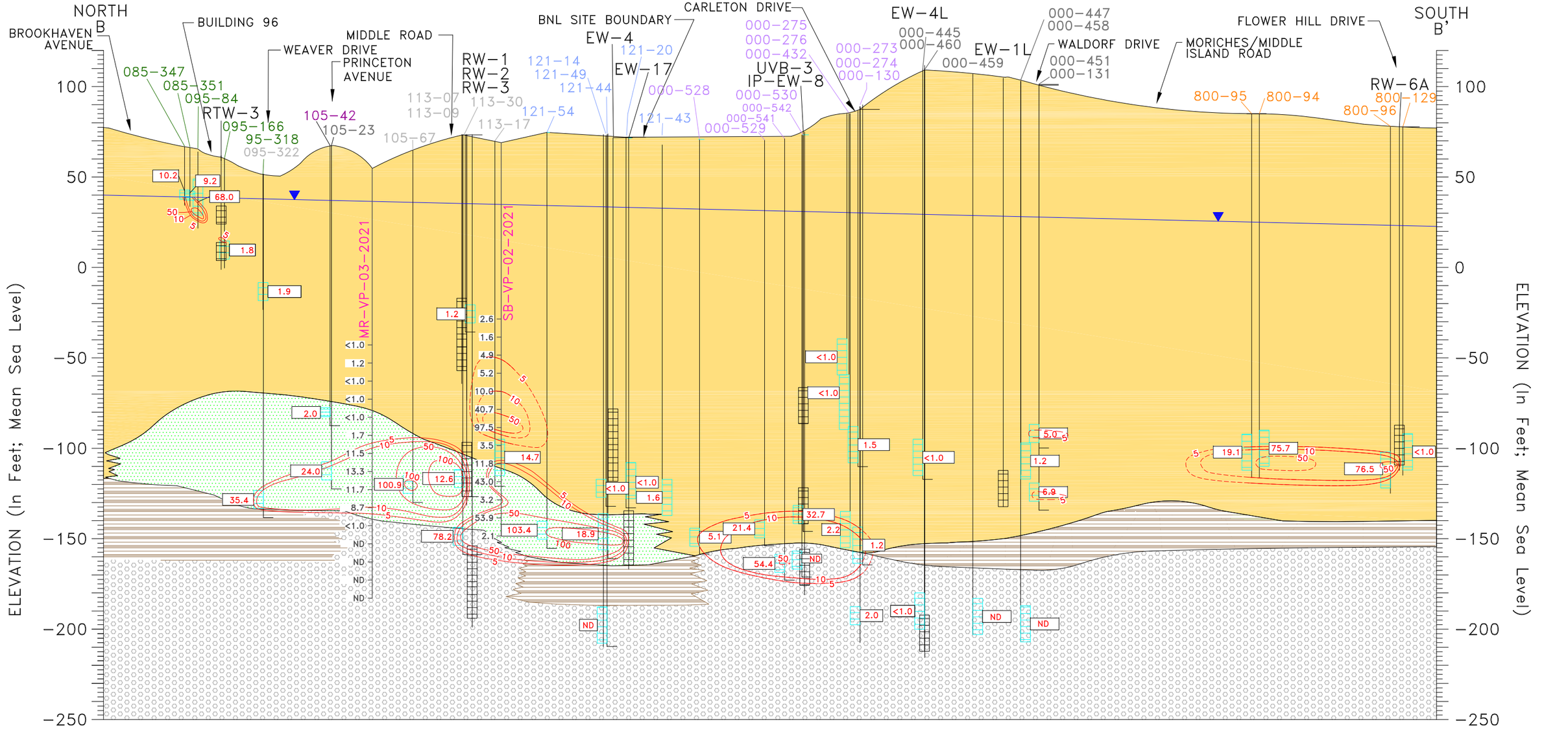
TITLE:

OU III BUILDING 96 AREA TVOC PLUME COMPARISON 2000–2021

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.1–6



LEGEND

Upper Glacial aquifer
- UG Upper Glacial Sands
- UC Upper Glacial Silts & Clays
- UU Upton Unit

Gardiners Clay
- GL Gardiners Clay
- GS Gardiners Clay – Silt

Magothy aquifer
- MA Magothy Sands and Clay
- MB Magothy Brown Clay
- MC Magothy Clays (undiff)
- MO Magothy – OTHER

HORIZONTAL SCALE
0 500 1000 FEET

000-114 BNL Well ID

1.84 TVOC Concentration (µg/L)

ND Not detected at or above laboratory method detection limits

NS Not Sampled

50 TVOC Contour (µg/L) (Dashed Where Inferred)

Monitoring Well Screen

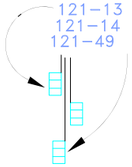
Extraction Well Screen

Water Table As Of Oct 13 – Oct 18, 2021

TVOC – Total Volatile Organic Compound

µg/L – Micrograms Per Liter

Monitoring Well IDs are stacked in order of the depth of the well from shallow to deep



NOTES:

1) GEOLOGIC INFORMATION SHOWN IS BASED ON ADDITIONAL EXPLORATIONS (e.g., HYDROPUNCHES, GEOPROBES, VERTICAL PROFILES, AND/OR TEST WELLS) DOCUMENTED IN PREVIOUS, MORE DETAILED REPORTS, 2001 PREDESIGN CHARACTERIZATION, AND WELL 105-22 SAMPLING EVENT APRIL 2005.

2) PLUME DISTRIBUTION IS BASED ON FOURTH QUARTER 2021 OU III SAMPLING EVENT AND DATA FROM WELLS USED FOR OU III AOC 29 (HFBR) MONITORING. THIS DATA IS SUPPLEMENTED WITH SAMPLING EVENTS FOR BGRR, BUILDING 96, INDUSTRIAL PARK, CARBON TETRACHLORIDE, MIDDLE ROAD, AND OFFSITE CHARACTERIZATION DATA.

3) CONTOUR INTERVAL IS AS SHOWN.

4) BNL WELL ID COLOR CORRESPONDS TO LONG-TERM MONITORING WELL LOCATION MAP.

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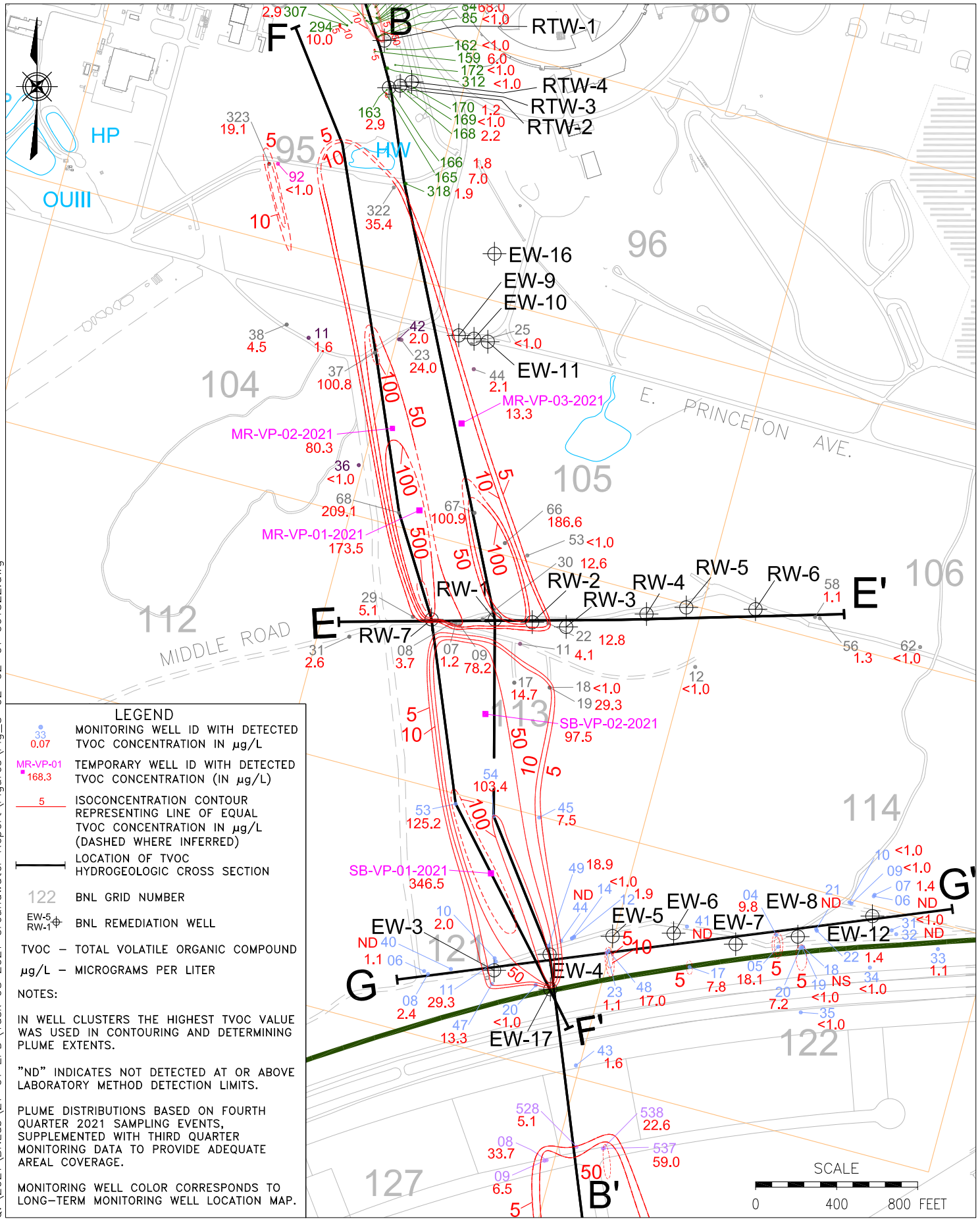
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III
TVOC HYDROGEOLOGIC CROSS SECTION (B-B')
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	20:1	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2-2



LEGEND

- 33 / 0.07 — MONITORING WELL ID WITH DETECTED TVOC CONCENTRATION IN µg/L
- MR-VP-01 / 168.3 — TEMPORARY WELL ID WITH DETECTED TVOC CONCENTRATION (IN µg/L)
- 5 — ISOCONCENTRATION CONTOUR REPRESENTING LINE OF EQUAL TVOC CONCENTRATION IN µg/L (DASHED WHERE INFERRED)
- LOCATION OF TVOC HYDROGEOLOGIC CROSS SECTION
- 122 — BNL GRID NUMBER
- EW-5 / RW-1 — BNL REMEDIATION WELL
- TVOC – TOTAL VOLATILE ORGANIC COMPOUND
- µg/L – MICROGRAMS PER LITER

NOTES:

IN WELL CLUSTERS THE HIGHEST TVOC VALUE WAS USED IN CONTOURING AND DETERMINING PLUME EXTENTS.

"ND" INDICATES NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMITS.

PLUME DISTRIBUTIONS BASED ON FOURTH QUARTER 2021 SAMPLING EVENTS, SUPPLEMENTED WITH THIRD QUARTER MONITORING DATA TO PROVIDE ADEQUATE AREAL COVERAGE.

MONITORING WELL COLOR CORRESPONDS TO LONG-TERM MONITORING WELL LOCATION MAP.

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

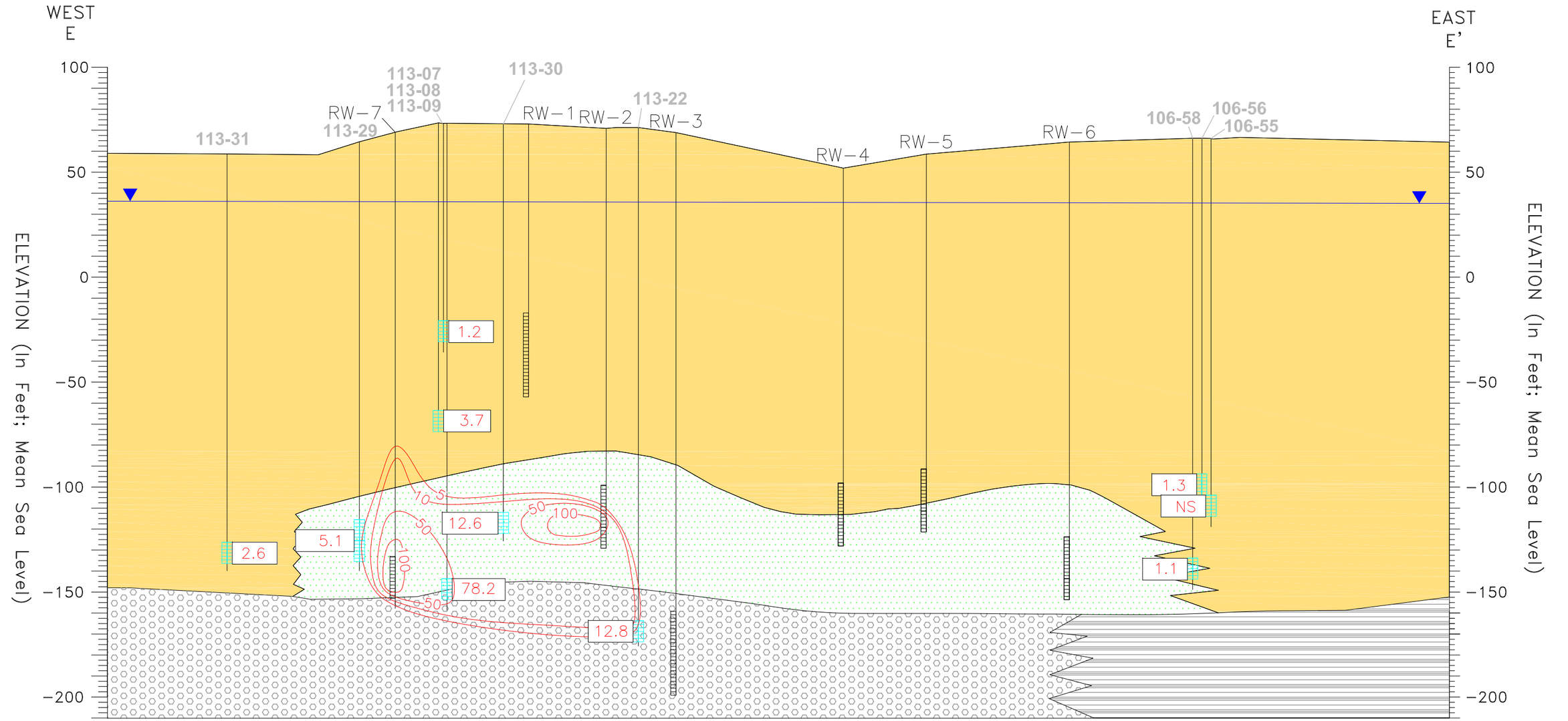
TITLE:

OU III MIDDLE ROAD AREA, TVOC PLUME DISTRIBUTION

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.2-1



LEGEND

Upper Glacial aquifer

- UG Upper Glacial Sands
- UC Upper Glacial Silts & Clays
- UU Upton Unit

Gardiners Clay

- GL Gardiners Clay
- GS Gardiners Clay – Silt

Magothy aquifer

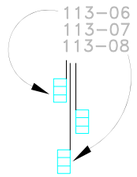
- MA Magothy Sands and Clay
- MB Magothy Brown Clay
- MC Magothy Clays (undifferentiated)
- MO Magothy – OTHER

HORIZONTAL SCALE
0 100 200 FEET

- RW−1 — Extraction Well
- 113−06 — BNL Well ID
- ND — Indicates not detected at or above laboratory method detection limits
- NS — not sampled
- 1.84 — TVOC Concentration (µg/L)
- 5 — TVOC Contour (µg/L) (Dashed Where Inferred)

- Water Table As Of Oct 13 – Oct 18, 2021
- Monitoring Well Screen
- Extraction Well Screen

Monitoring Well IDs are stacked in order of the depth of the well from shallow to deep



NOTES:

1) GEOLOGIC INFORMATION SHOWN IS BASED ON ADDITIONAL EXPLORATIONS (e.g., HYDROPUNCHES, GEOPROBES, VERTICAL PROFILES, AND/OR TEST WELLS) DOCUMENTED IN PREVIOUS, MORE DETAILED REPORTS.

2) PLUME DISTRIBUTION BASED ON FOURTH QUARTER 2021 OU III SAMPLING EVENTS.

3) CONTOUR INTERVAL IS AS SHOWN.

4) BNL WELL ID COLOR CORRESPONDS TO LONG−TERM MONITORING PROGRAM WELL LOCATION MAP.

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

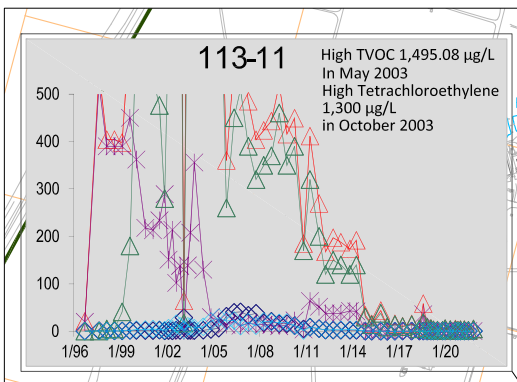
TITLE:

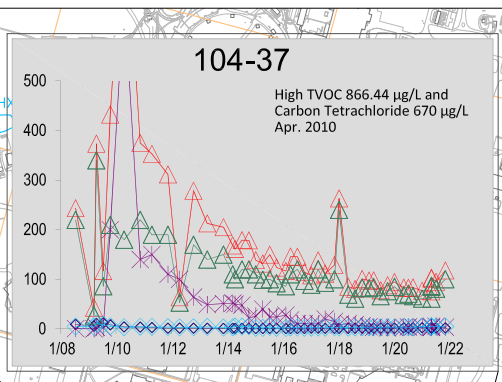
OU III MIDDLE ROAD AREA
TVOC HYDROGEOLOGIC CROSS SECTION (E−E')

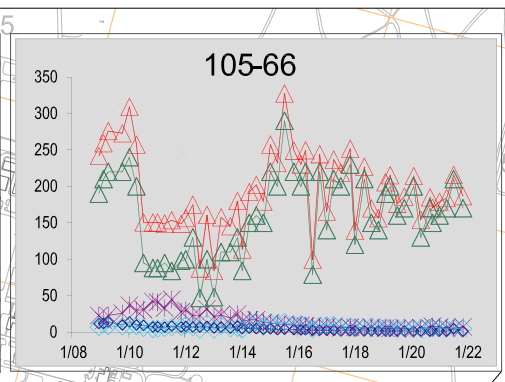
2021 BNL GROUNDWATER STATUS REPORT

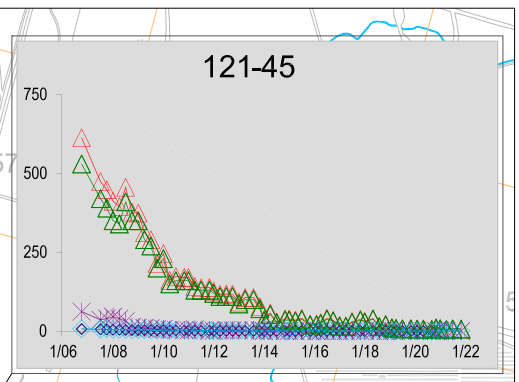
DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	5:1	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

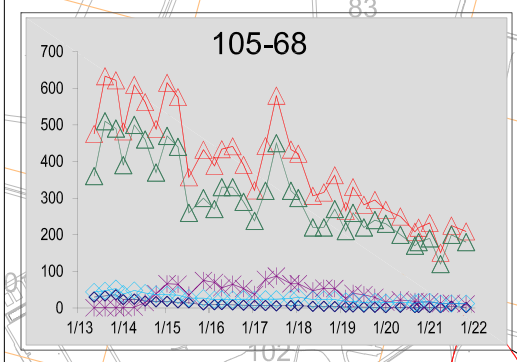
FIGURE NO.: 3.2.2−2

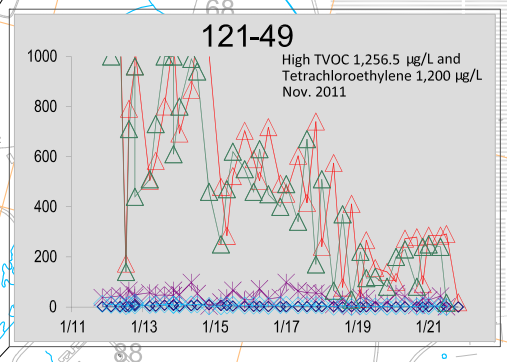


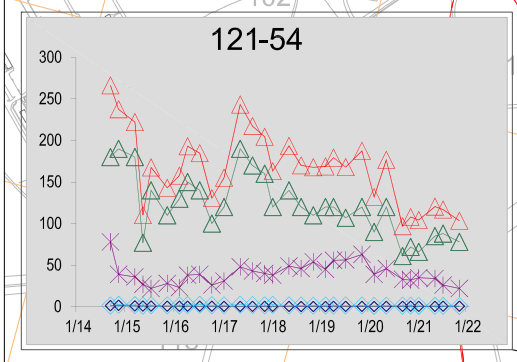


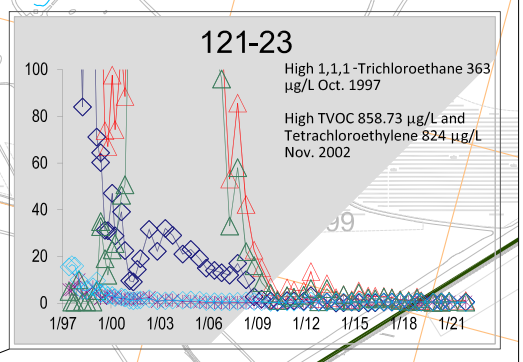


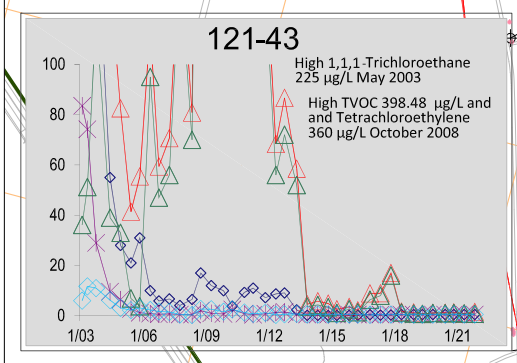


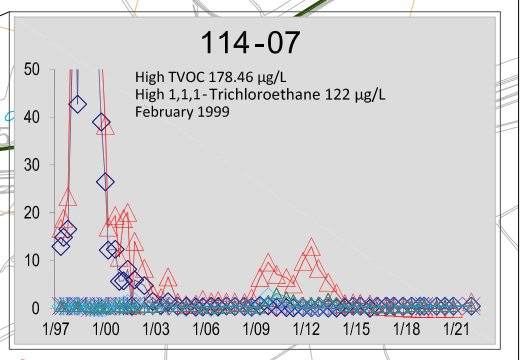


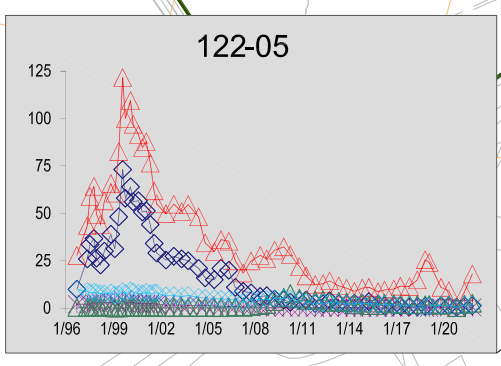


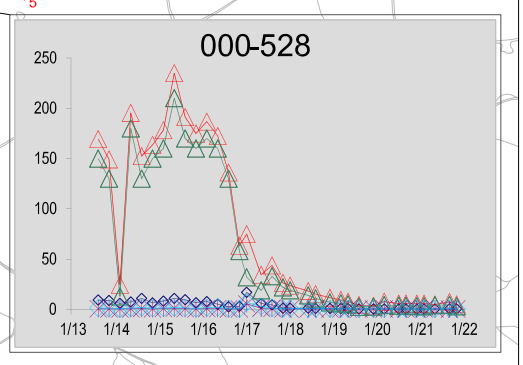


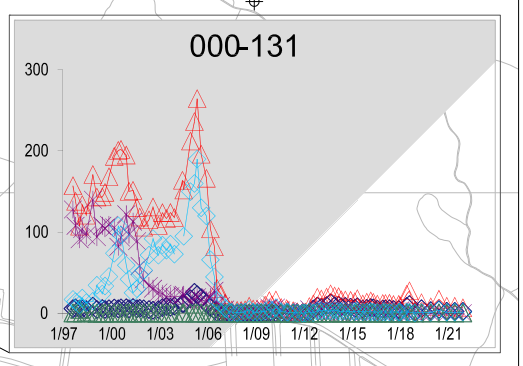




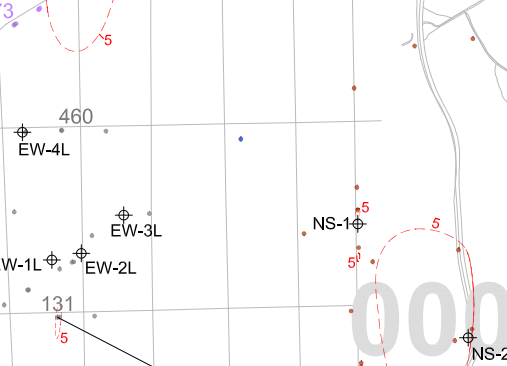












LEGEND

- 06 — MONITORING WELL ID
- 5 — EXTENT OF TVOC PLUME BASED ON 5 µg/L ISOCONTOUR
- 105 — BNL GRID NUMBER
- EW-5 — BNL REMEDIATION WELL
- RA V — BNL RECHARGE BASIN
- SOLAR FARM PANELS
- TVOC – TOTAL VOLATILE ORGANIC COMPOUND
- µg/L – MICROGRAM PER LITER
- TVOC
- 1,1,1–TRICHLOROETHANE
- CARBON TETRACHLORIDE
- TETRACHLOROETHYLENE
- TRICHLOROETHYLENE

CONCENTRATION (IN µg/L)
DATE (MONTH/YEAR)

SCALE 0 750 1500 FEET

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

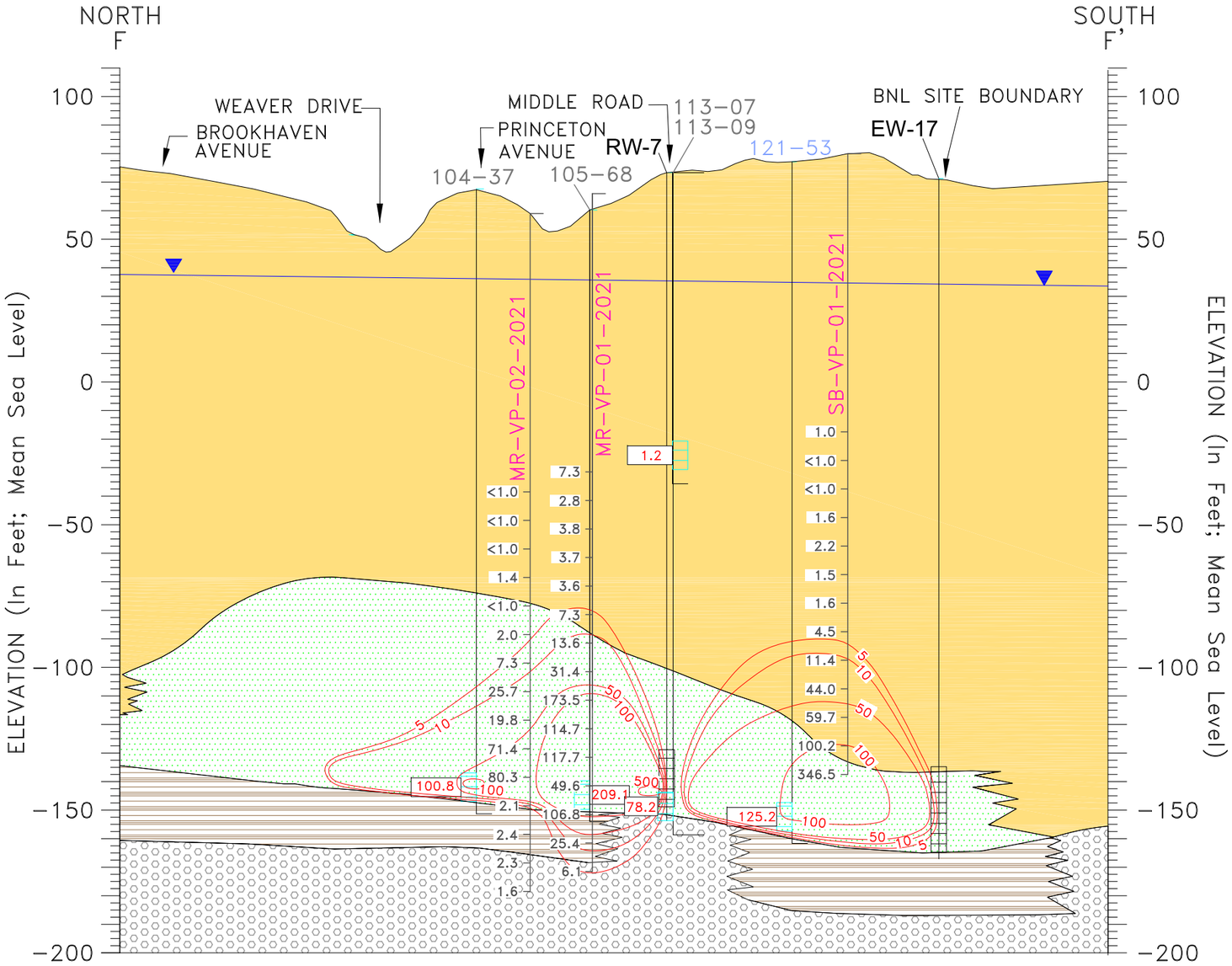
TITLE:

OU III AND OU IV PLUME(S) HISTORICAL VOC TRENDS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.2-3



LEGEND

Upper Glacial aquifer
- UG Upper Glacial Sands
- UC Upper Glacial Silts & Clays
- UU Upton Unit

Gardiners Clay
- GL Gardiners Clay
- GS Gardiners Clay – Silt

Magothy aquifer
- MA Magothy Sands and Clay
- MB Magothy Brown Clay
- MC Magothy Clays (undiff)
- MO Magothy – OTHER

- 121–53 BNL Well ID
- 1.84 TVOC Concentration (µg/L)
- ND Not detected at or above laboratory method detection limits
- NS Not Sampled
- —50— TVOC Contour (µg/L) (Dashed Where Inferred)
- Monitoring Well Screen
- Extraction Well Screen
- Water Table As Of Oct 13 – Oct 18, 2021

TVOC – Total Volatile Organic Compound

µg/L – Micrograms Per Liter

HORIZONTAL SCALE
0 500 1000 FEET

NOTES:

1) GEOLOGIC INFORMATION SHOWN IS BASED ON ADDITIONAL EXPLORATIONS (e.g., HYDROPUNCHES, GEOPROBES, VERTICAL PROFILES, AND/OR TEST WELLS) DOCUMENTED IN PREVIOUS, MORE DETAILED REPORTS, 2001 PREDESIGN CHARACTERIZATION, AND WELL 105–22 SAMPLING EVENT APRIL 2005.

2) PLUME DISTRIBUTION IS BASED ON FOURTH QUARTER 2021 OU III SAMPLING EVENT.

3) CONTOUR INTERVAL IS AS SHOWN.

4) BNL WELL ID COLOR CORRESPONDS TO LONG–TERM MONITORING WELL LOCATION MAP.

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III MIDDLE ROAD AREA
TVOC HYDROGEOLOGIC CROSS SECTION (F–F')

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	5:1	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.2–4

Figure 3.2.2-5
OU III Middle Road Groundwater Remediation System
Cumulative VOC Mass Removed

2021 BNL Groundwater Status Report

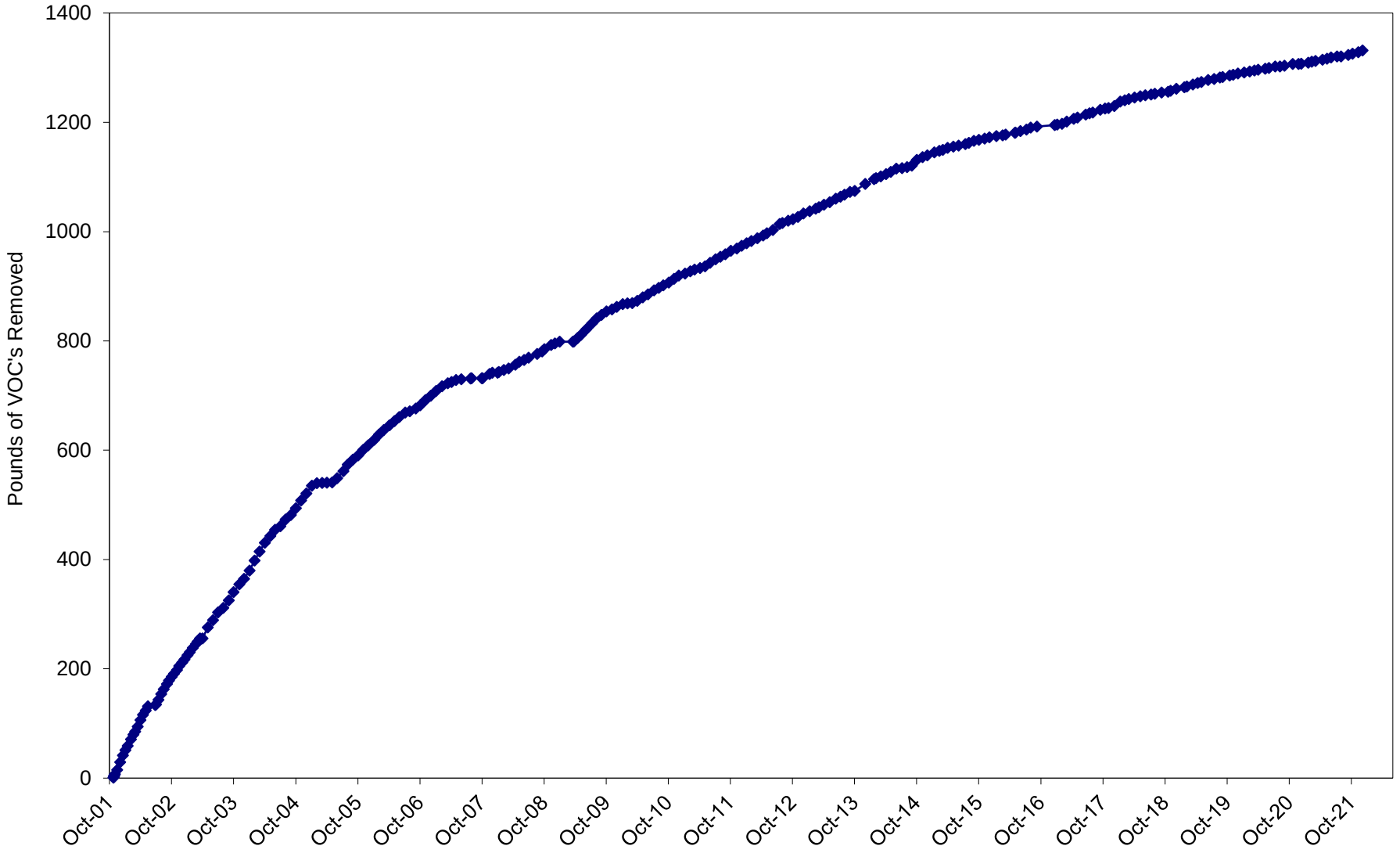
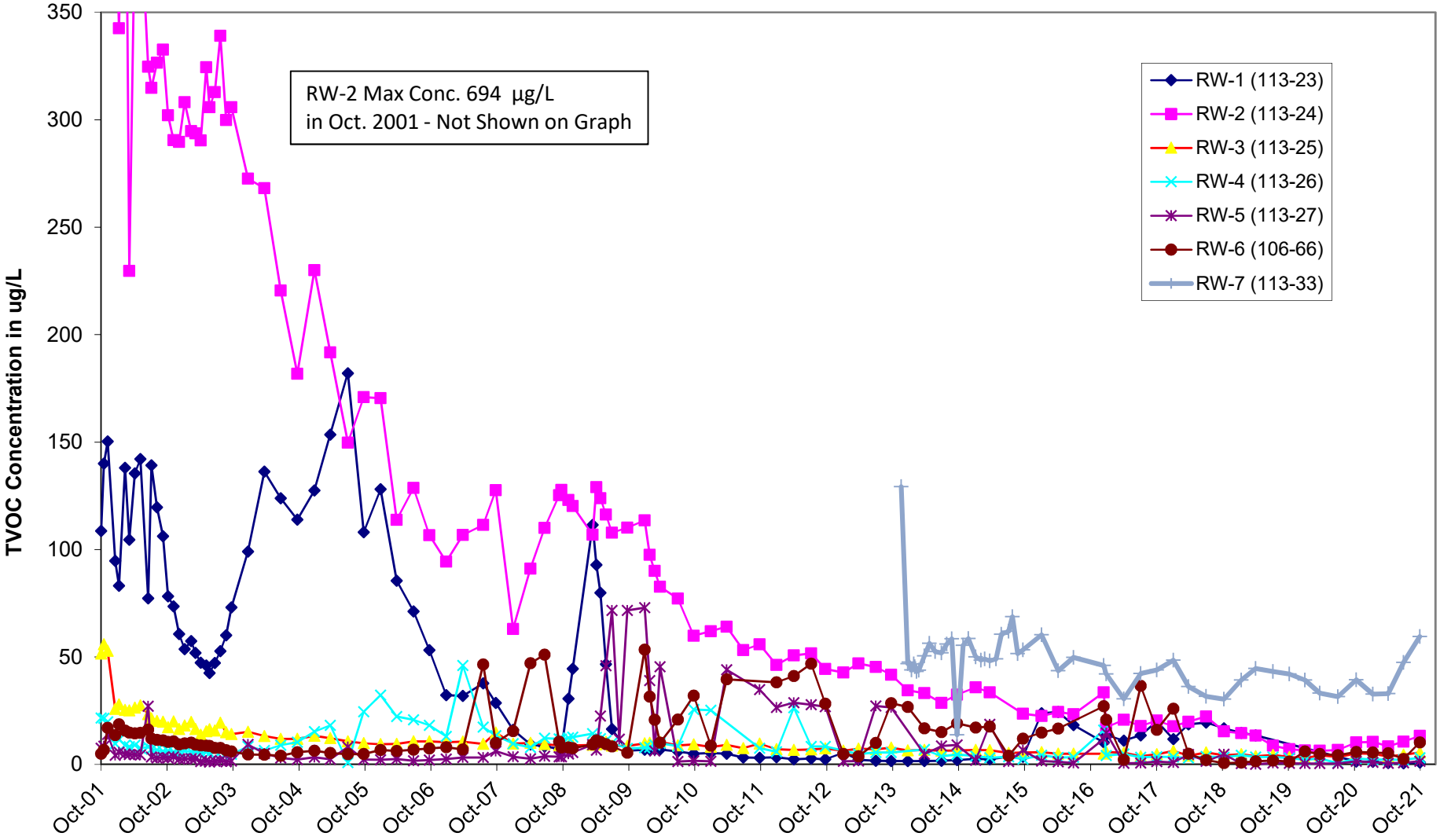


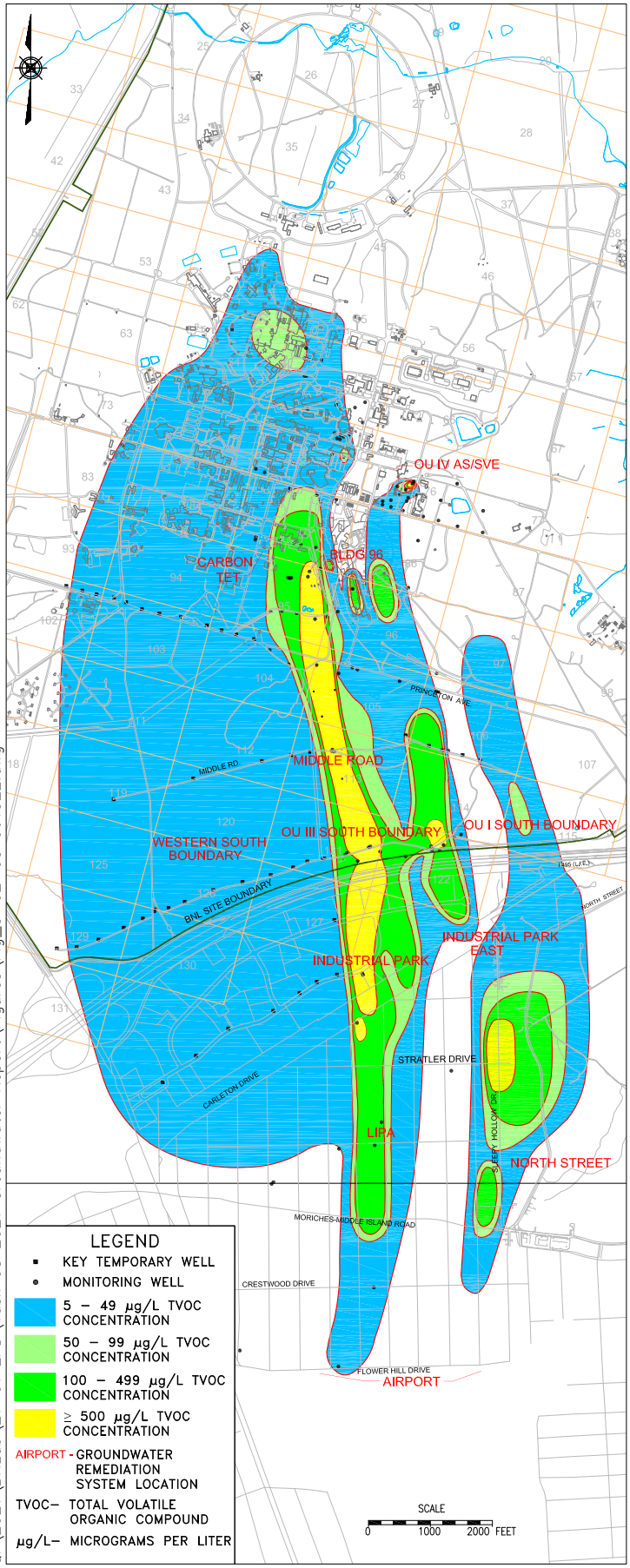
Figure 3.2.2-6
OU III Middle Road Groundwater Remediation System
Total Volatile Organic Compounds in Recovery Wells

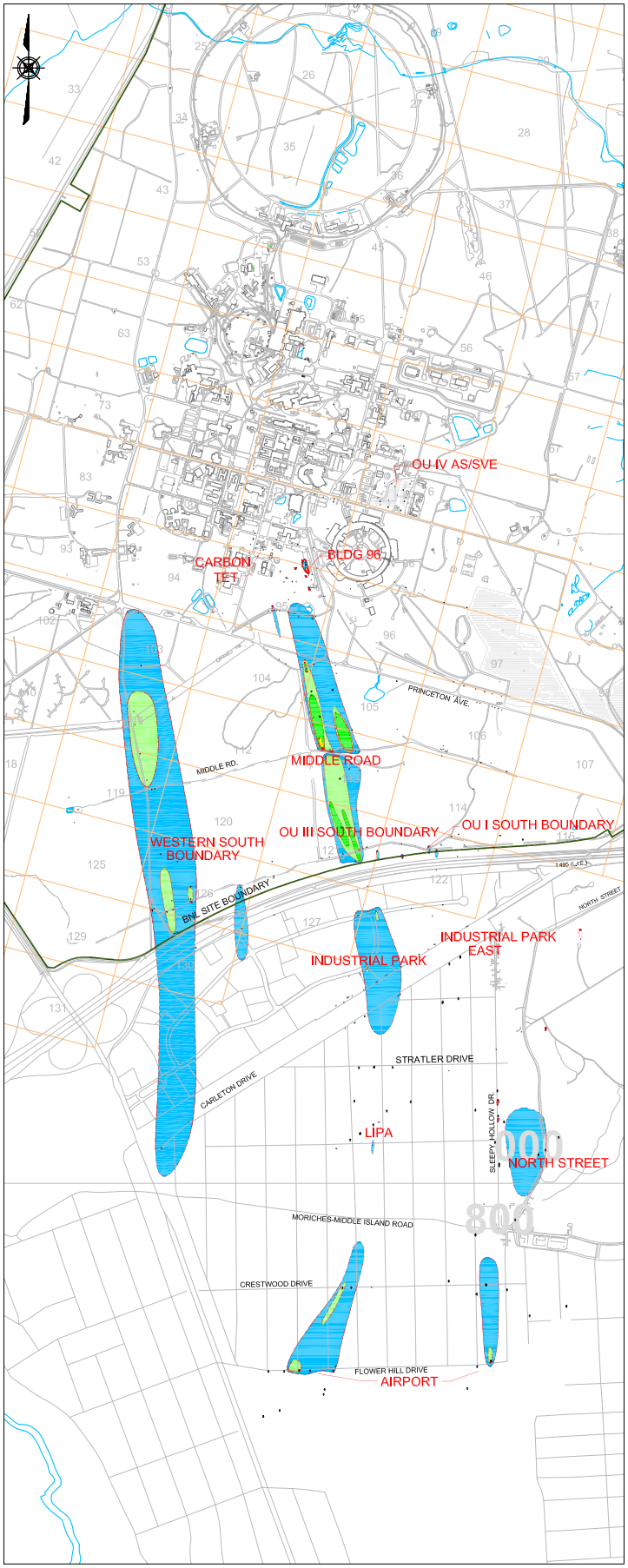
2021 BNL Groundwater Status Report



1997 TVOC PLUME DISTRICTION

2021 TVOC PLUME DISTRICTION





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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

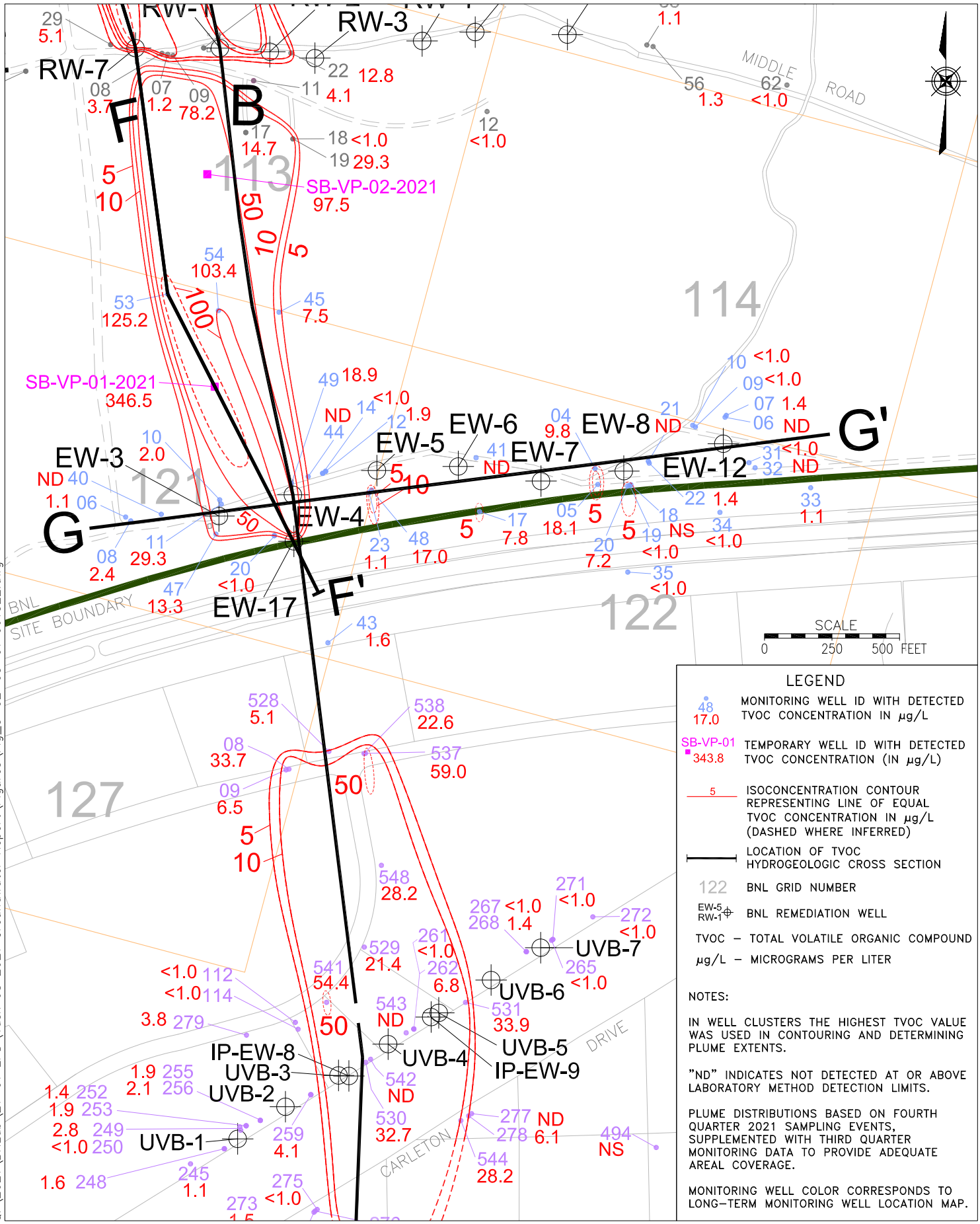
TITLE:

OU III / OU IV / NORTH STREET TVOC PLUME COMPARISON 1997 – 2021

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2–3



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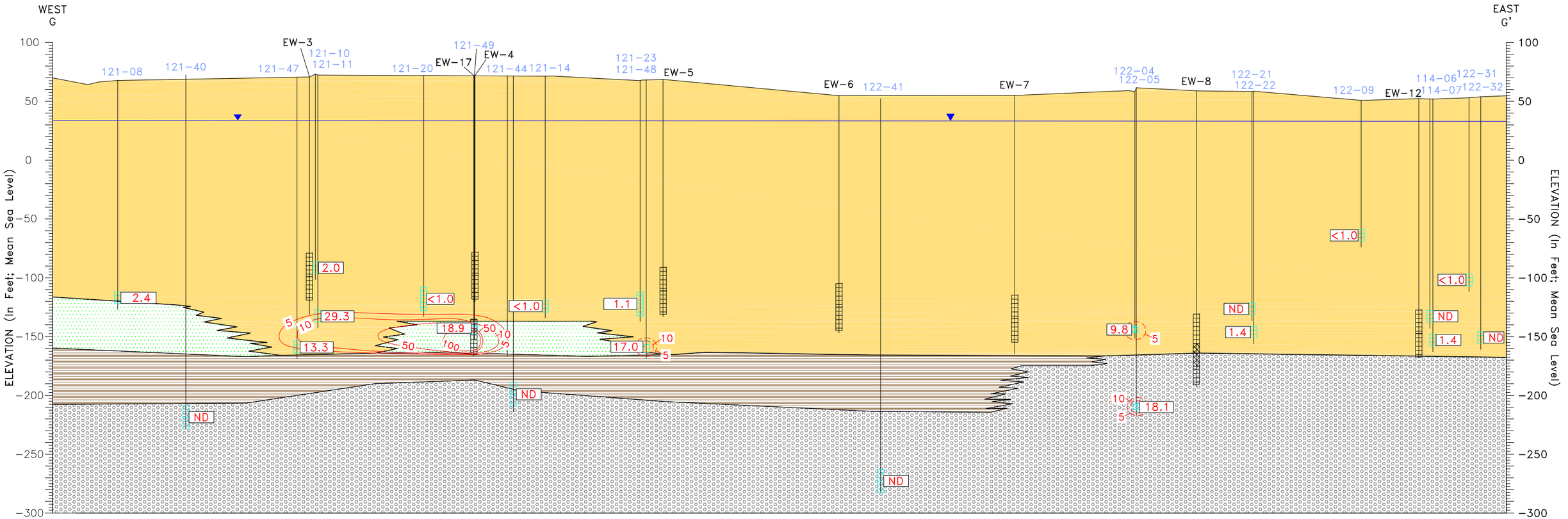
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
OU III AND OU IV SOUTH BOUNDARY/ INDUSTRIAL PARK AREAS, TVOC PLUME DISTRIBUTION
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.3-1



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LEGEND

Upper Glacial aquifer

- UG Upper Glacial Sands
- UC Upper Glacial Silts & Clays
- UU Upton Unit

Gardiners Clay

- GL Gardiners Clay
- GS Gardiners Clay – Silt

Magothy aquifer

- MA Magothy Sands and Clay
- MB Magothy Brown Clay
- MC Magothy Clays (undiff)
- MO Magothy – OTHER

121−07 BNL Well ID

21.62 TVOC Concentration (µg/L)

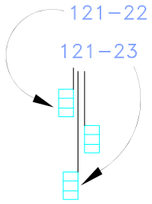
50 TVOC Contour (µg/L) (Dashed Where Inferred)

ND Indicates not detected at or above laboratory method detection limits

Monitoring Well Screen

Extraction Well Screen

Monitoring Well IDs are stacked in order of the depth of the well from shallow to deep



Water Table As Of Oct 13 – Oct 18, 2021

TVOC – Total Volatile Organic Compound

µg/L – Micrograms Per Liter

HORIZONTAL SCALE
0 50 100 FEET

NOTES:

1) GEOLOGIC INFORMATION SHOWN IS BASED ON ADDITIONAL EXPLORATIONS (e.g., HYDROPUNCHES, GEOPROBES, VERTICAL PROFILES, AND/OR TEST WELLS) DOCUMENTED IN PREVIOUS, MORE DETAILED REPORTS.

2) PLUME DISTRIBUTION IS BASED ON FOURTH QUARTER 2021 OU III SAMPLING EVENTS.

3) CONTOUR INTERVAL IS AS SHOWN.

4) BNL WELL ID COLOR CORRESPONDS TO LONG-TERM MONITORING PROGRAM COLOR CODE.

Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III SOUTH BOUNDARY AREA
TVOC HYDROGEOLOGIC CROSS SECTION (G–G')
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	2:1	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.3-2

Figure 3.2.3-3
OU III South Boundary Groundwater Remediation System
Total Volatile Organic Compounds in Extraction Wells

2021 BNL Groundwater Status Report

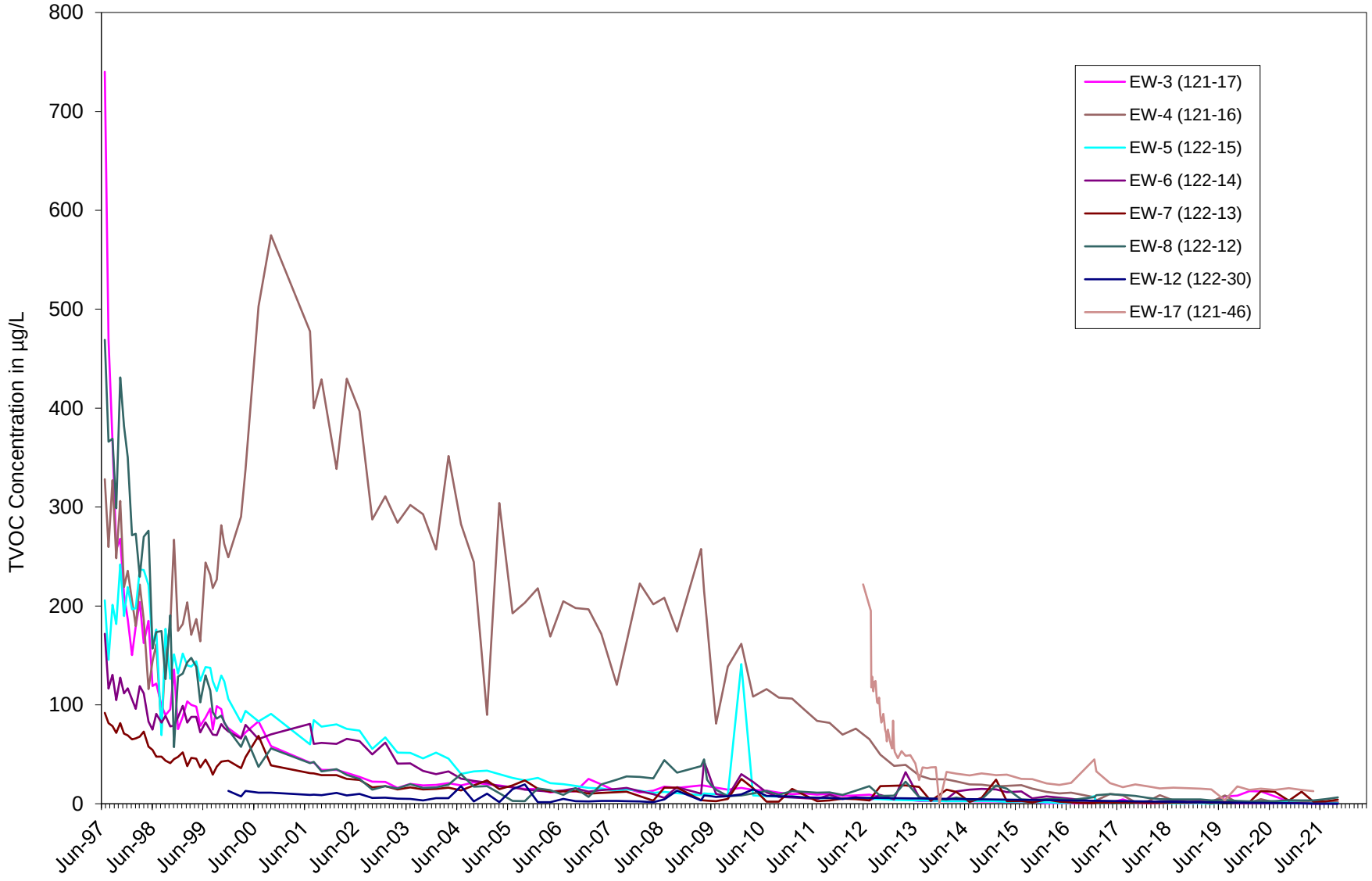


Figure 3.2.3-4
OU III South Boundary Groundwater Remediation System
Total Volatile Organic Compounds in Extraction Wells
2010 through 2021

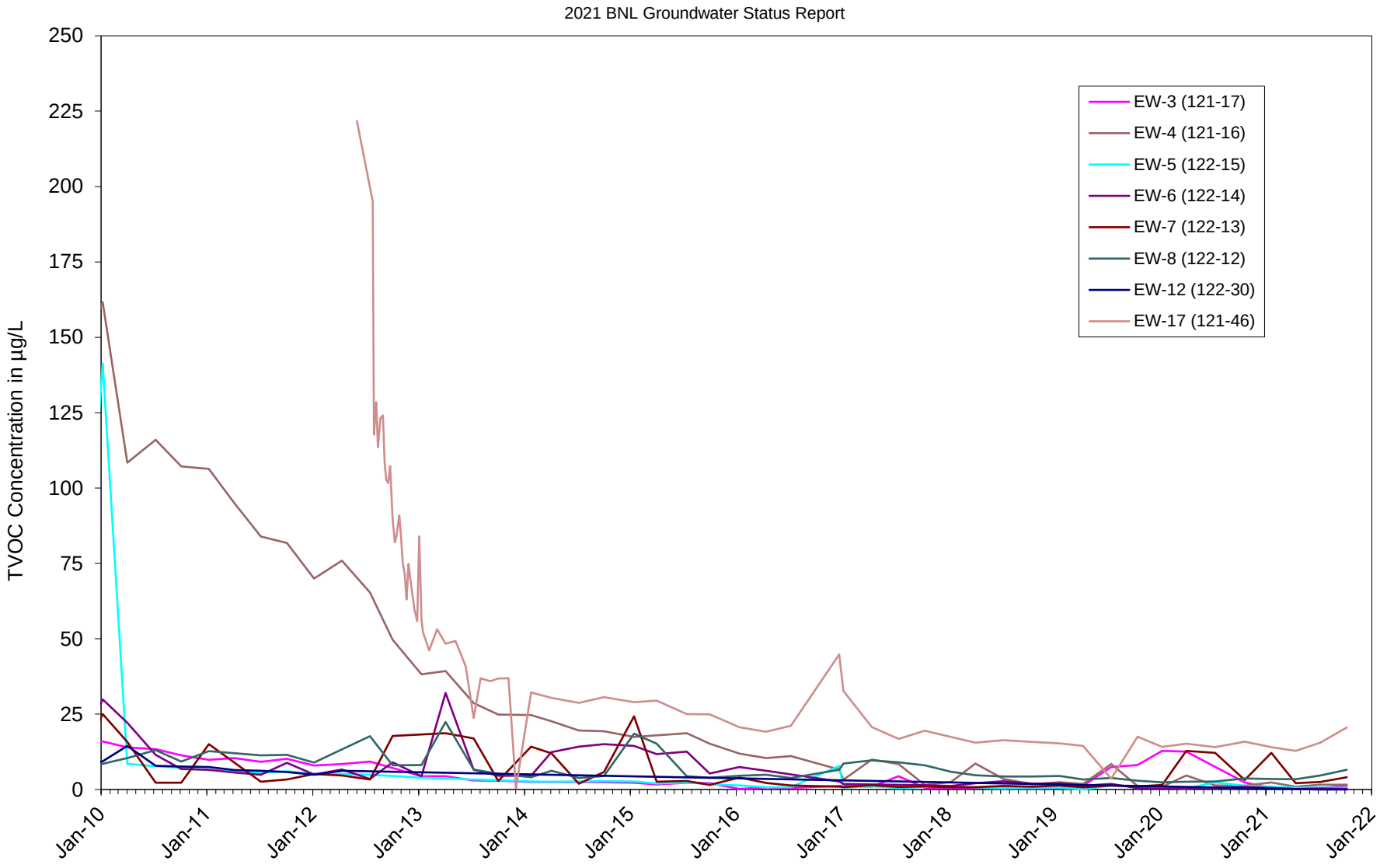
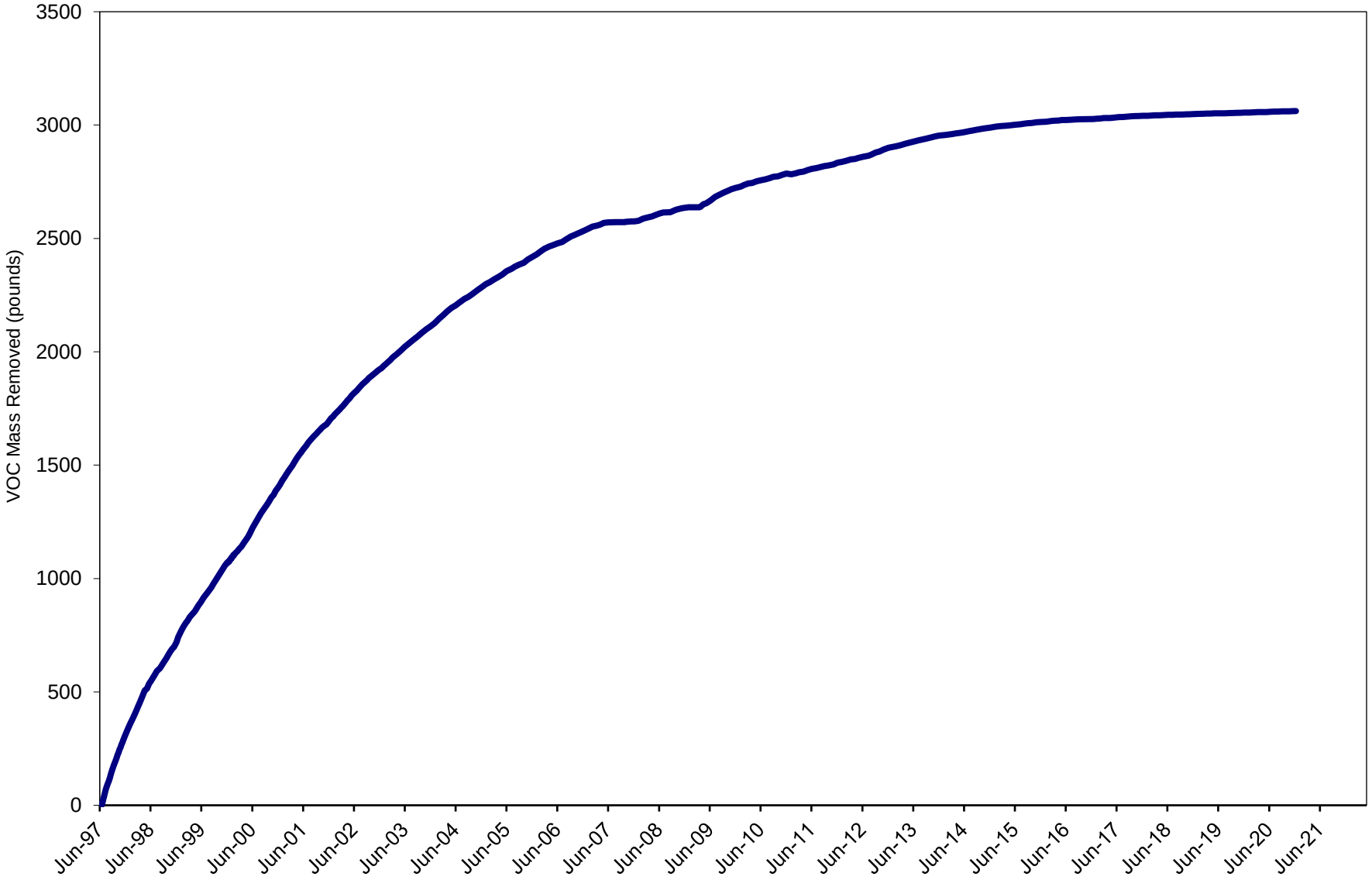
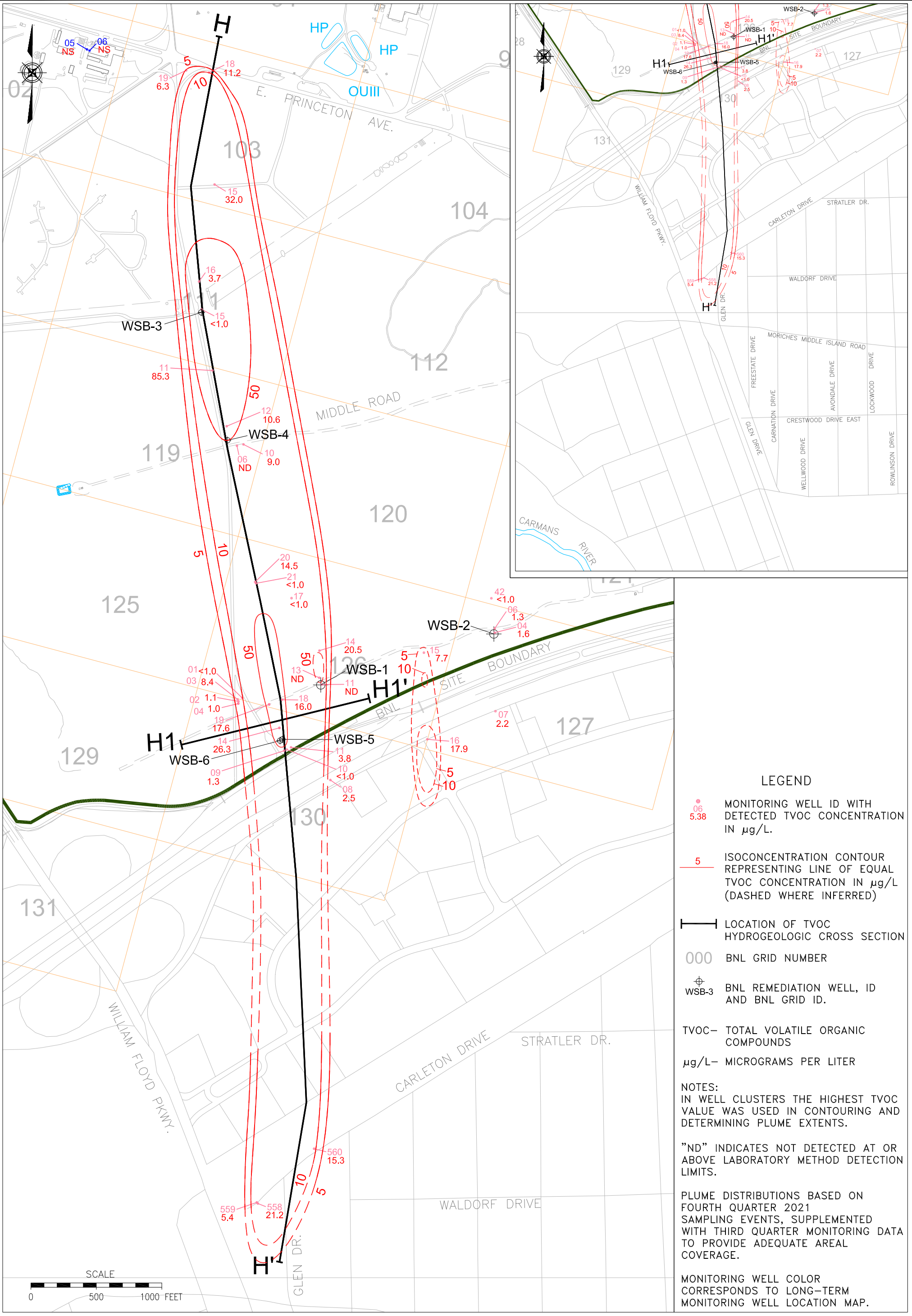


Figure 3.2.3-5
OU III South Boundary Groundwater Remediation System
Cumulative VOC Mass Removed

2021 BNL Groundwater Status Report





LEGEND

- 06 / 5.38 — MONITORING WELL ID WITH DETECTED TVOC CONCENTRATION IN µg/L.
- 5 — ISOCONCENTRATION CONTOUR REPRESENTING LINE OF EQUAL TVOC CONCENTRATION IN µg/L (DASHED WHERE INFERRED)
- LOCATION OF TVOC HYDROGEOLOGIC CROSS SECTION
- 000 — BNL GRID NUMBER
- WSB-3 — BNL REMEDIATION WELL, ID AND BNL GRID ID.

TVOC– TOTAL VOLATILE ORGANIC COMPOUNDS

µg/L– MICROGRAMS PER LITER

NOTES:
IN WELL CLUSTERS THE HIGHEST TVOC VALUE WAS USED IN CONTOURING AND DETERMINING PLUME EXTENTS.

"ND" INDICATES NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMITS.

PLUME DISTRIBUTIONS BASED ON FOURTH QUARTER 2021 SAMPLING EVENTS, SUPPLEMENTED WITH THIRD QUARTER MONITORING DATA TO PROVIDE ADEQUATE AREAL COVERAGE.

MONITORING WELL COLOR CORRESPONDS TO LONG–TERM MONITORING WELL LOCATION MAP.

Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III WESTERN SOUTH BOUNDARY TVOC PLUME DISTRIBUTION

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.4–1

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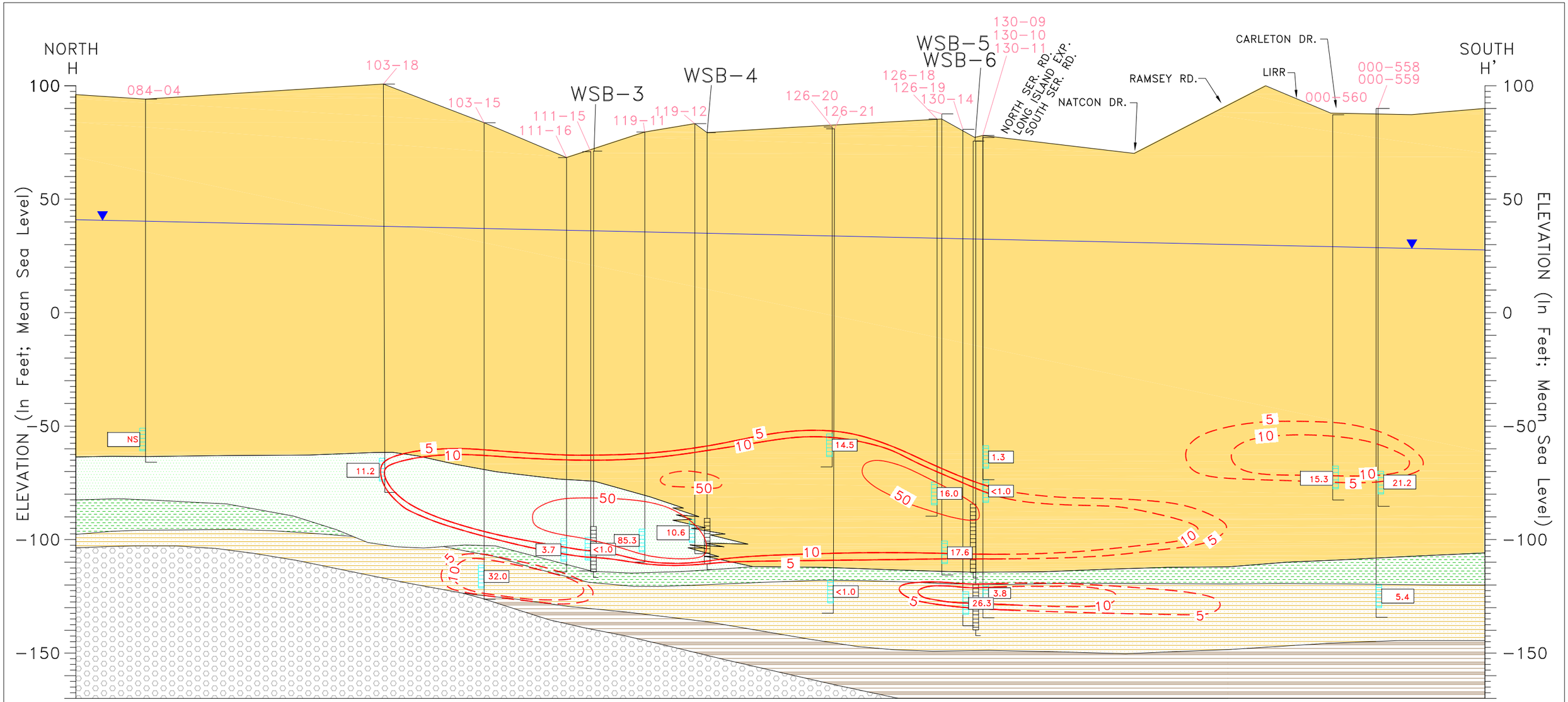

LEGEND

Upper Glacial aquifer

- UG Upper Glacial Sands
- UC Upper Glacial Silts & Clays
- UU Upton Unit

Gardiners Clay

- GL Gardiners Clay
- GS Gardiners Clay – Silt

Magothy aquifer

- MA Magothy Sands and Clay
- MB Magothy Brown Clay
- MC Magothy Clays (undifferentiated)
- MO Magothy – OTHER

126-20 BNL Well ID

ND Indicates not detected at or above laboratory method detection limits

7.54 TVOC Concentration (µg/L)

— 5 — TVOC Contour (µg/L) (Dashed Where Inferred)

Monitoring Well Screen

Extraction Well Screen

Water Table As Of Oct 13 – Oct 18, 2021

TVOC– Total Volatile Organic Compound

µg/L– Micrograms Per Liter

HORIZONTAL SCALE

0 500 1000 FEET

NOTES:

1) GEOLOGIC INFORMATION SHOWN IS BASED ON ADDITIONAL EXPLORATIONS (e.g., HYDROPUNCHES, GEOPROBES, VERTICAL PROFILES, AND/OR TEST WELLS) DOCUMENTED IN PREVIOUS, CHARACTERIZATION REPORTS.

2) PLUME DISTRIBUTIONS BASED ON FOURTH QUARTER 2021 SAMPLING EVENTS, AND VERTICAL PROFILE DATA.

3) CONTOUR INTERVAL IS AS SHOWN.

4) BNL WELL ID COLOR CORRESPONDS TO LONG-TERM MONITORING PROGRAM WELL LOCATION MAP.

Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III WESTERN SOUTH BOUNDARY TVOC HYDROGEOLOGIC CROSS SECTION (H-H')

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	20:1	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.4-2

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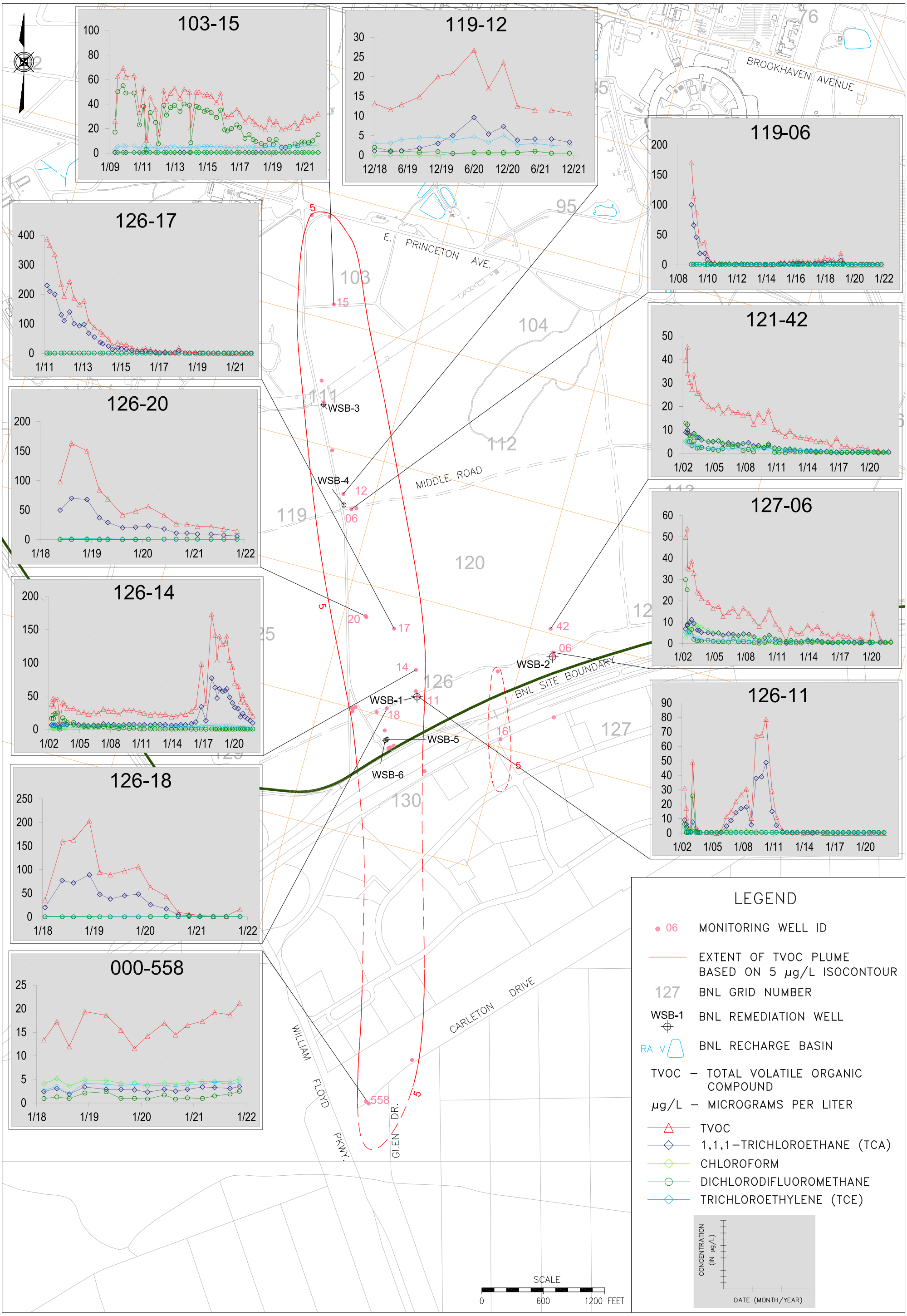

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Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III WESTERN SOUTH BOUNDARY HISTORICAL VOC TRENDS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.4-3

Figure 3.2.4-4
OU III Western South Boundary Groundwater Remediation System
Historic Extraction Well Total Volatile Organic Compound Concentrations

2021 BNL Groundwater Status Report

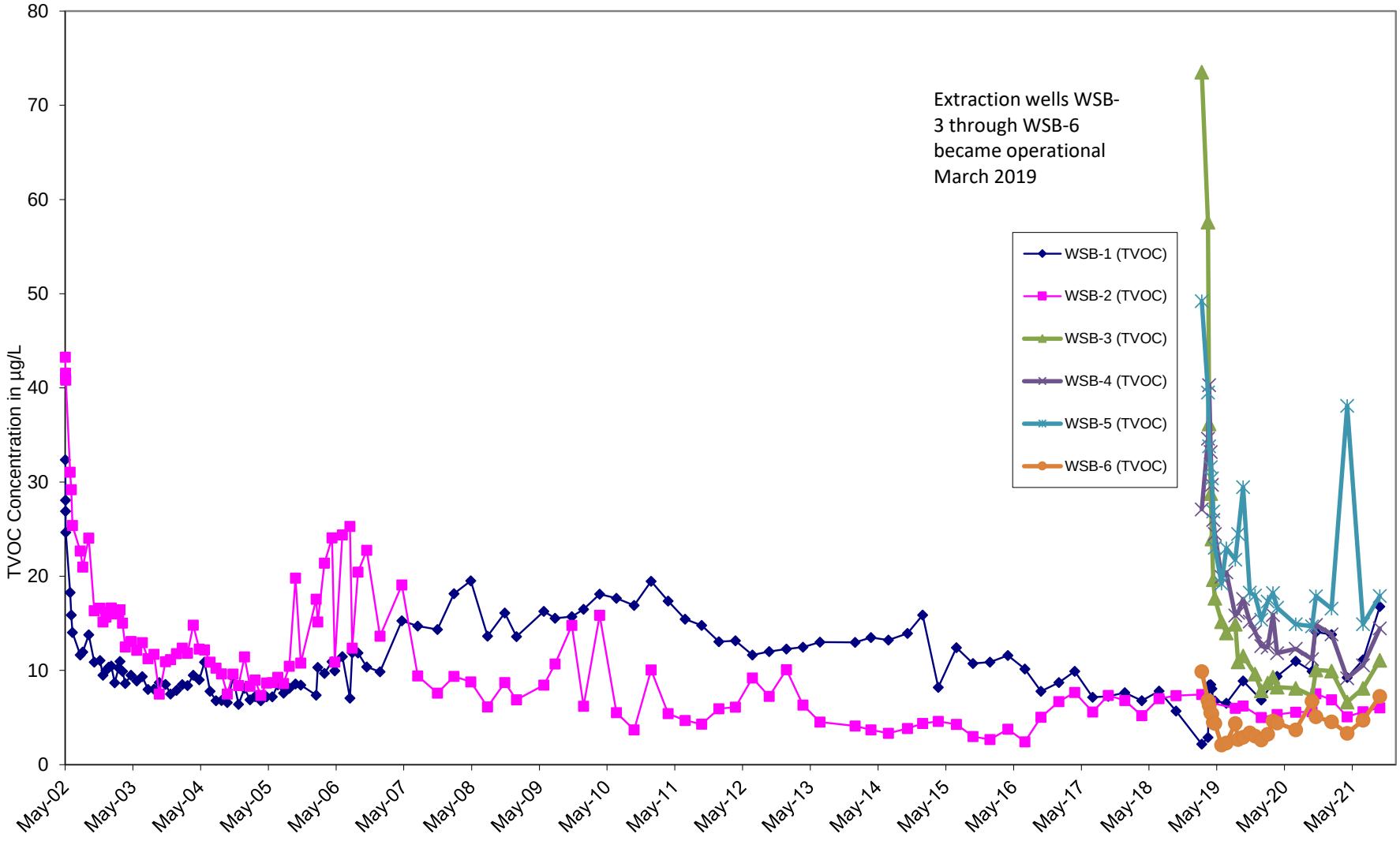
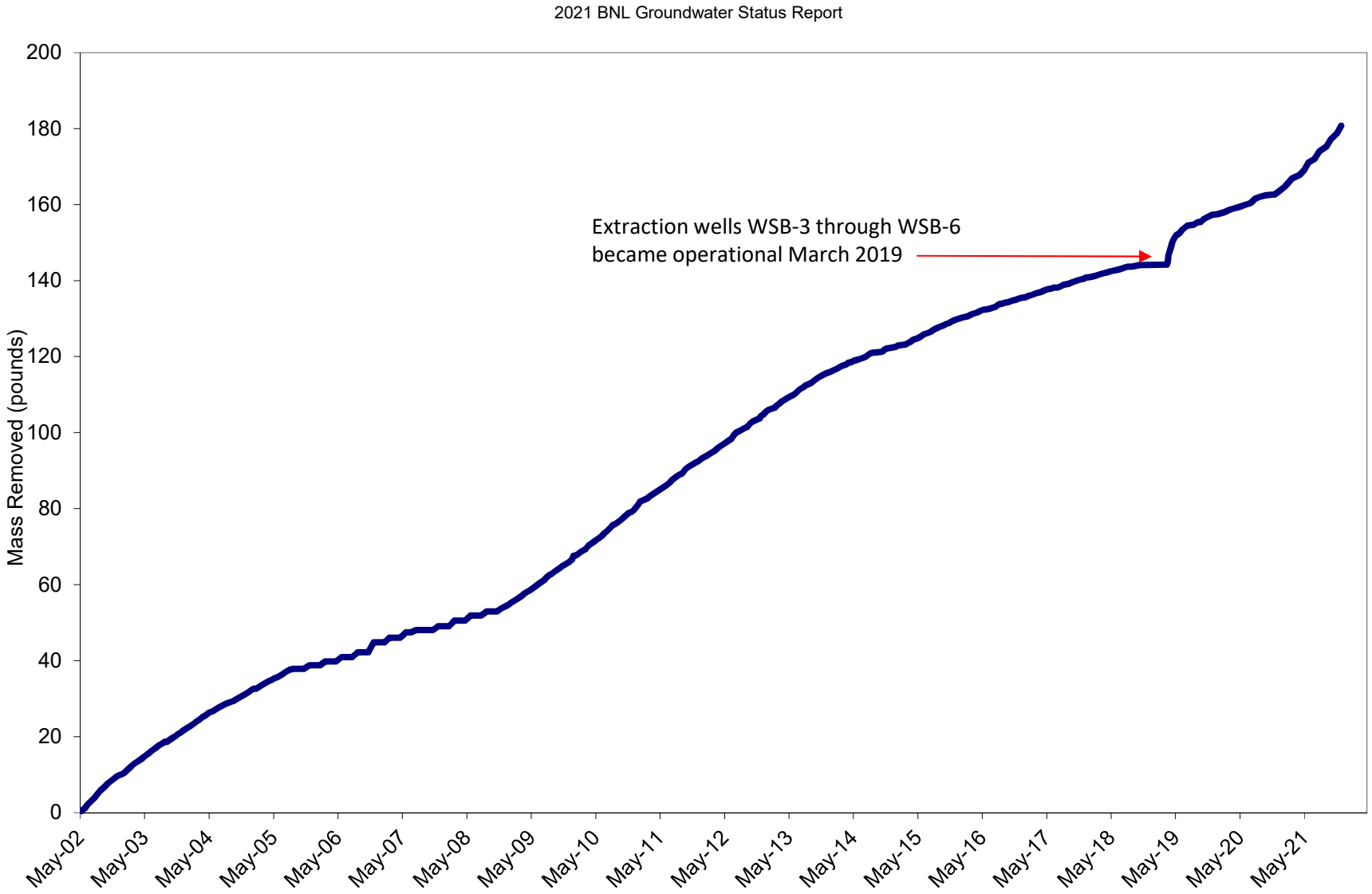


Figure 3.2.4-5
OU III Western South Boundary Groundwater Remediation System
Cumulative VOC Mass Removed



LEGEND

Upper Glacial aquifer

- UG Upper Glacial Sands
- UC Upper Glacial Silts & Clays
- UU Upton Unit

Gardiners Clay

- GL Gardiners Clay
- GS Gardiners Clay – Silt

Magothy aquifer

- MA Magothy Sands and Clay
- MB Magothy Brown Clay
- MC Magothy Clays (undifferentiated)
- MO Magothy – OTHER

- 126-01 BNL Well ID
- ND Indicates not detected at or above laboratory method detection limits
- 7.54 TVOC Concentration (µg/L)
- — 5 — TVOC Contour (µg/L) (Dashed Where Inferred)
- Monitoring Well Screen
- Extraction Well Screen

▼ Water Table As Of Oct 13 – Oct 18, 2021

TVOC– Total Volatile Organic Compound

µg/L– Micrograms Per Liter

NOTES:

1) GEOLOGIC INFORMATION SHOWN IS BASED ON ADDITIONAL EXPLORATIONS (e.g., HYDROPUNCHES, GEOPROBES, VERTICAL PROFILES, AND/OR TEST WELLS) DOCUMENTED IN PREVIOUS, CHARACTERIZATION REPORTS.

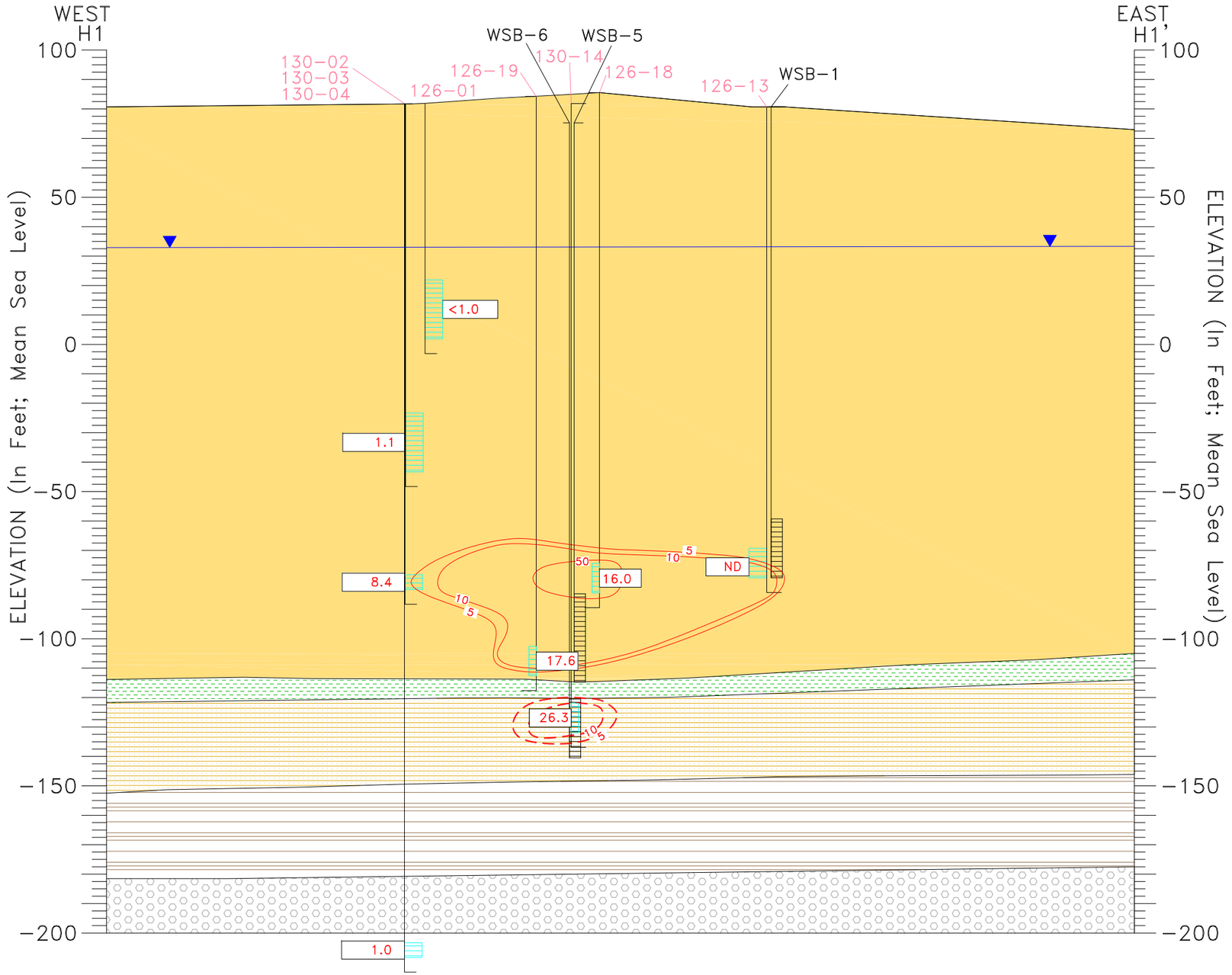
2) PLUME DISTRIBUTIONS BASED ON FOURTH QUARTER 2021 SAMPLING EVENTS, SUPPLEMENTED WITH THIRD QUARTER MONITORING DATA TO PROVIDE ADEQUATE AREAL COVERAGE.

3) CONTOUR INTERVAL IS AS SHOWN.

4) BNL WELL ID COLOR CORRESPONDS TO LONG-TERM MONITORING PROGRAM WELL LOCATION MAP.

HORIZONTAL SCALE

0 500 FEET



Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III WESTERN SOUTH BOUNDARY TVOC HYDROGEOLOGIC CROSS SECTION (H1-H1')

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	20:1	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.4-6

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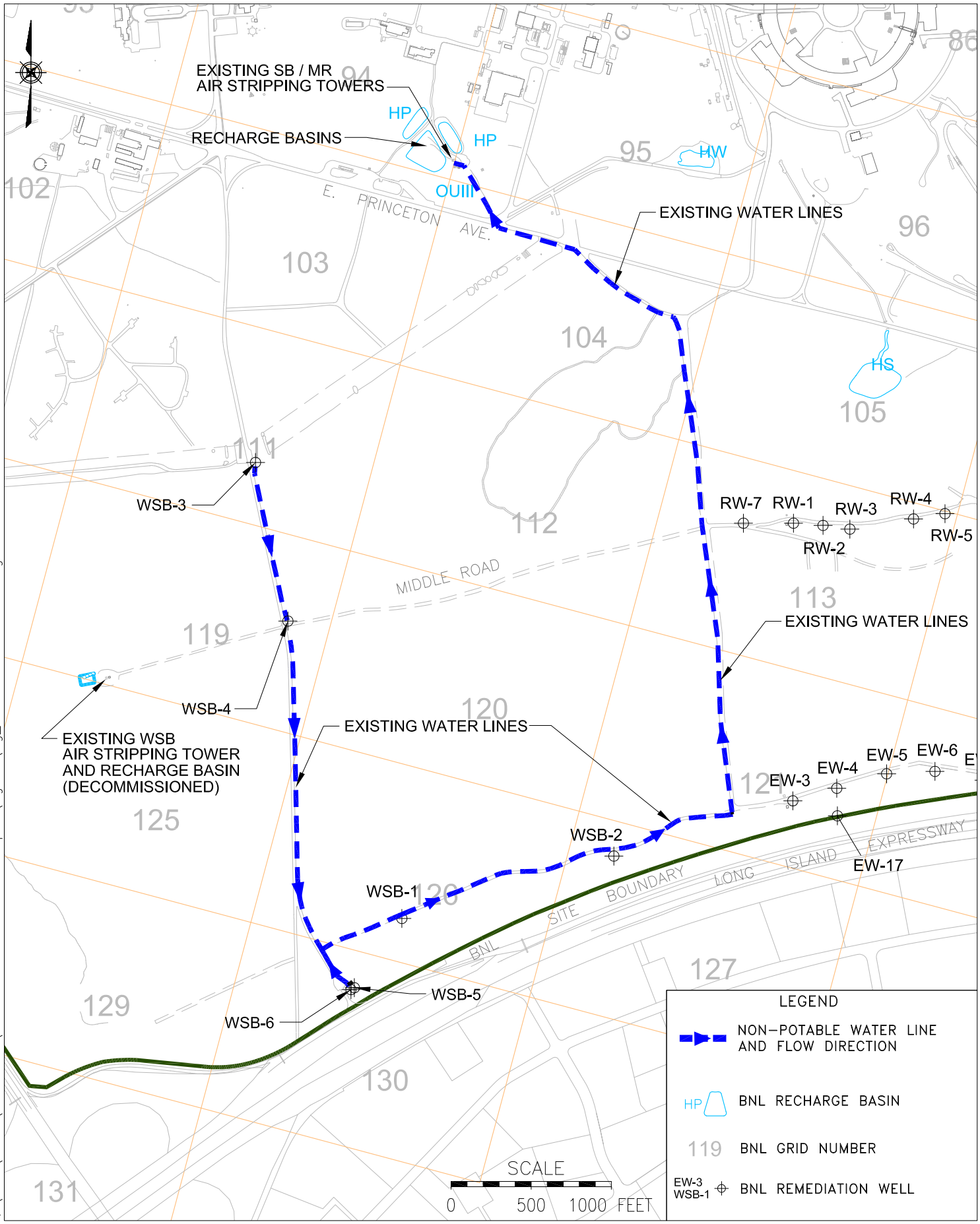

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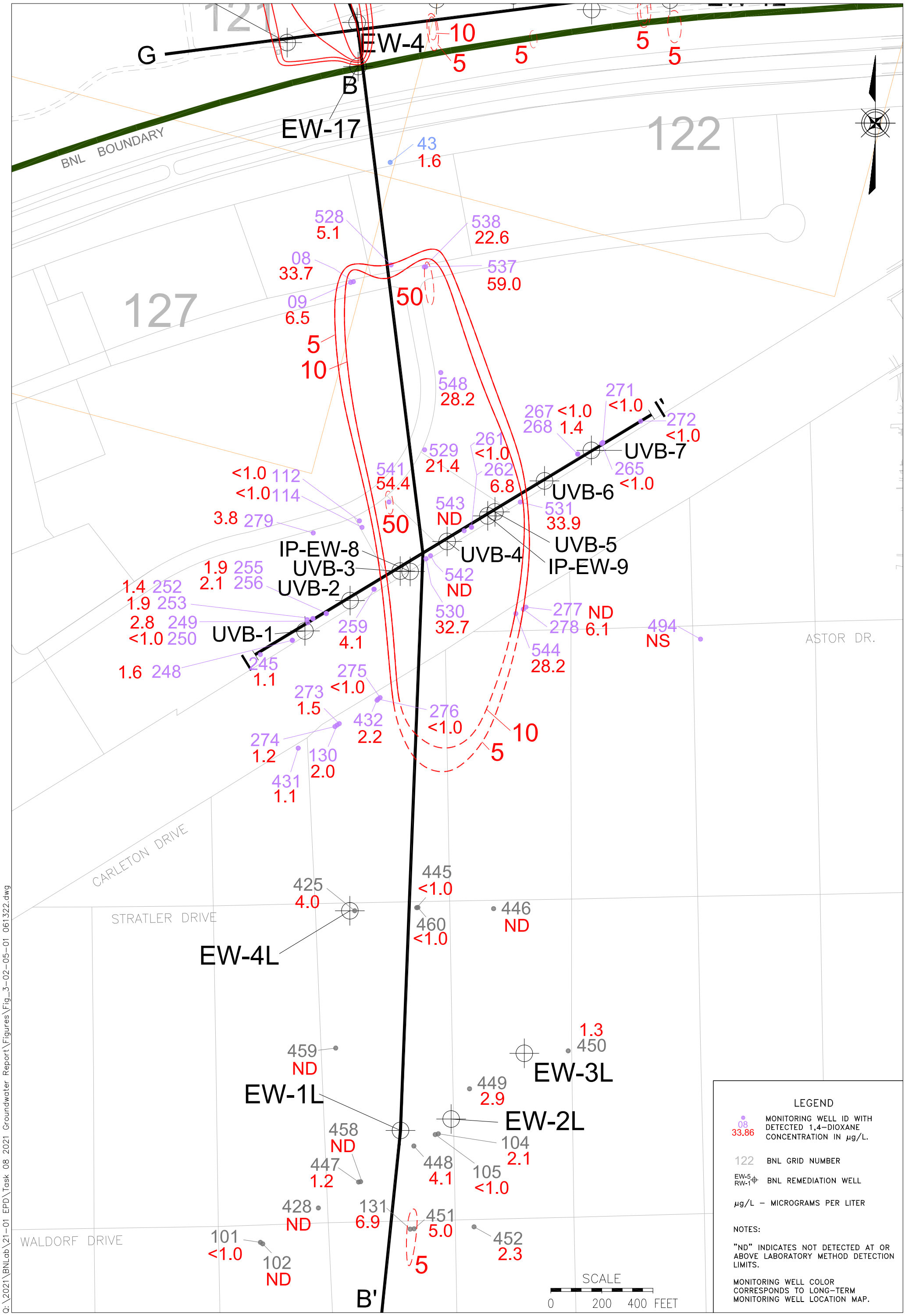
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
OU III WESTERN SOUTH BOUNDARY EXTRACTION WELLS AND PIPING LAYOUT
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
VJR	WRD	–	–

FIGURE NO.: 3.2.4-7



LEGEND

08 33.86 — MONITORING WELL ID WITH DETECTED 1,4-DIOXANE CONCENTRATION IN µg/L.

122 — BNL GRID NUMBER

EW-5 RW-1 — BNL REMEDIATION WELL

µg/L – MICROGRAMS PER LITER

NOTES:

"ND" INDICATES NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMITS.

MONITORING WELL COLOR CORRESPONDS TO LONG-TERM MONITORING WELL LOCATION MAP.

Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

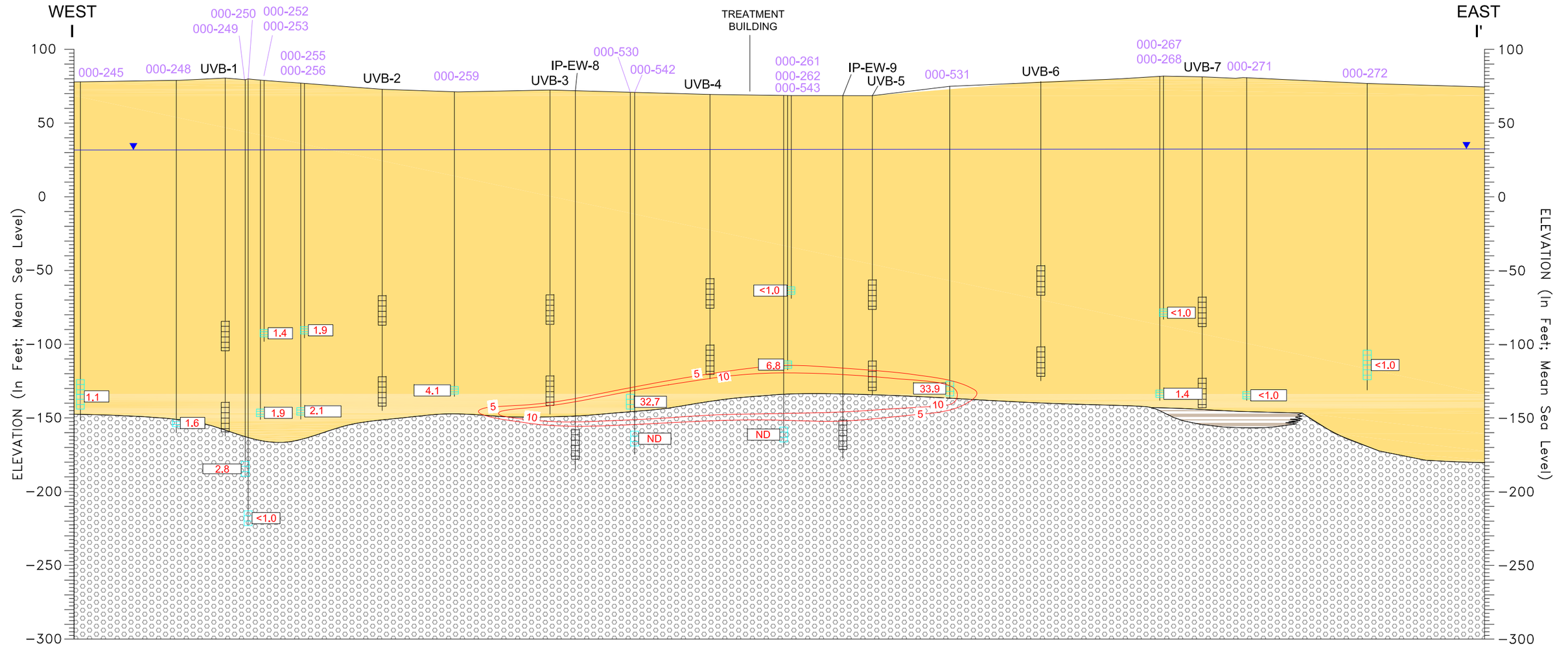
OU III INDUSTRIAL PARK AREA, TVOC PLUME DISTRIBUTION

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.5-1

Q:\2021\BNLab\21-01 EPD\Task 08 2021 Groundwater Report\Figures\Fig_3-02-05-01 061322.dwg



LEGEND

Upper Glacial aquifer

- UG Upper Glacial Sands
- UC Upper Glacial Silts & Clays
- UU Upton Unit

Gardiners Clay

- GL Gardiners Clay
- GS Gardiners Clay – Silt

Magothy aquifer

- MA Magothy Sands and Clay
- MB Magothy Brown Clay
- MC Magothy Clays (undiff)
- MO Magothy – OTHER

000-530 BNL Well ID

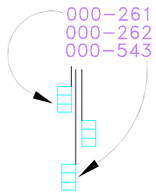
1.14 TVOC Concentration (µg/L)

10 TVOC Contour (µg/L) (Dashed Where Inferred)

Monitoring Well Screen

Extraction Well Screen

Monitoring Well IDs are stacked in order of the depth of the well from shallow to deep



Water Table As Of Oct 13 – Oct 18, 2021

TVOC – Total Volatile Organic Compound

µg/L – Micrograms Per Liter

HORIZONTAL SCALE
0 50 100 FEET

NOTES:
1) GEOLOGIC INFORMATION SHOWN IS BASED ON ADDITIONAL EXPLORATIONS (e.g., HYDROPUNCHES, GEOPROBES, VERTICAL PROFILES, AND/OR TEST WELLS) DOCUMENTED IN PREVIOUS, MORE DETAILED REPORTS.

2) PLUME DISTRIBUTION IS BASED ON FOURTH QUARTER 2021 OU III SAMPLING EVENT.

3) CONTOUR INTERVAL IS AS SHOWN.

4) BNL WELL ID COLOR CORRESPONDS TO LONG-TERM MONITORING PROGRAM COLOR CODE.

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

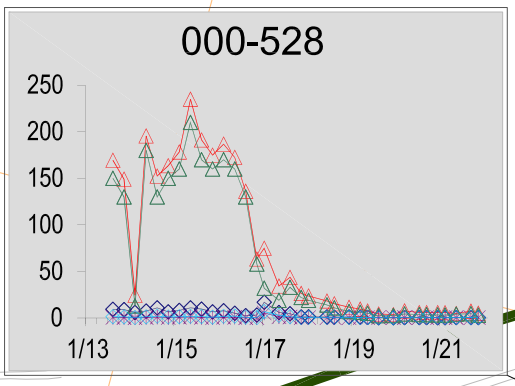
TITLE:

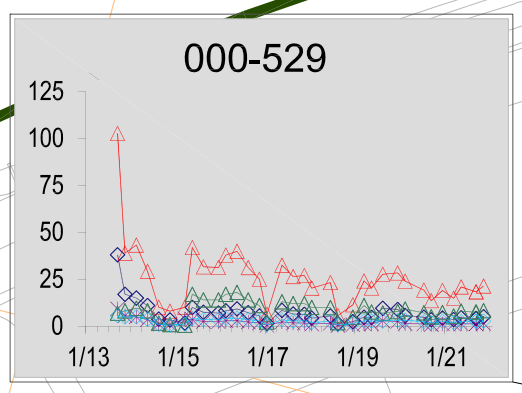
OU III INDUSTRIAL PARK AND INDUSTRIAL PARK EAST TVOC HYDROGEOLOGIC CROSS SECTION (I–I')

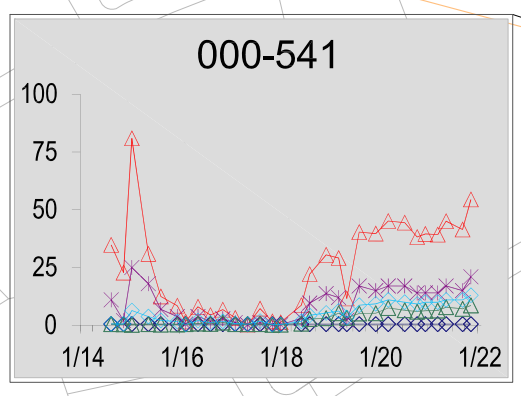
2021 BNL GROUNDWATER STATUS REPORT

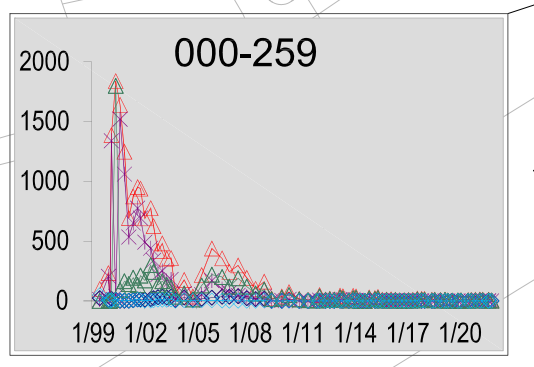
DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	2:1	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

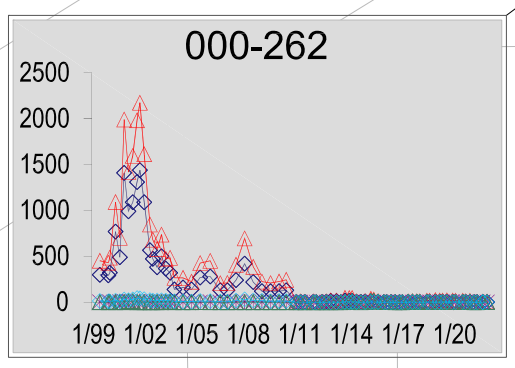
FIGURE NO.: 3.2.5-2

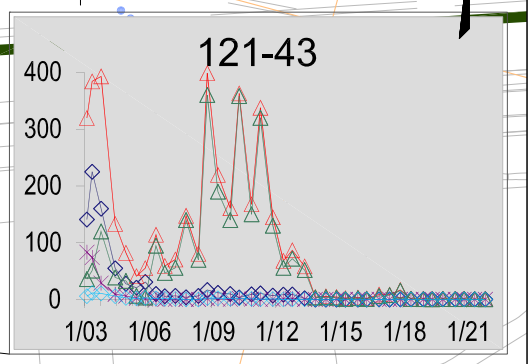


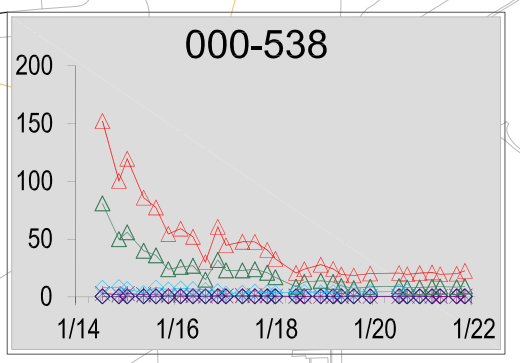


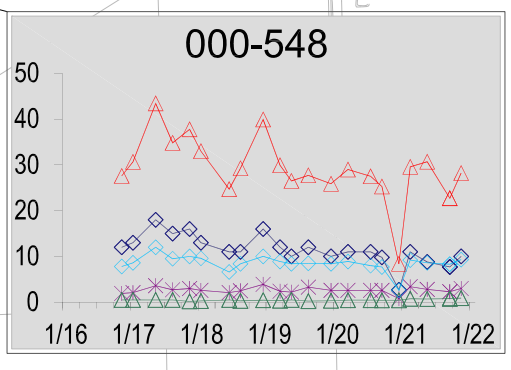


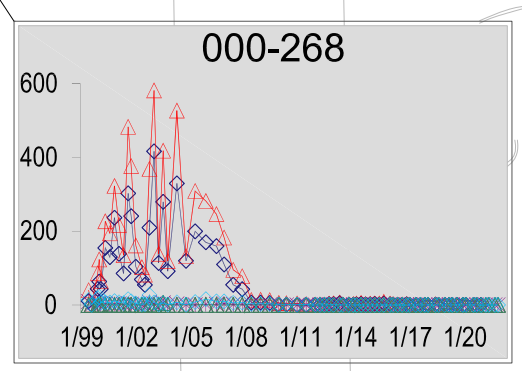










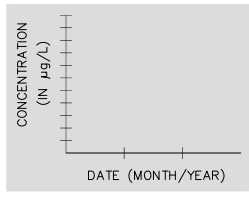


EW-3
EW-4
EW-5
EW-6
EW-8
EW-12
EW-7
EW-17
5
43
122
127
528
538
548
529
541
268
262
259
000
PRECISION DRIVE
RAMSAY DRIVE
CARLETON DRIVE
LONG ISLAND RAILROAD
MORICHES MIDDLE ISLAND ROAD
UVB-7
UVB-6
UVB-5
UVB-4
UVB-3
UVB-2
UVB-1
IP-EW-9
IP-EW-8

SCALE
0 300 600 FEET

LEGEND

- 268 MONITORING WELL ID
- EXTENT OF TVOC PLUME BASED ON 5 µg/L ISOCONTOUR
- 000 BNL GRID NUMBER
- UVB-5 BNL REMEDIATION WELL
- BNL RECHARGE BASIN
- TVOC – TOTAL VOLATILE ORGANIC COMPOUND
- µg/L – MICROGRAMS PER LITER
- TVOC
- 1,1,1–TRICHLOROETHANE (TCA)
- CARBON TETRACHLORIDE
- TETRACHLOROETHYLENE (PCE)
- TRICHLOROETHYLENE (TCE)



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III INDUSTRIAL PARK HISTORICAL VOC TRENDS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.5–3

Figure 3.2.5-4
OU III Industrial Park Groundwater Remediation System
TVOC Influent Concentration

2021 BNL Groundwater Status Report

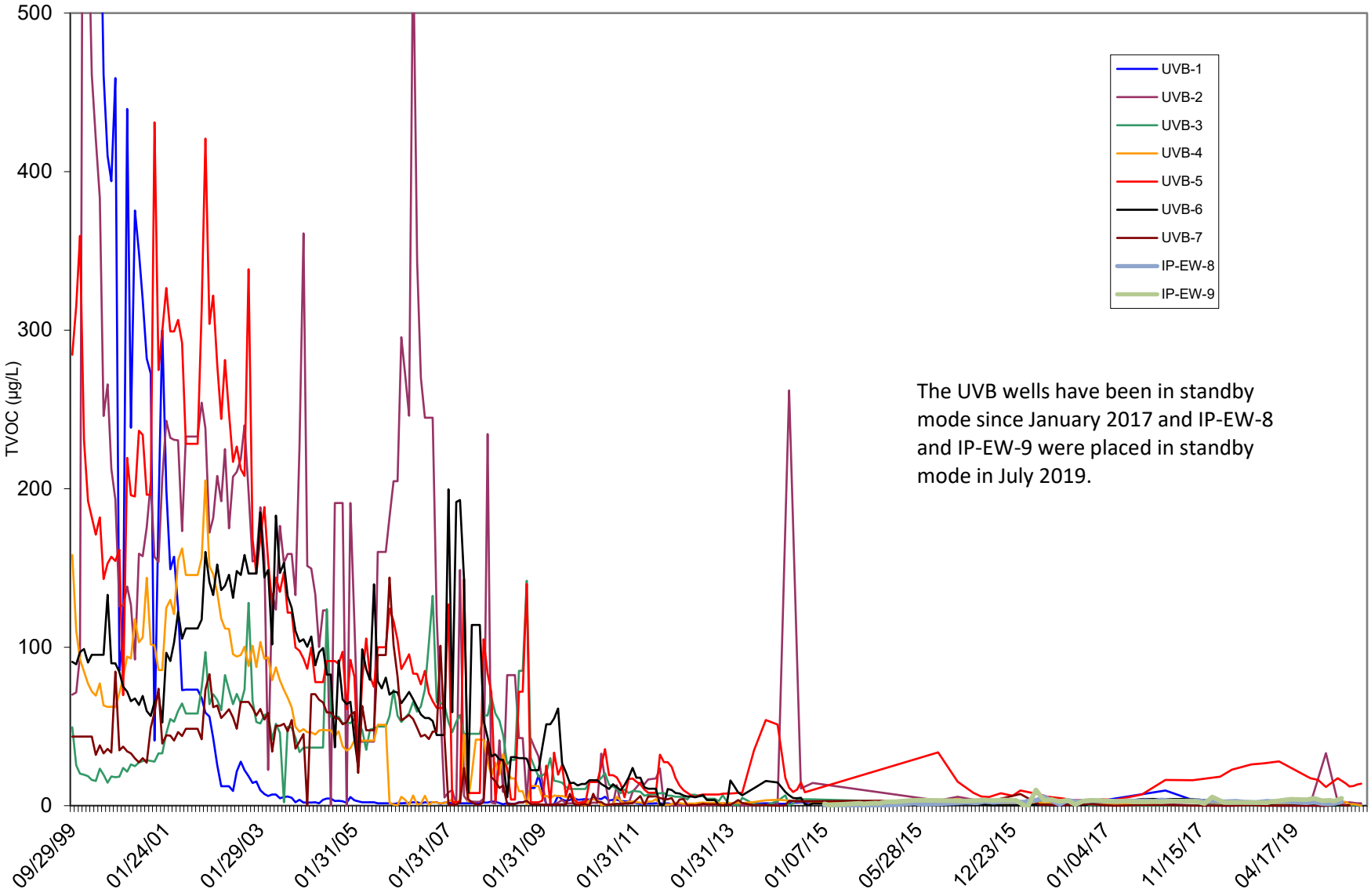


Figure 3.2.5-5
OU III Industrial Park Groundwater Remediation System
TVOC Effluent Concentration

2021 BNL Groundwater Status Report

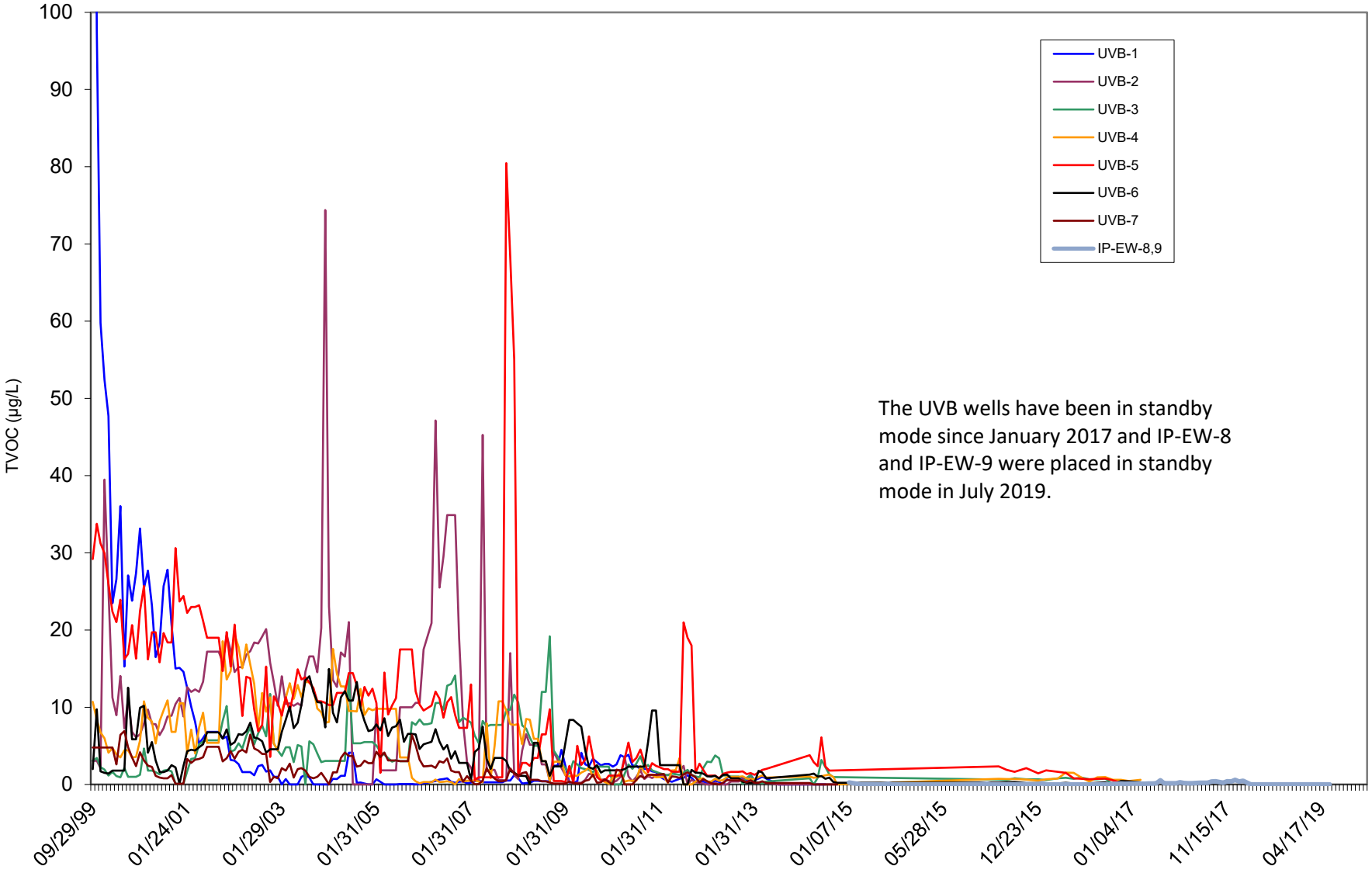
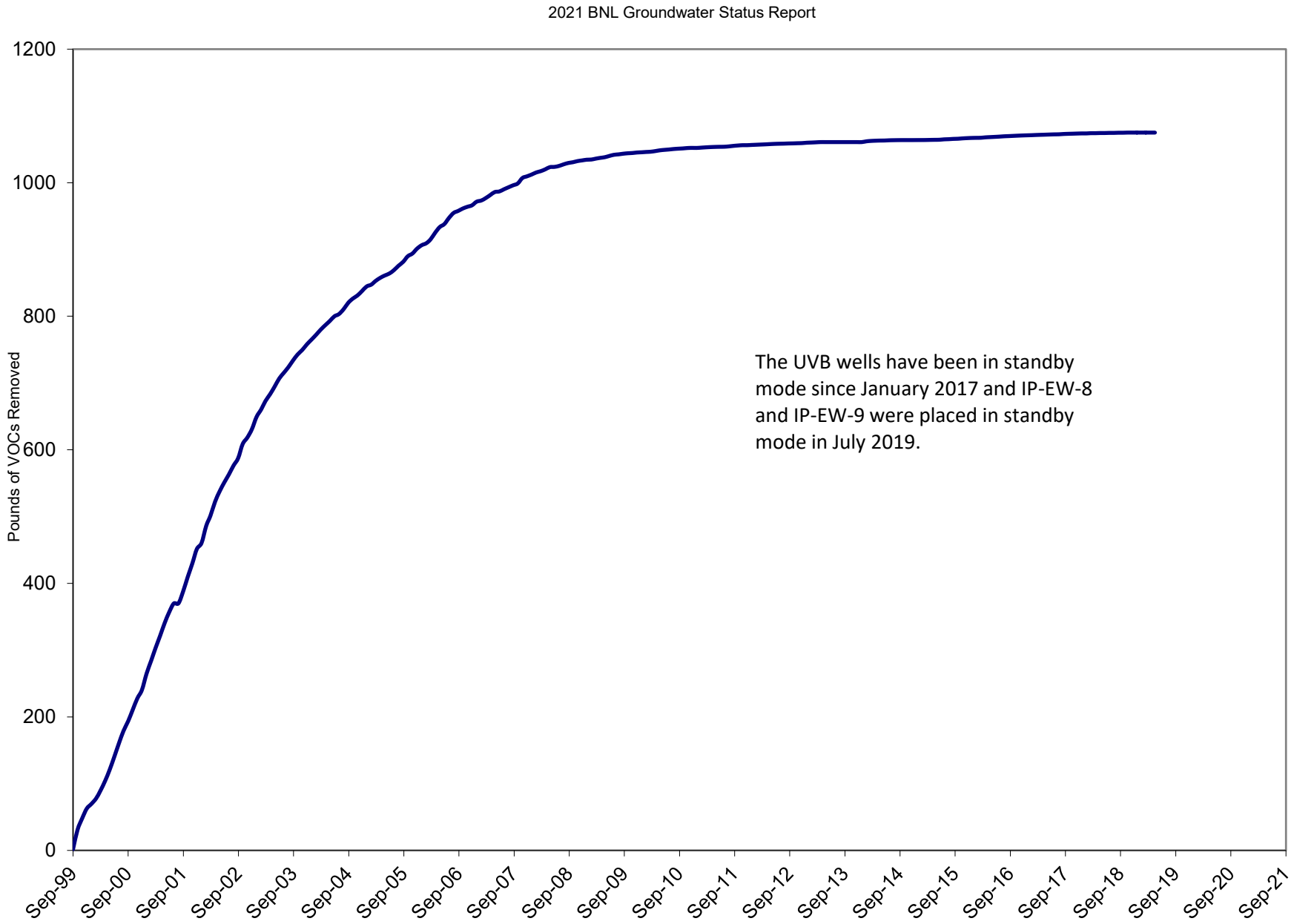


Figure 3.2.5-6
OU III Industrial Park Groundwater Remediation System
Cumulative VOC Mass Removed



1997 TVOC PLUME DISTRIBUTION

2005 TVOC PLUME DISTRIBUTION

2013 TVOC PLUME DISTRIBUTION

2021 TVOC PLUME DISTRIBUTION

OU III SOUTH BOUNDARY

INDUSTRIAL PARK

STRATLER DRIVE

LIPA

MORICHES-MIDDLE ISLAND ROAD

EW-3 EW-4 EW-5 EW-6 EW-7 EW-8 EW-12 EW-17 EW-4L EW-3L EW-1L EW-2L

UVB-1 UVB-2 UVB-3 UVB-4 UVB-5 UVB-6 UVB-7 IP-EW-8 IP-EW-9

SCALE
0 500 1000 FEET

LEGEND
- KEY TEMPORARY WELL
- MONITORING WELL
- 5 – 49 µg/L TVOC CONCENTRATION
- 50 – 99 µg/L TVOC CONCENTRATION
- 100 – 499 µg/L TVOC CONCENTRATION
- ≥ 500 µg/L TVOC CONCENTRATION

LIPA - GROUNDWATER REMEDIATION SYSTEM LOCATION
TVOC– TOTAL VOLATILE ORGANIC COMPOUND
µg/L– MICROGRAMS PER LITER

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

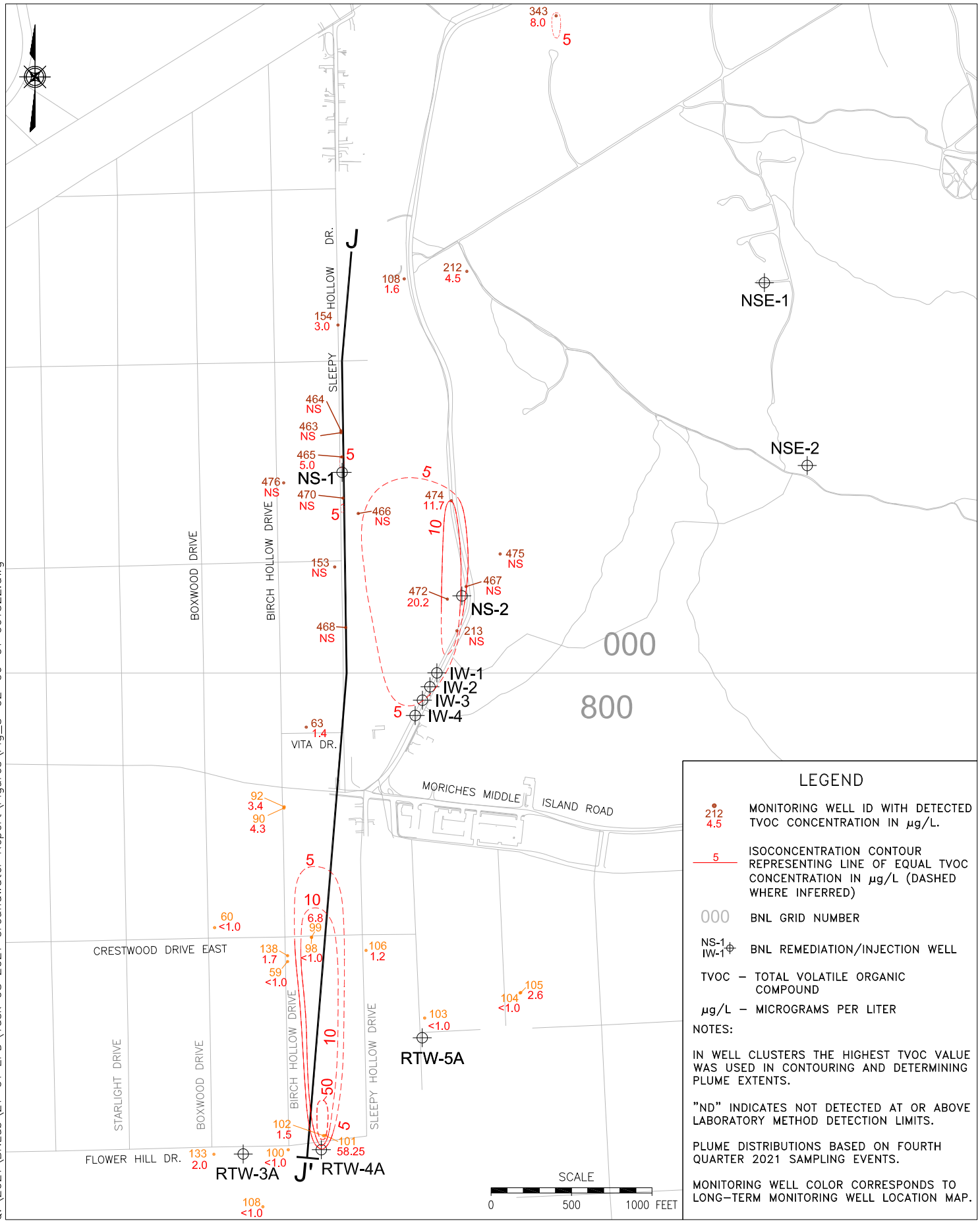
TITLE:

OU III INDUSTRIAL PARK TVOC PLUME COMPARISON 1997, 2005, 2013, 2021

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.5-7



LEGEND

212 / 4.5 — MONITORING WELL ID WITH DETECTED TVOC CONCENTRATION IN µg/L.

5 — ISOCONCENTRATION CONTOUR REPRESENTING LINE OF EQUAL TVOC CONCENTRATION IN µg/L (DASHED WHERE INFERRED)

000 — BNL GRID NUMBER

NS-1 / IW-1 — BNL REMEDIATION/INJECTION WELL

TVOC – TOTAL VOLATILE ORGANIC COMPOUND

µg/L – MICROGRAMS PER LITER

NOTES:

IN WELL CLUSTERS THE HIGHEST TVOC VALUE WAS USED IN CONTOURING AND DETERMINING PLUME EXTENTS.

"ND" INDICATES NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMITS.

PLUME DISTRIBUTIONS BASED ON FOURTH QUARTER 2021 SAMPLING EVENTS.

MONITORING WELL COLOR CORRESPONDS TO LONG-TERM MONITORING WELL LOCATION MAP.

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

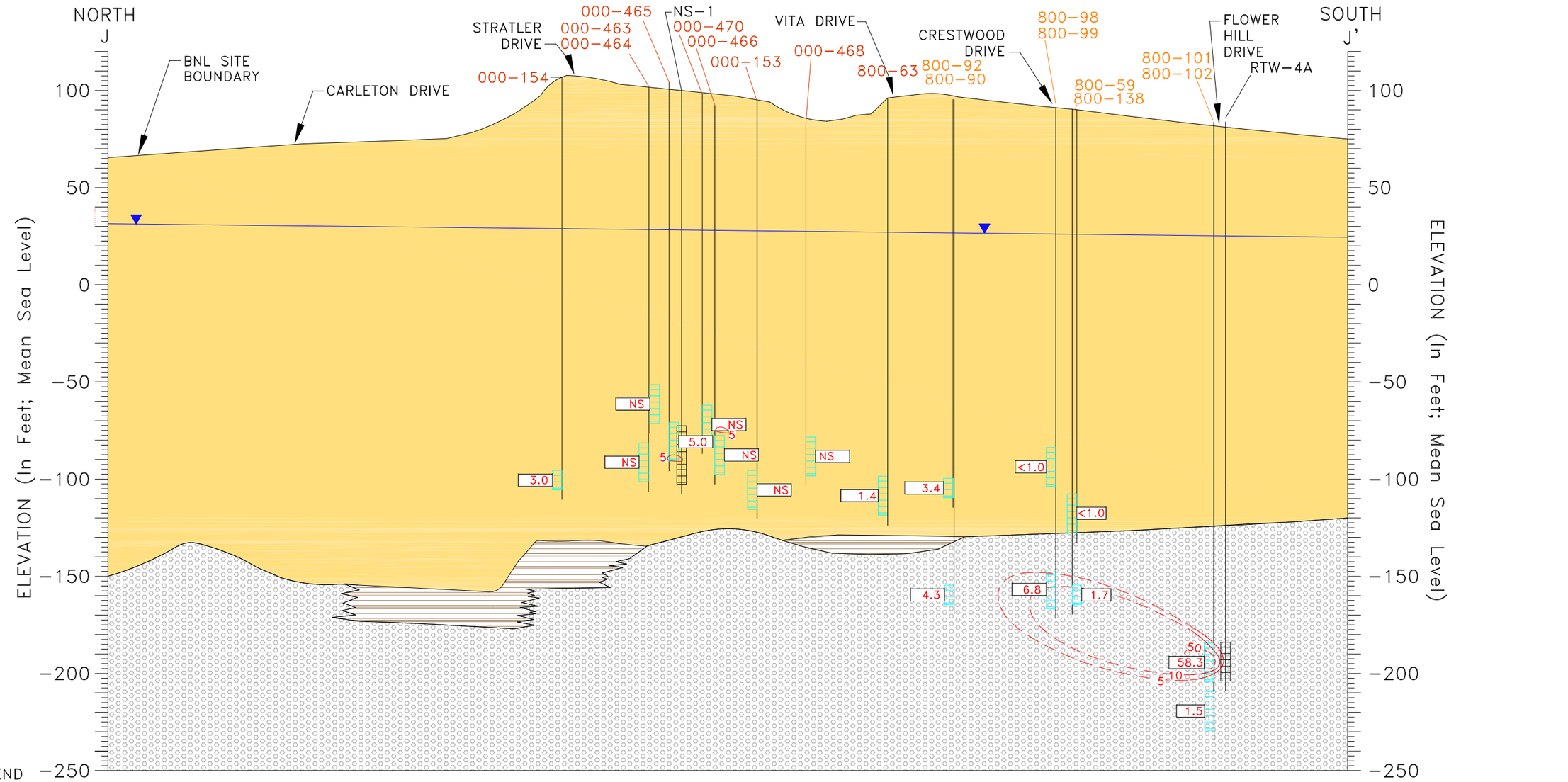
TITLE:

NORTH STREET TVOC PLUME DISTRIBUTION

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.6-1



LEGEND

Upper Glacial aquifer
- UG Upper Glacial Sands
- UC Upper Glacial Silts & Clays
- UU Upton Unit

Gardiners Clay
- GL Gardiners Clay
- GS Gardiners Clay – Silt

Magothy aquifer
- MA Magothy Sands and Clay
- MB Magothy Brown Clay
- MC Magothy Clays (undifferentiated)
- MO Magothy – OTHER

TVOC – Total Volatile Organic Compound

µg/L – Micrograms Per Liter

800-63 BNL Well ID

ND Indicates not detected at or above laboratory method detection limits

65.2 TVOC Concentration (µg/L)

5 TVOC Contour (µg/L) (Dashed Where Inferred)

Monitoring Well Screen

Extraction Well Screen

Water Table As Of Oct 13 – Oct 18, 2021

Monitoring Well IDs are stacked in order of the depth of the well from shallow to deep

000-463
000-464

HORIZONTAL SCALE
0 500 1000 FEET

NOTES:

1) GEOLOGIC INFORMATION SHOWN IS BASED ON ADDITIONAL EXPLORATIONS (e.g., HYDROPUNCHES, GEOPROBES, VERTICAL PROFILES, AND/OR TEST WELLS) DOCUMENTED IN PREVIOUS, MORE DETAILED REPORTS.

2) PLUME DISTRIBUTION BASED ON FOURTH QUARTER 2021 FORMER LANDFILL (FLF) AND OUI/IV SAMPLING EVENTS.

3) CONTOUR INTERVAL IS AS SHOWN.

5) BNL WELL ID COLOR CORRESPONDS TO LONG-TERM MONITORING PROGRAM WELL LOCATION MAP.

Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

NORTH STREET
TVOC HYDROGEOLOGIC CROSS SECTION (J-J')

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	15:1	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.6-2

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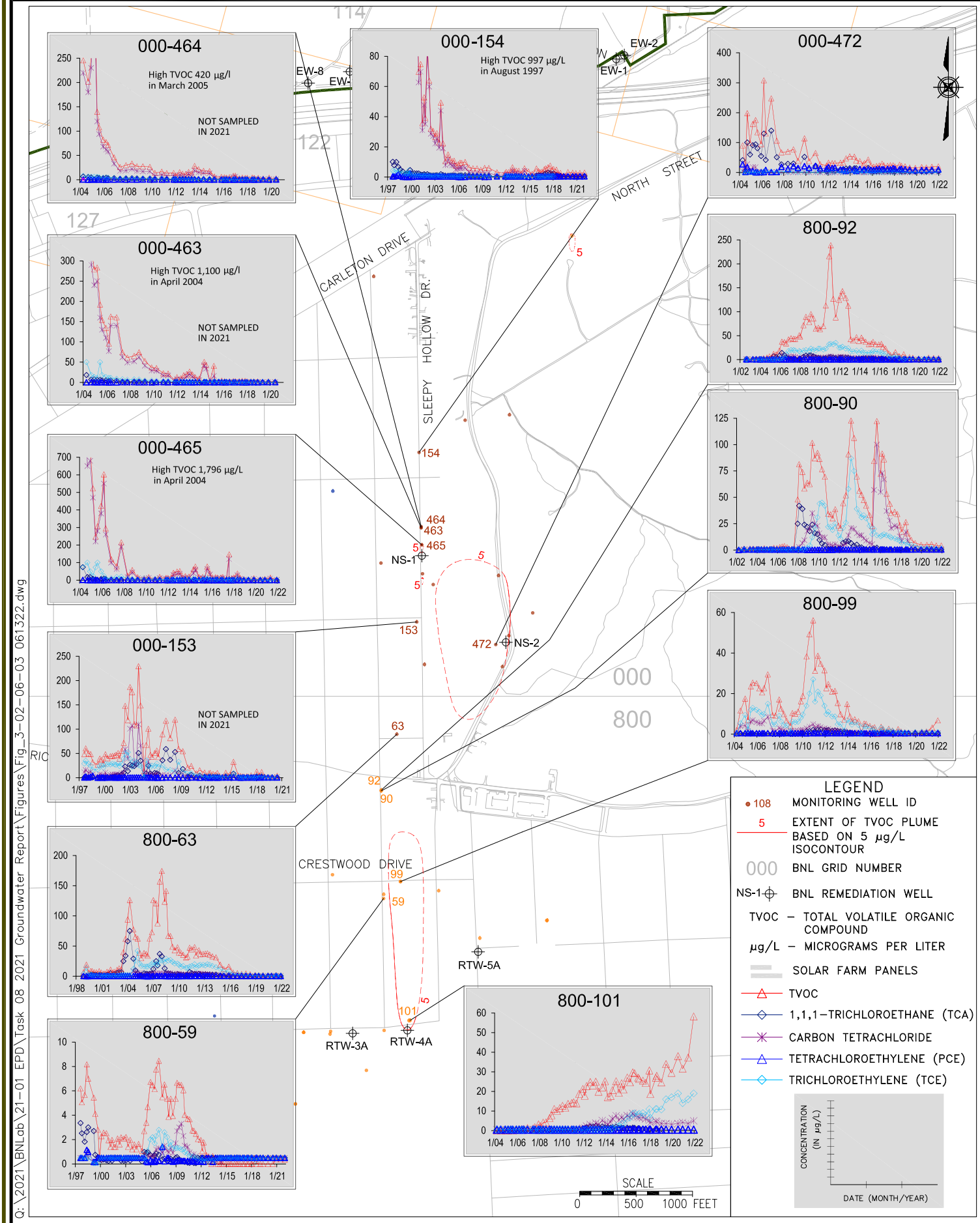


Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

NORTH STREET HISTORICAL VOC TRENDS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.6–3

Figure 3.2.6-4
OU III North Street Groundwater Remediation System
Extraction Well TVOC Concentrations

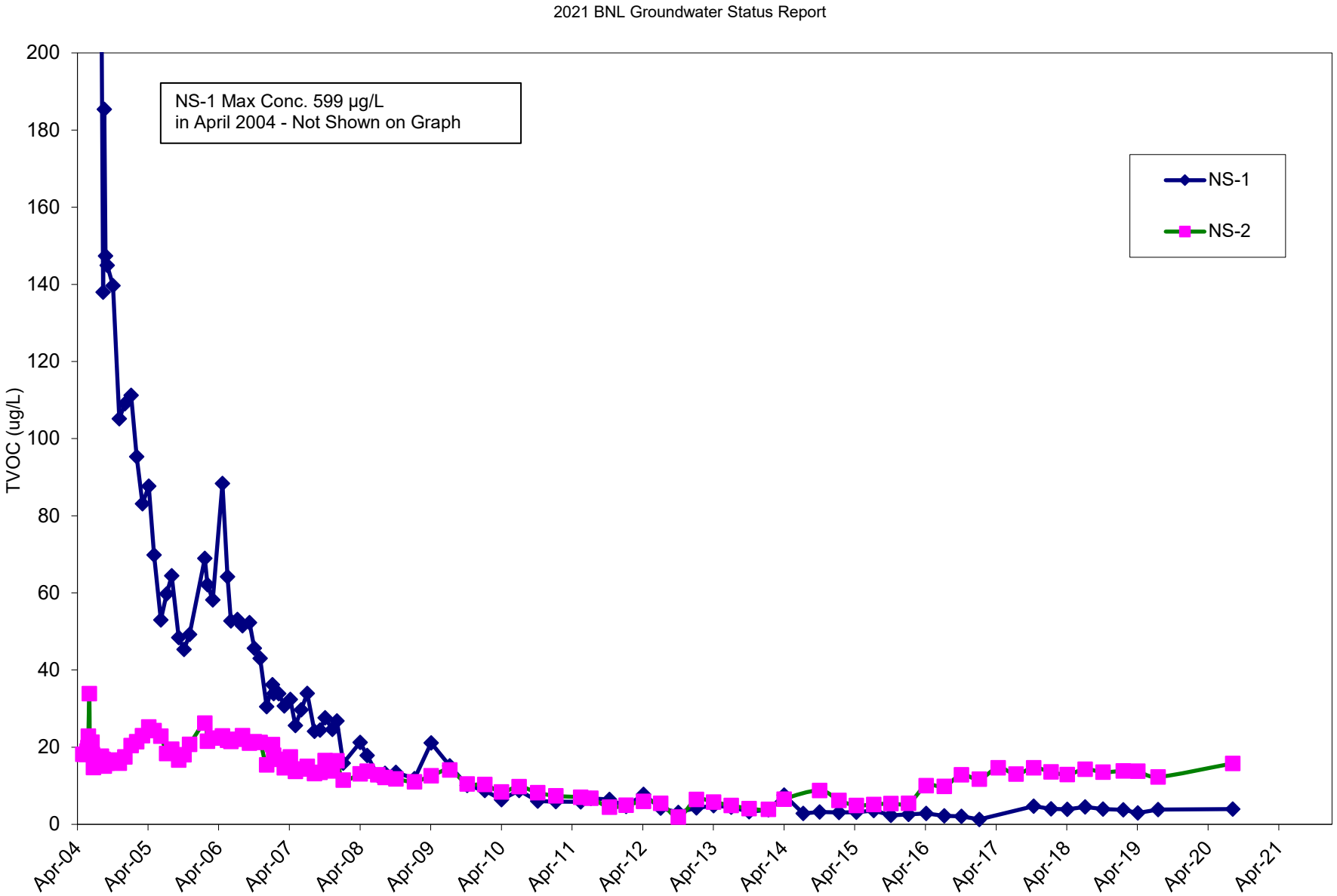
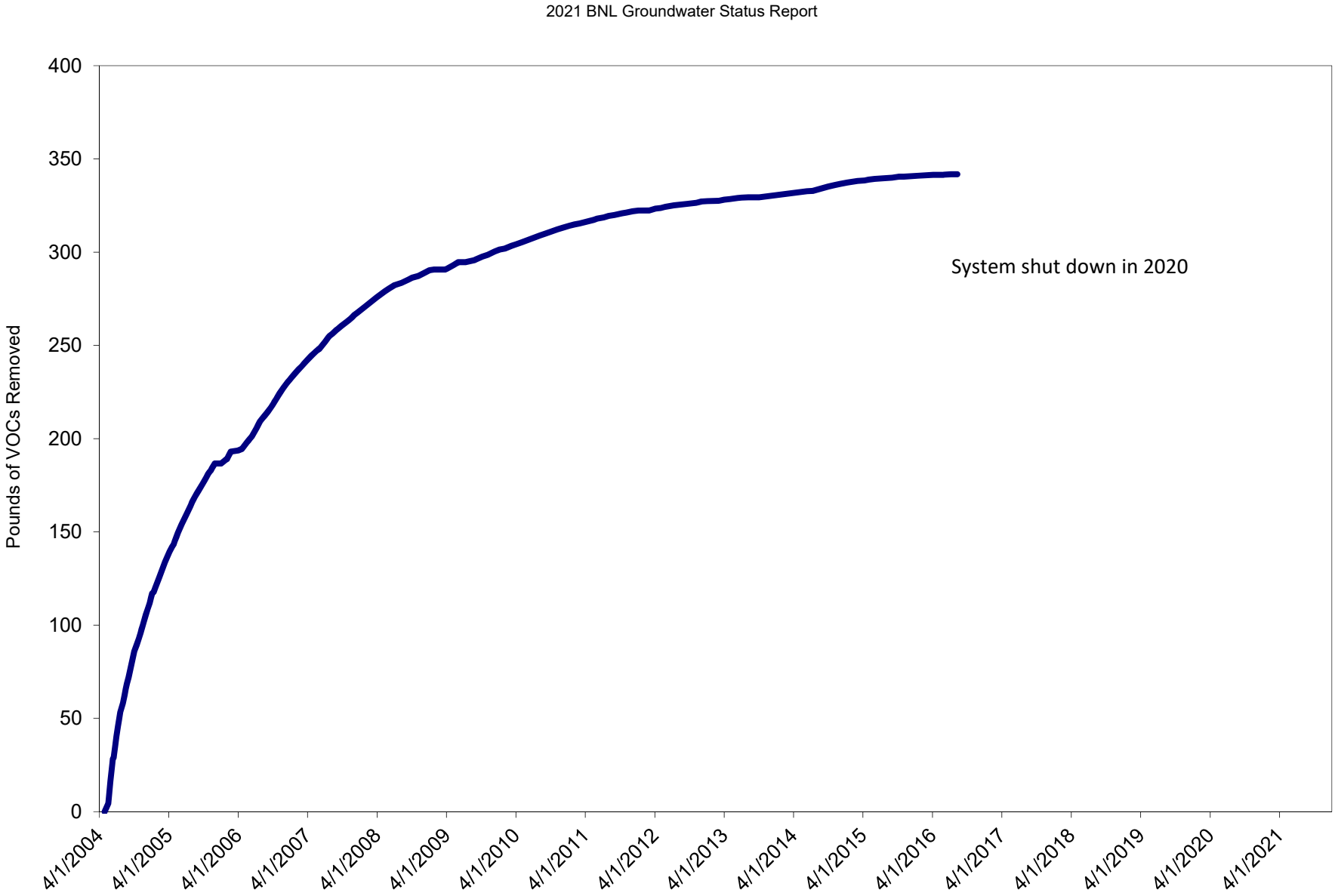
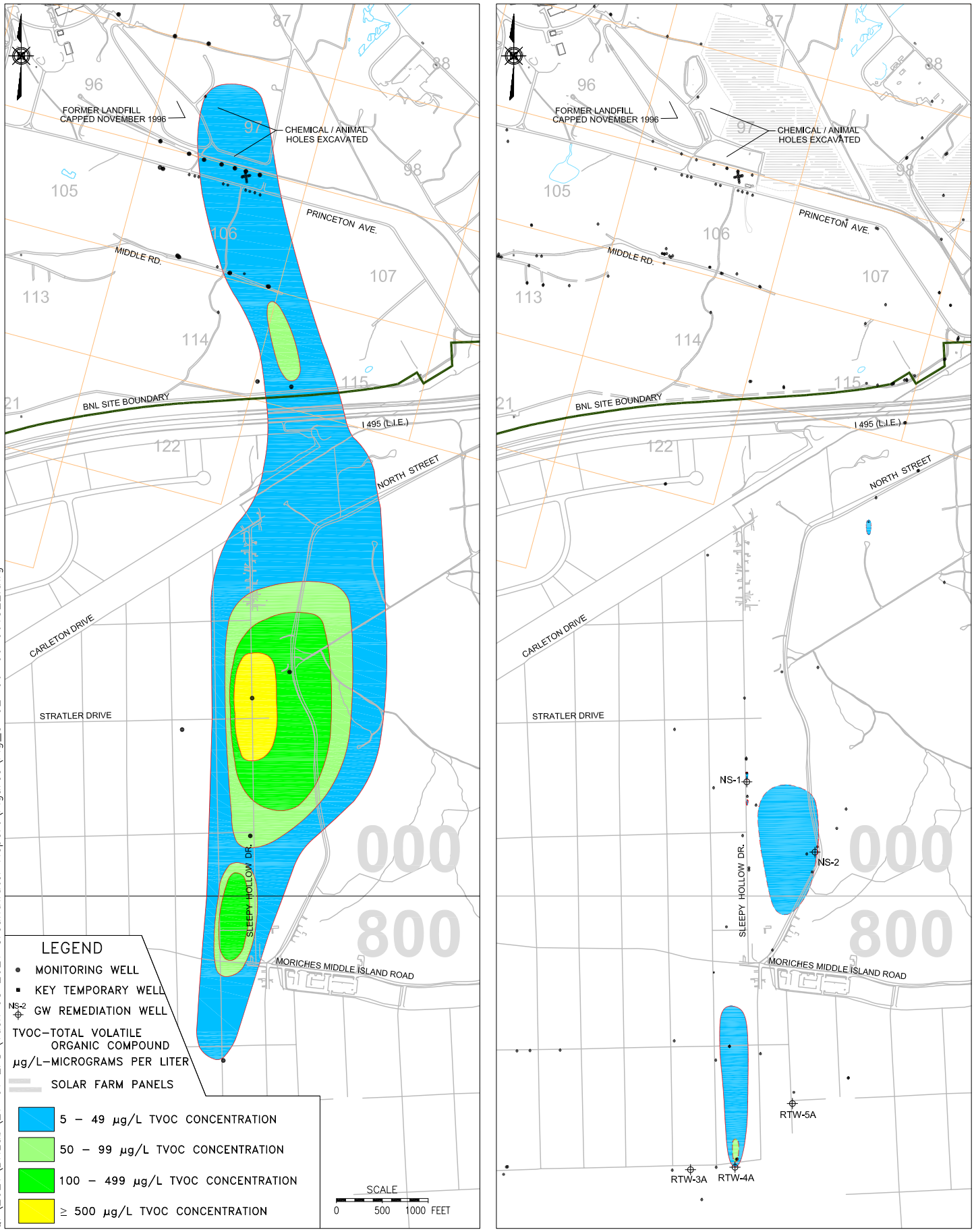


Figure 3.2.6-5
OU III North Street Groundwater Remediation System
Cumulative VOC Mass Removed



1997 TVOC PLUME DISTRIBUTION

2021 TVOC PLUME DISTRIBUTION



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Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

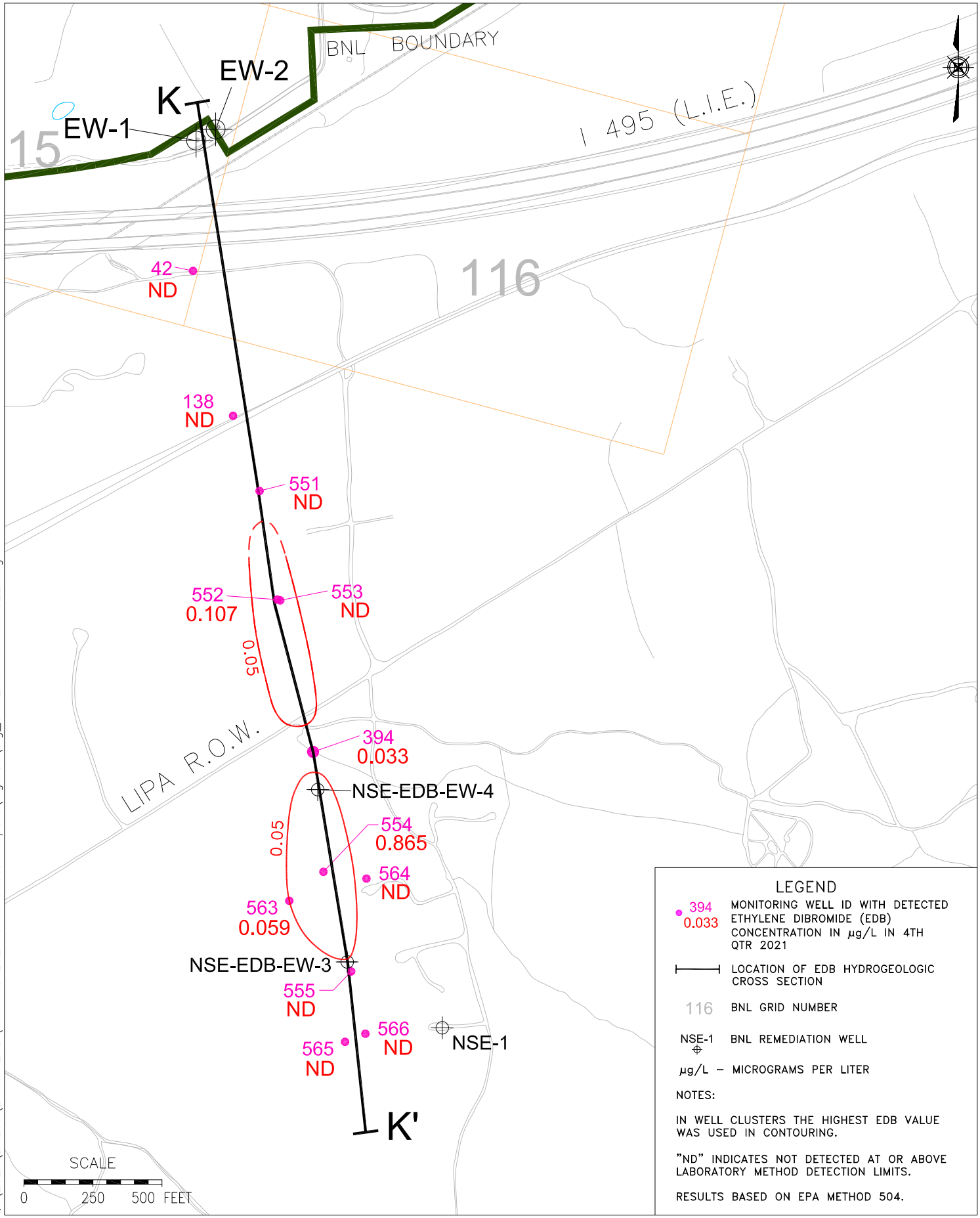
TITLE:

NORTH STREET TVOC PLUME COMPARISON 1997 – 2021

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.6-6



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III NORTH STREET EAST EDB PLUME DISTRIBUTION

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.7-1

LEGEND

Upper Glacial aquifer

- UG Upper Glacial Sands
- UC Upper Glacial Silts & Clays
- UU Upton Unit

Gardiners Clay

- GL Gardiners Clay
- GS Gardiners Clay – Silt

Magothy aquifer

- MA Magothy Sands and Clay
- MB Magothy Brown Clay
- MC Magothy Clays (undifferentiated)
- MO Magothy – OTHER

000–394 BNL Well ID

ND Indicates not detected at or above laboratory method detection limits

NS Indicates not sampled

.061 Ethylene dibromide (EDB) Concentration (µg/L)

0.05 EDB Contour (µg/L) (Dashed Where Inferred)

Monitoring Well IDs are stacked in order of the depth of the well from shallow to deep

000–???
000–???

µg/L – Micrograms Per Liter

Water Table As Of Oct 13 – Oct 18, 2021

Monitoring Well Screen

Extraction Well Screen

NOTES:

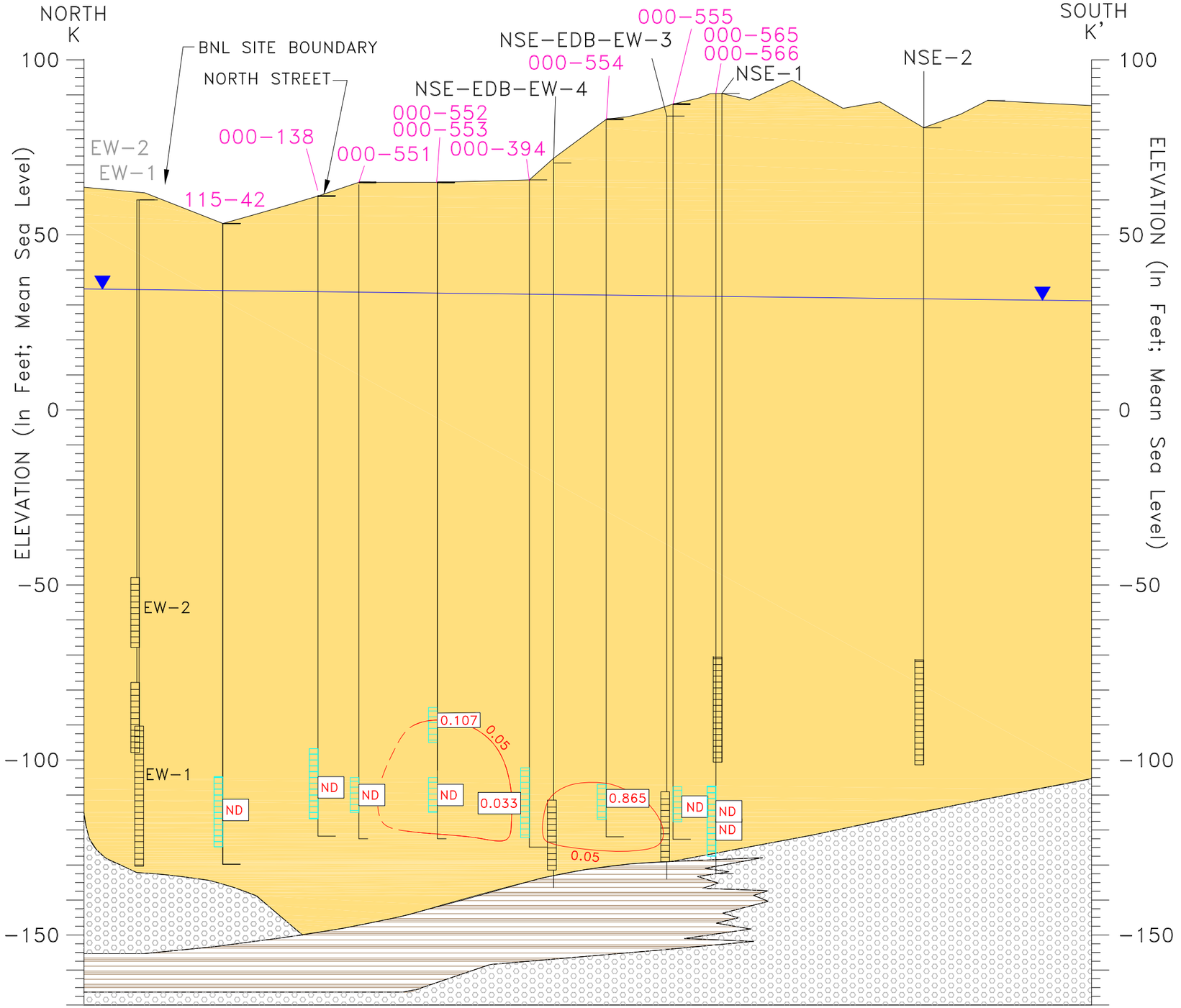
1) GEOLOGIC INFORMATION SHOWN IS BASED ON ADDITIONAL EXPLORATIONS (e.g., HYDROPUNCHES, GEOPROBES, VERTICAL PROFILES, AND/OR TEST WELLS) DOCUMENTED IN PREVIOUS, MORE DETAILED REPORTS.

2) EDB EXTENT IS BASED ON FORTH QUARTER 2021 OU VI SAMPLING EVENT.

3) RESULTS BASED ON EPA METHOD 504.

4) CONTOUR INTERVAL IS AS SHOWN.

HORIZONTAL SCALE
0 500 1000 FEET



Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III NORTH STREET EAST
EDB HYDROGEOLOGIC CROSS SECTION (K–K')
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	20:1	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–
FIGURE NO.:			
3.2.7–2			

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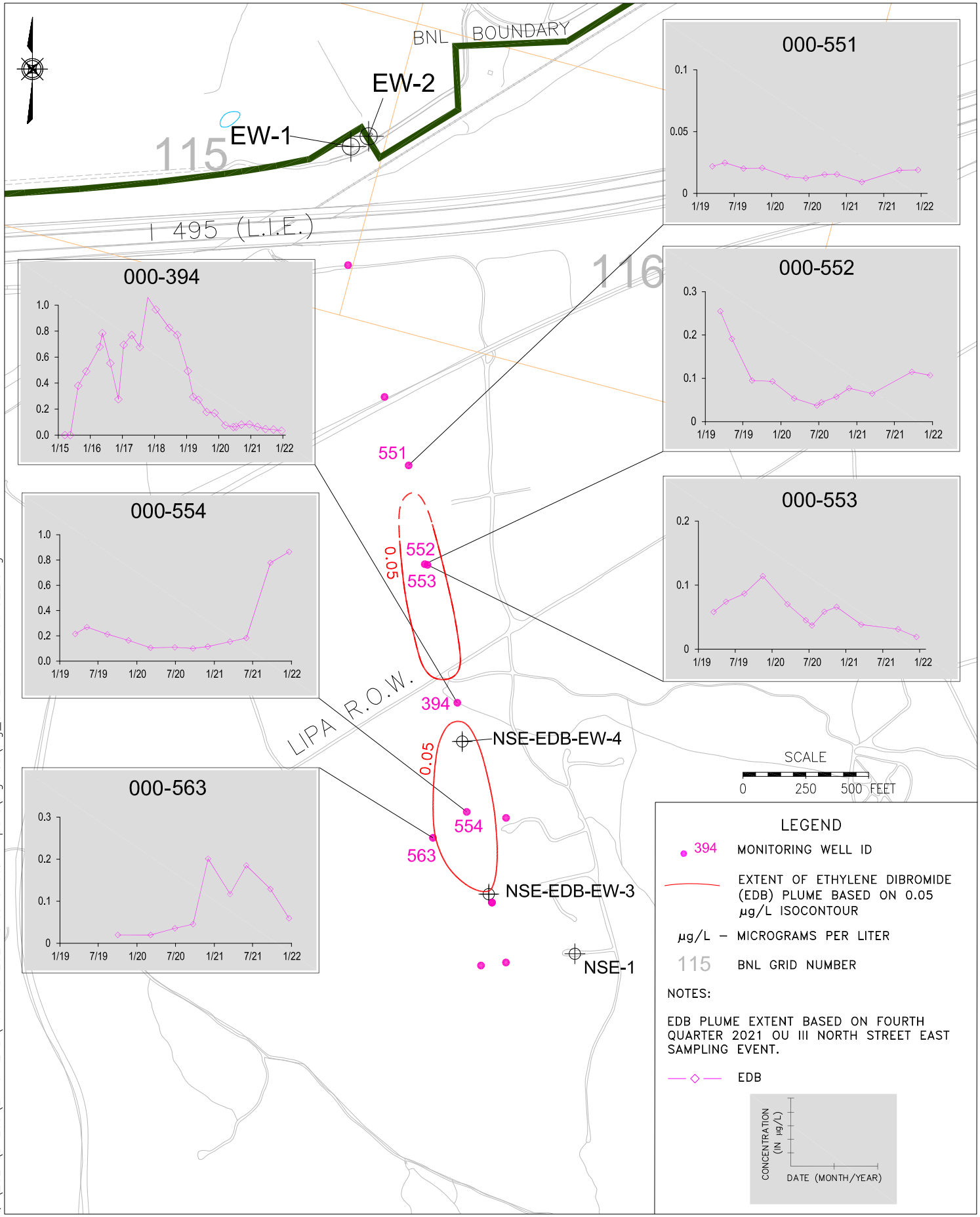

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III NORTH STREET EAST HISTORICAL EDB TRENDS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.7-3

Figure 3.2.7-4
OU III North Street East Groundwater Remediation System
Extraction Well TVOC Concentrations

2021 BNL Groundwater Status Report

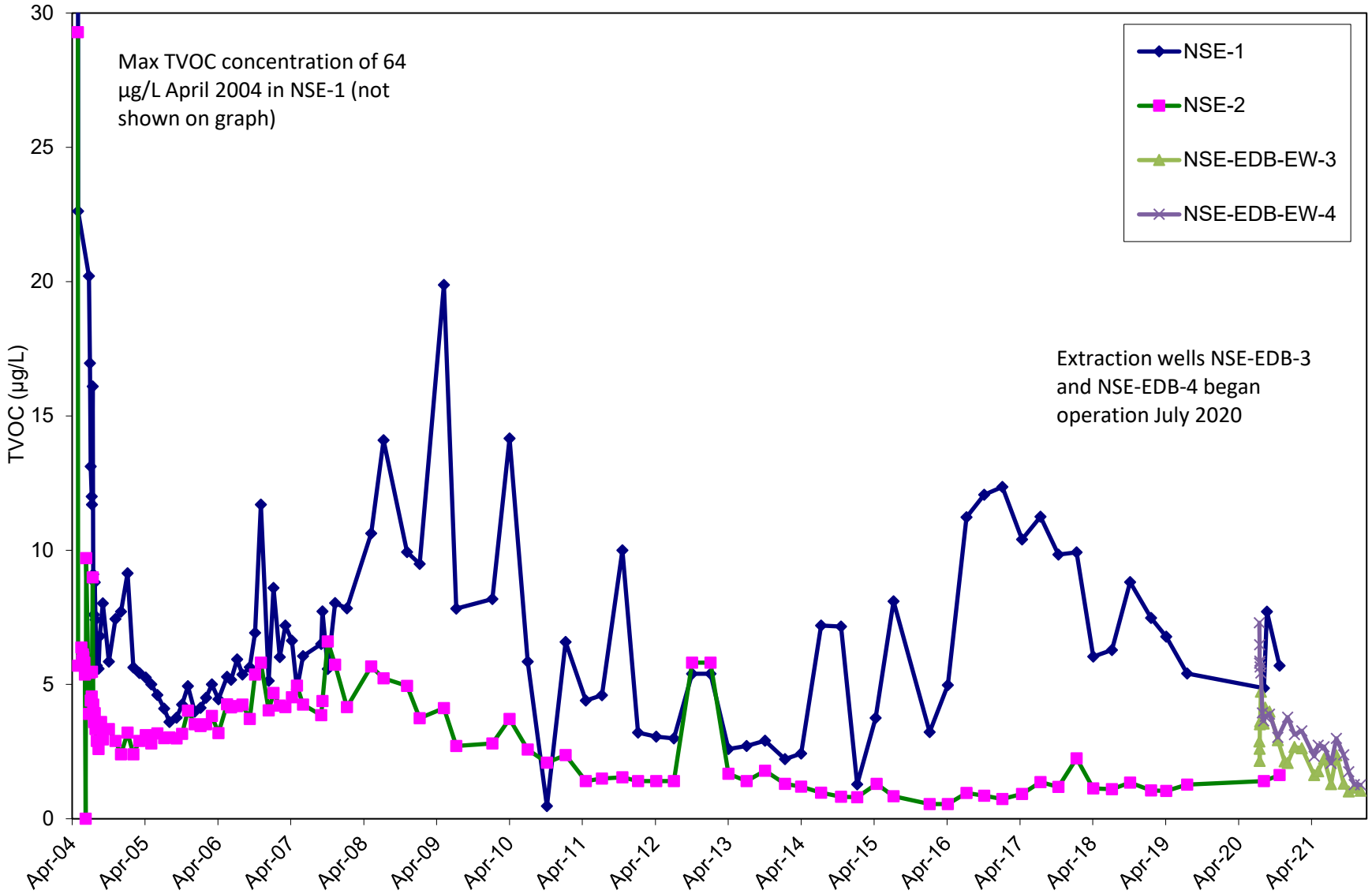


Figure 3.2.7-5
OU III North Street East Groundwater Remediation System
Extraction Well EDB Concentrations

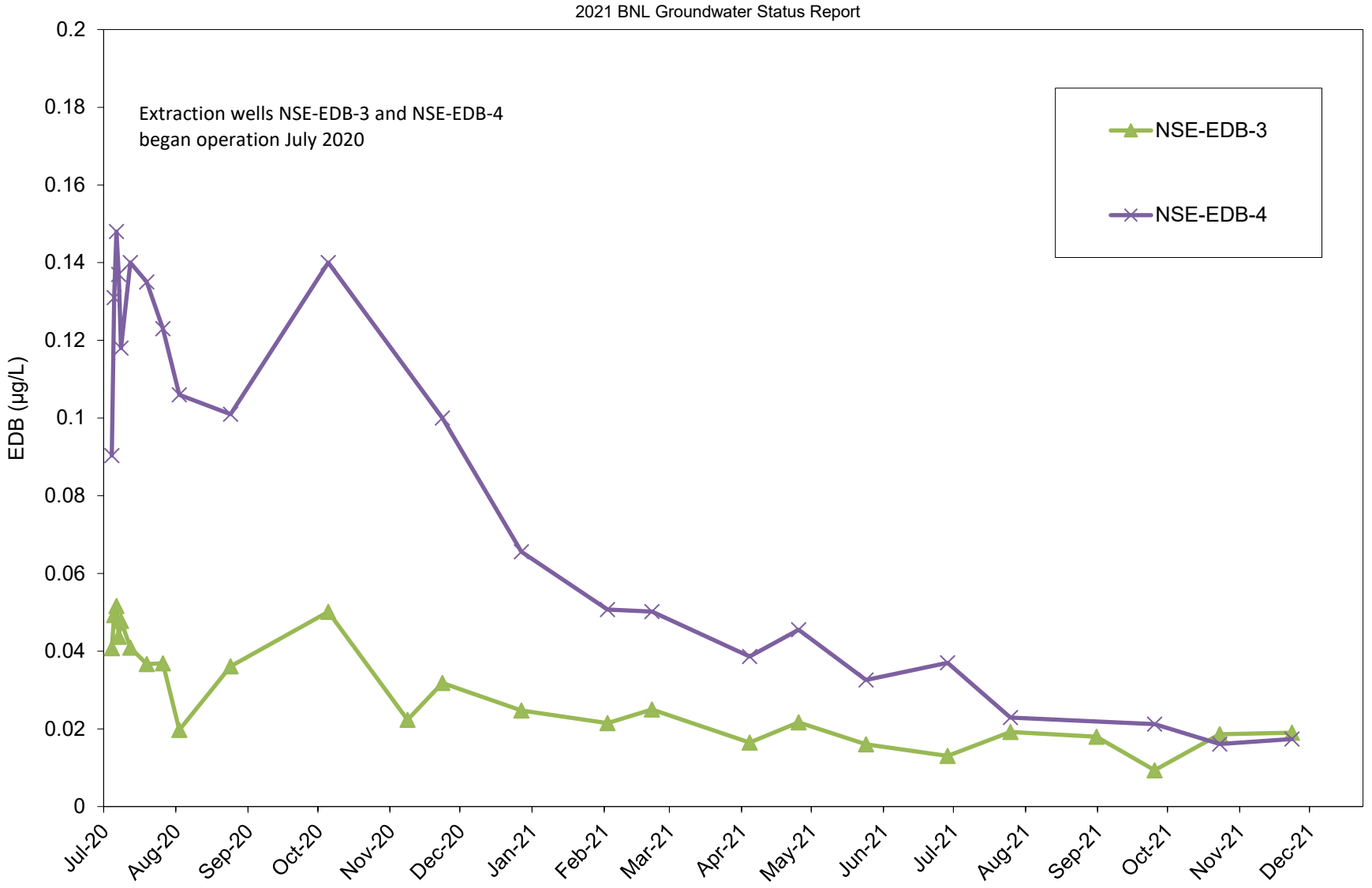
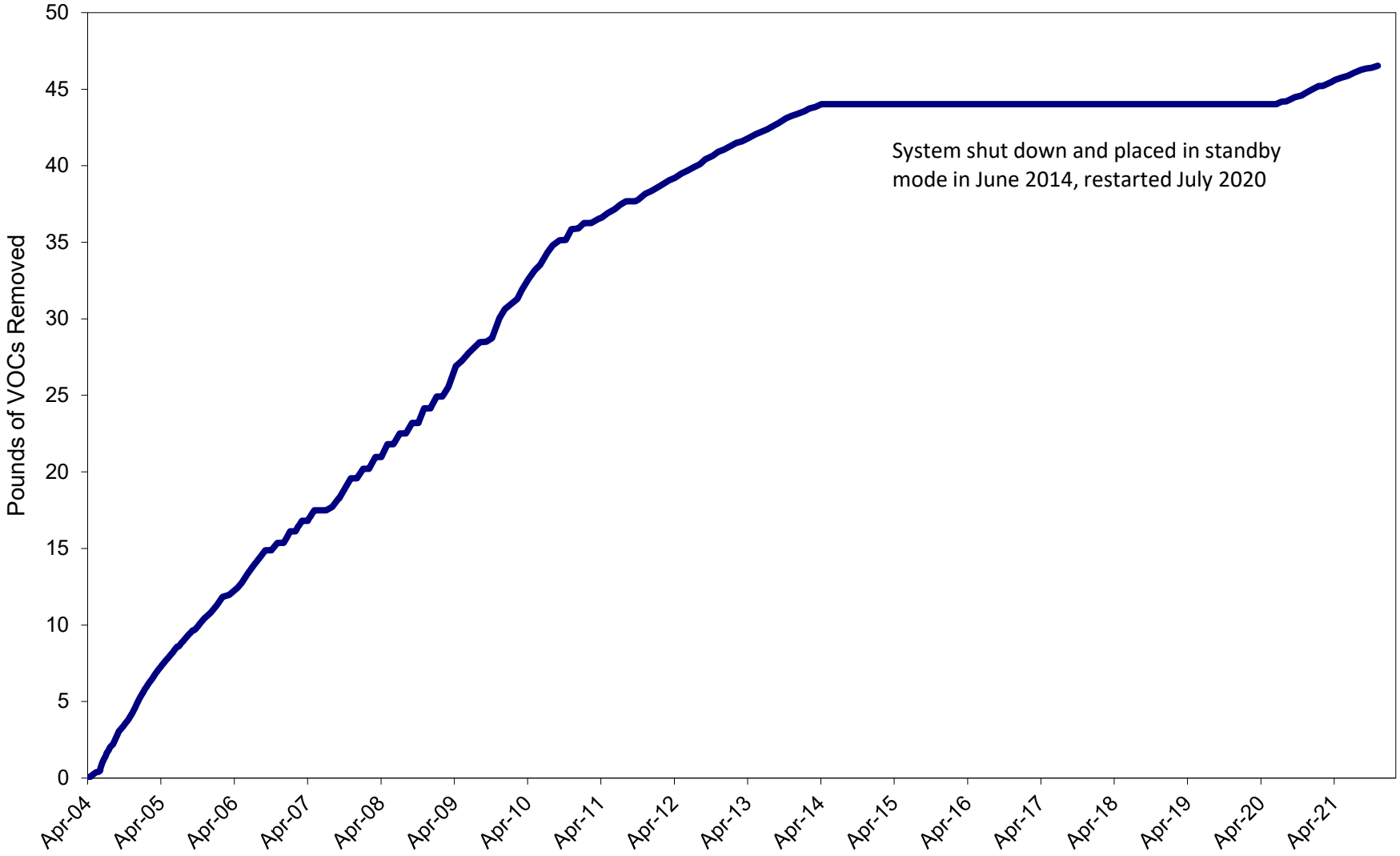
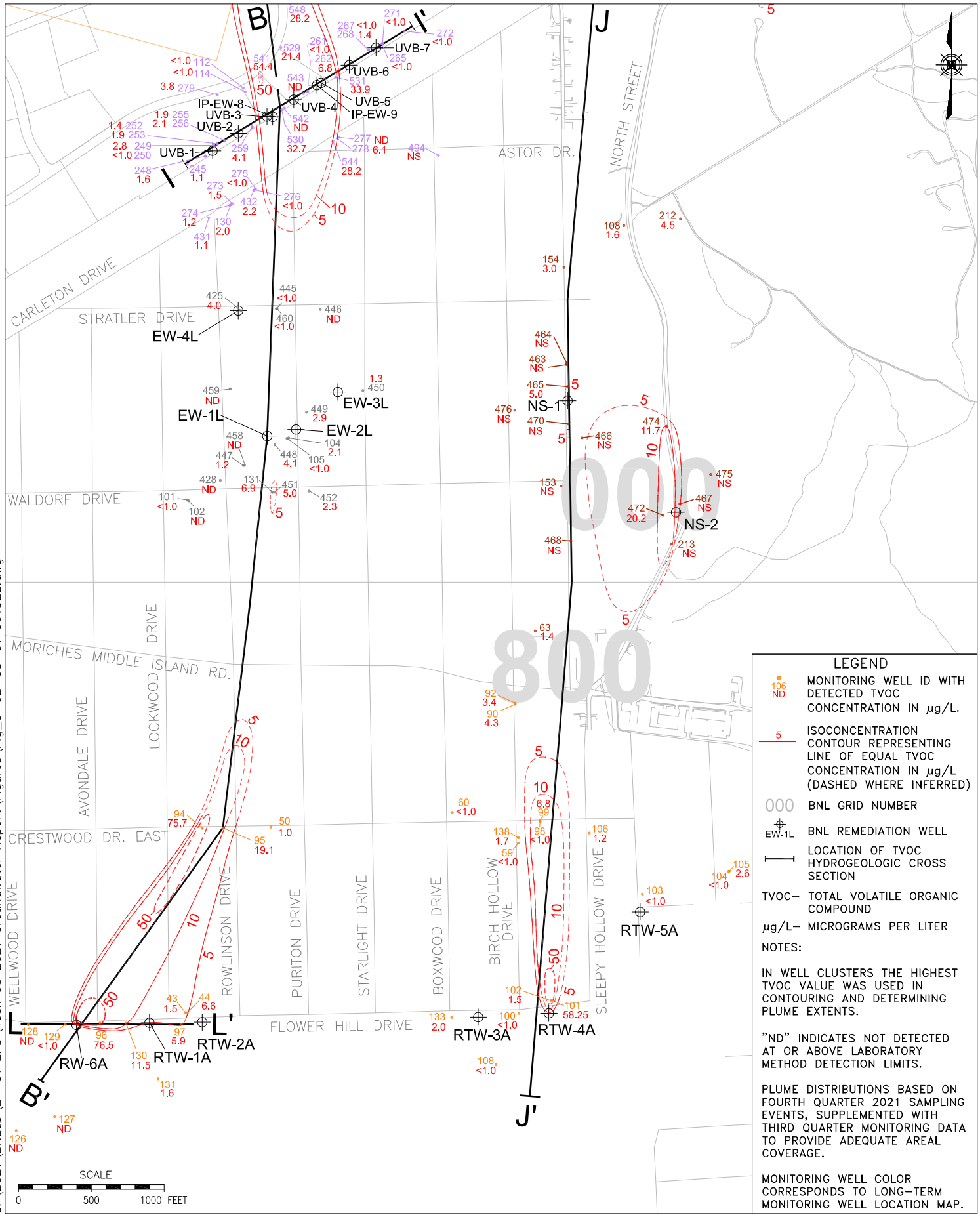


Figure 3.2.7-6
OU III North Street East Groundwater Remediation System
Cumulative VOC Mass Removed

2021 BNL Groundwater Status Report





LEGEND

- 106 ND — MONITORING WELL ID WITH DETECTED TVOC CONCENTRATION IN µg/L.
- 5 — ISOCONCENTRATION CONTOUR REPRESENTING LINE OF EQUAL TVOC CONCENTRATION IN µg/L (DASHED WHERE INFERRED)
- 000 — BNL GRID NUMBER
- EW-1L — BNL REMEDIATION WELL
- LOCATION OF TVOC HYDROGEOLOGIC CROSS SECTION

TVOC– TOTAL VOLATILE ORGANIC COMPOUND

µg/L– MICROGRAMS PER LITER

NOTES:

IN WELL CLUSTERS THE HIGHEST TVOC VALUE WAS USED IN CONTOURING AND DETERMINING PLUME EXTENTS.

"ND" INDICATES NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMITS.

PLUME DISTRIBUTIONS BASED ON FOURTH QUARTER 2021 SAMPLING EVENTS, SUPPLEMENTED WITH THIRD QUARTER MONITORING DATA TO PROVIDE ADEQUATE AREAL COVERAGE.

MONITORING WELL COLOR CORRESPONDS TO LONG–TERM MONITORING WELL LOCATION MAP.

Q:\2021\BNLab\21-01 EPD\Task 08 2021 Groundwater Report\Figures\Fig_3-02-08-01 061322.dwg

Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

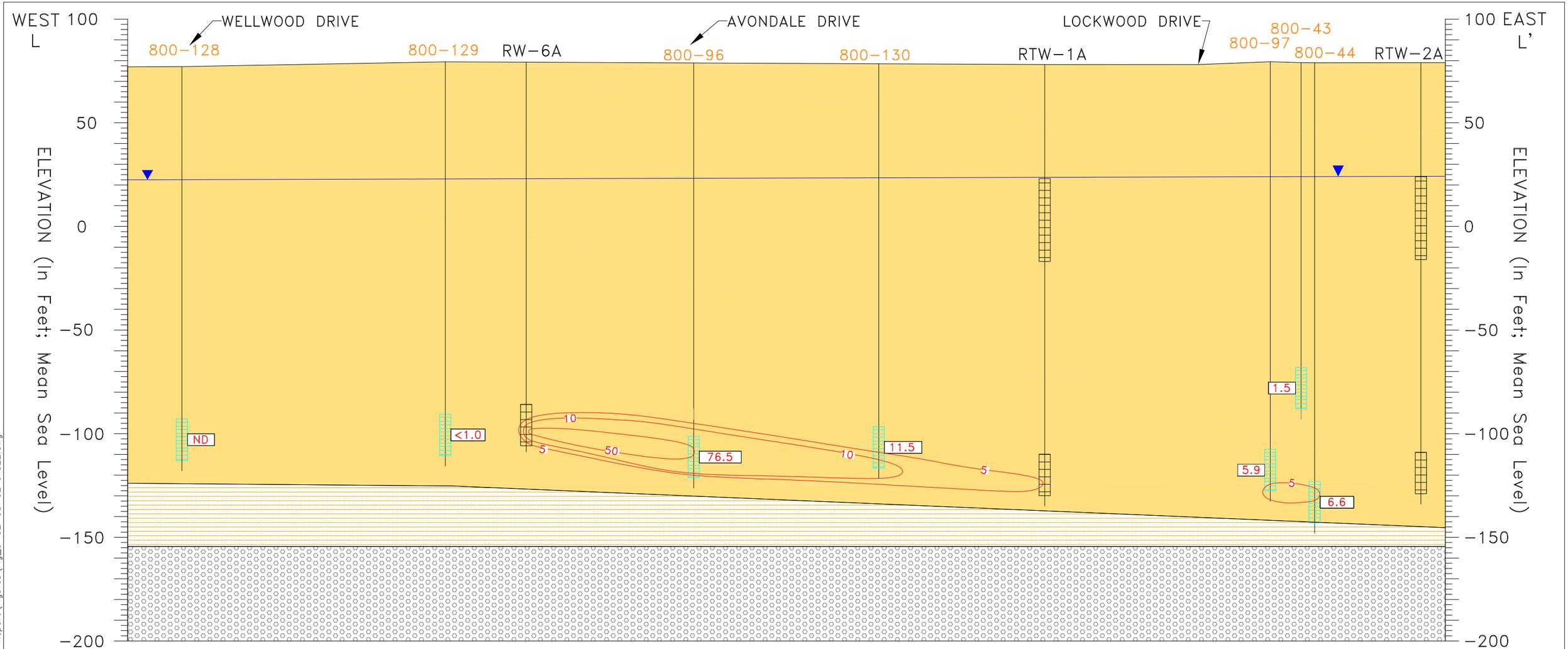
TITLE:

OU III LIPA/AIRPORT TVOC PLUME DISTRIBUTION

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.8–1



LEGEND

Upper Glacial aquifer

UG Upper Glacial Sands

UC Upper Glacial Silts & Clays

Magothy aquifer

MA Magothy Sands and Clay

800-44 BNL Well ID

32.93 TVOC Concentration (µg/L)

50 TVOC Contour (µg/L) (Dashed Where Inferred)

Monitoring Well Screen

Extraction Well Screen

Water Table As Of Oct 13 – Oct 18, 2021

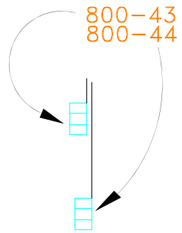
TVOC – Total Volatile Organic Compound

µg/L – Micrograms Per Liter

HORIZONTAL SCALE

0 50 100 FEET

Monitoring Well IDs are stacked in order of the depth of the well from shallow to deep



NOTES:

1) GEOLOGIC INFORMATION SHOWN IS BASED ON ADDITIONAL EXPLORATIONS (e.g., HYDROPUNCHES, GEOPROBES, VERTICAL PROFILES, AND/OR TEST WELLS 2006 AND 2007).

2) PLUME DISTRIBUTION IS BASED ON FOURTH QUARTER 2021 OU III SAMPLING EVENT.

3) CONTOUR INTERVAL IS AS SHOWN.

4) BNL WELL ID COLOR CORRESPONDS TO LONG-TERM MONITORING PROGRAM COLOR CODE.

Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III AIRPORT WEST
TVOC HYDROGEOLOGIC CROSS SECTION (L–L')

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	2:1	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.8-2

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Figure 3.2.8-3
OU III LIPA Groundwater Remediation System
TVOC Influent Concentrations

2021 BNL Groundwater Status Report

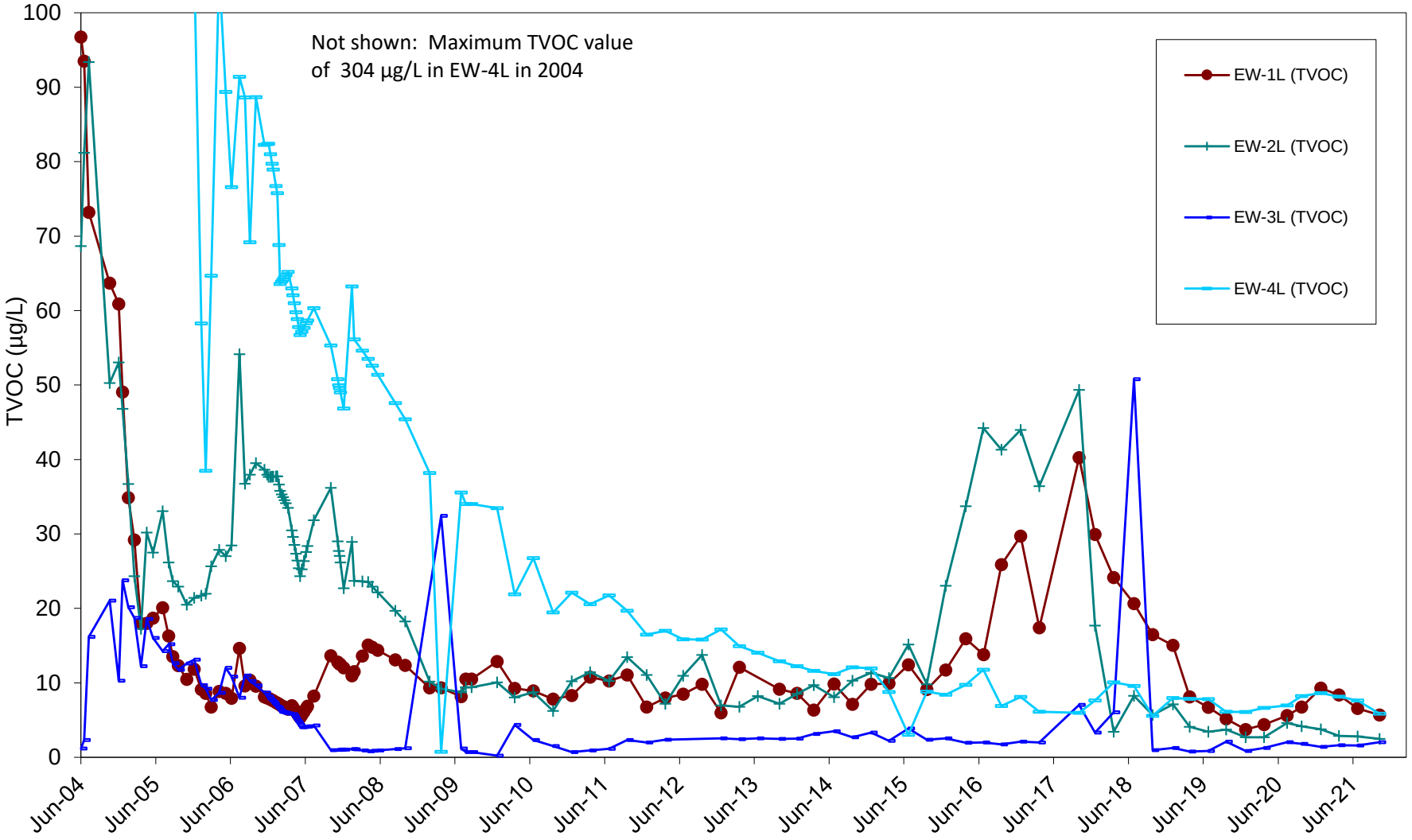


Figure 3.2.8-4
OU III Airport Groundwater Remediation System
TVOC Influent Concentrations

2021 BNL Groundwater Status Report

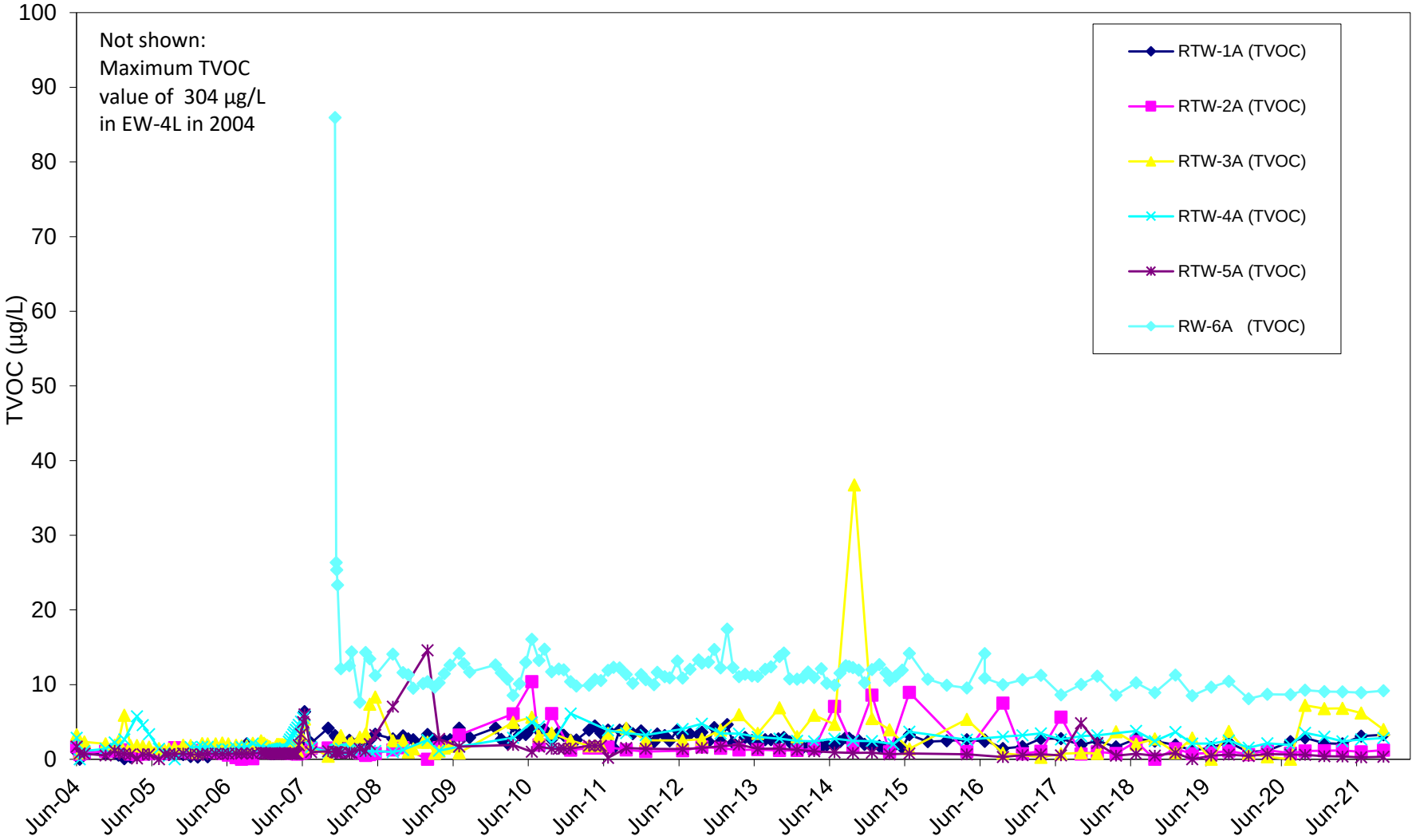
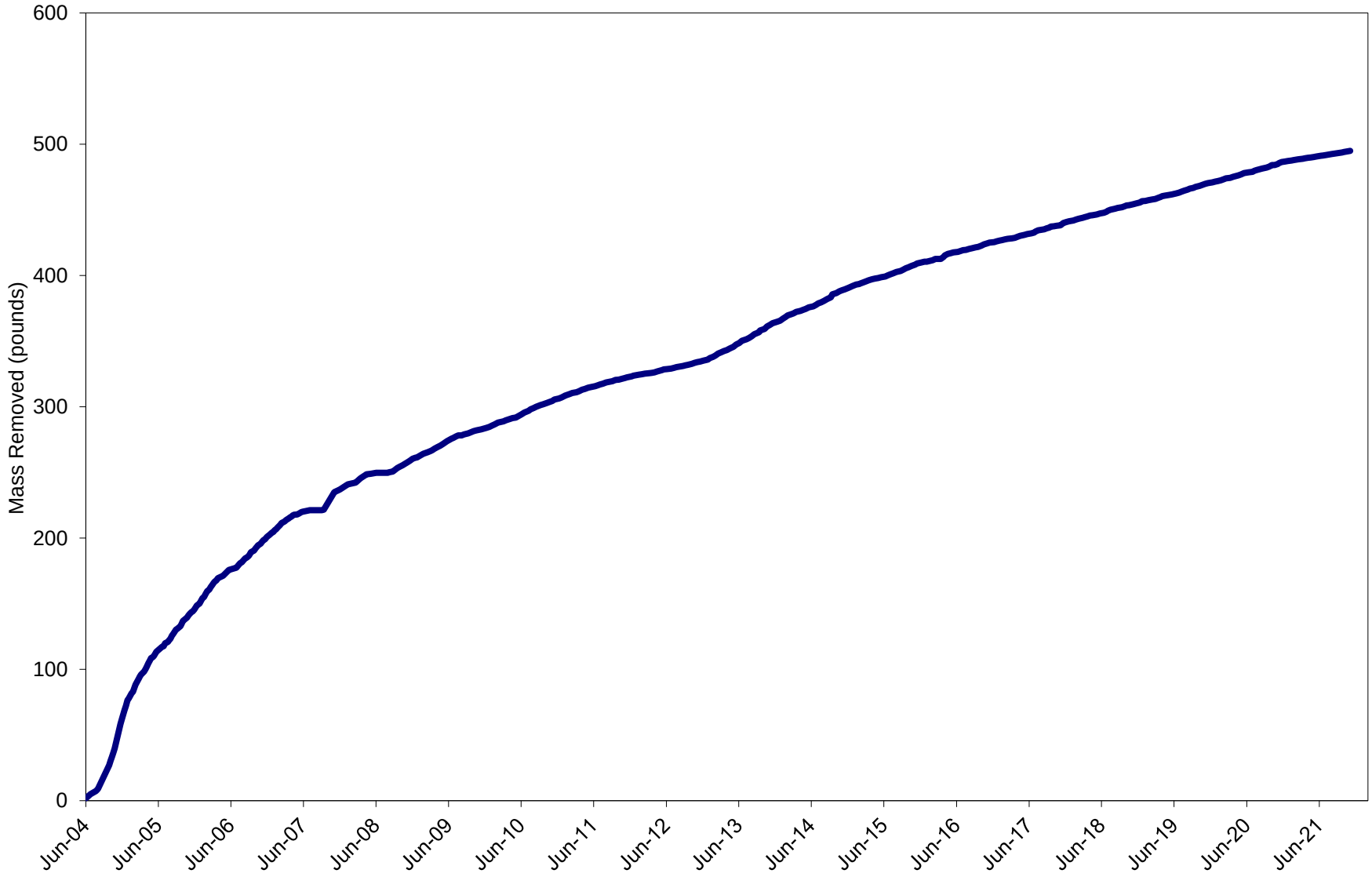
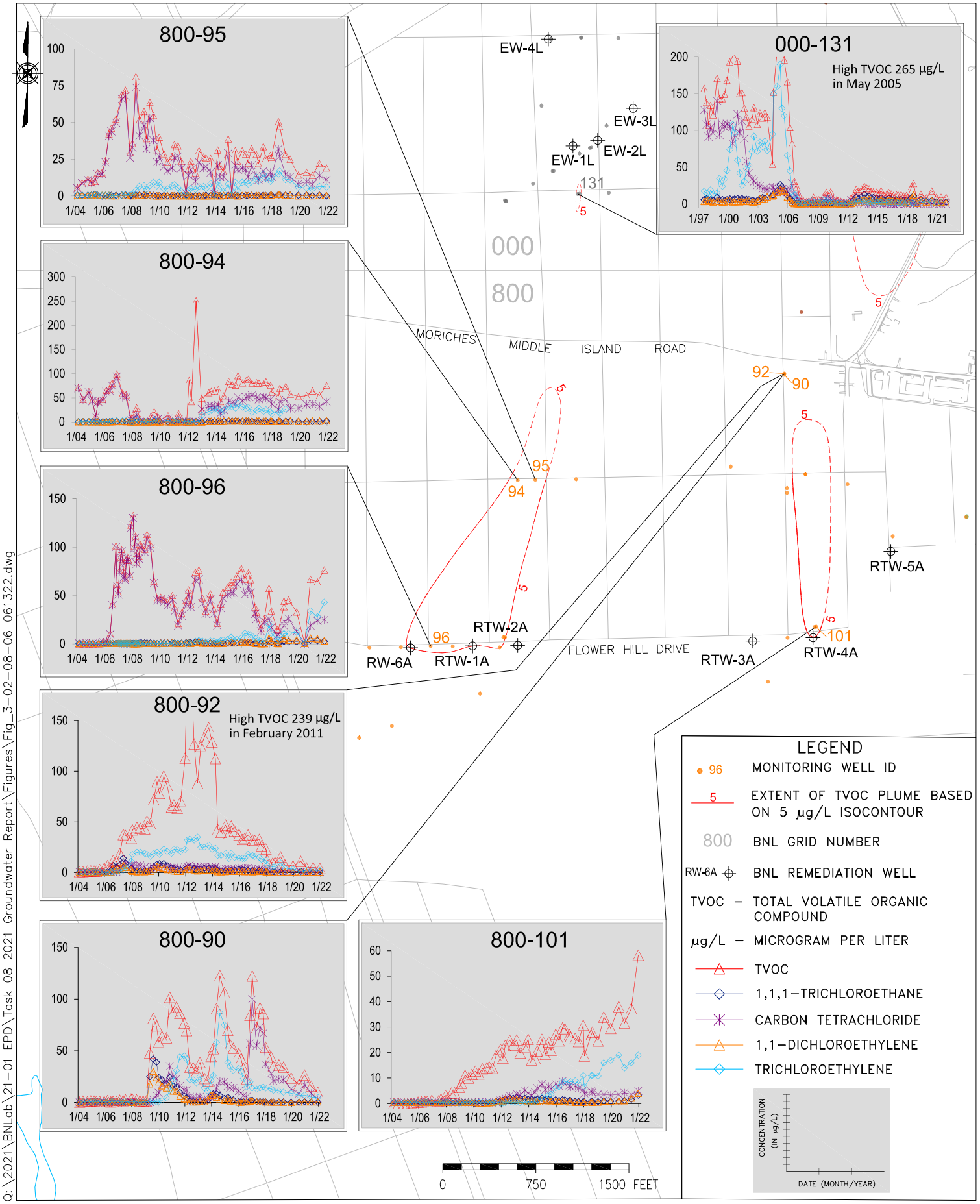


Figure 3.2.8-5
OU III LIPA/Airport Groundwater Remediation System
Cumulative VOC Mass Removed

2021 BNL Groundwater Status Report





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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

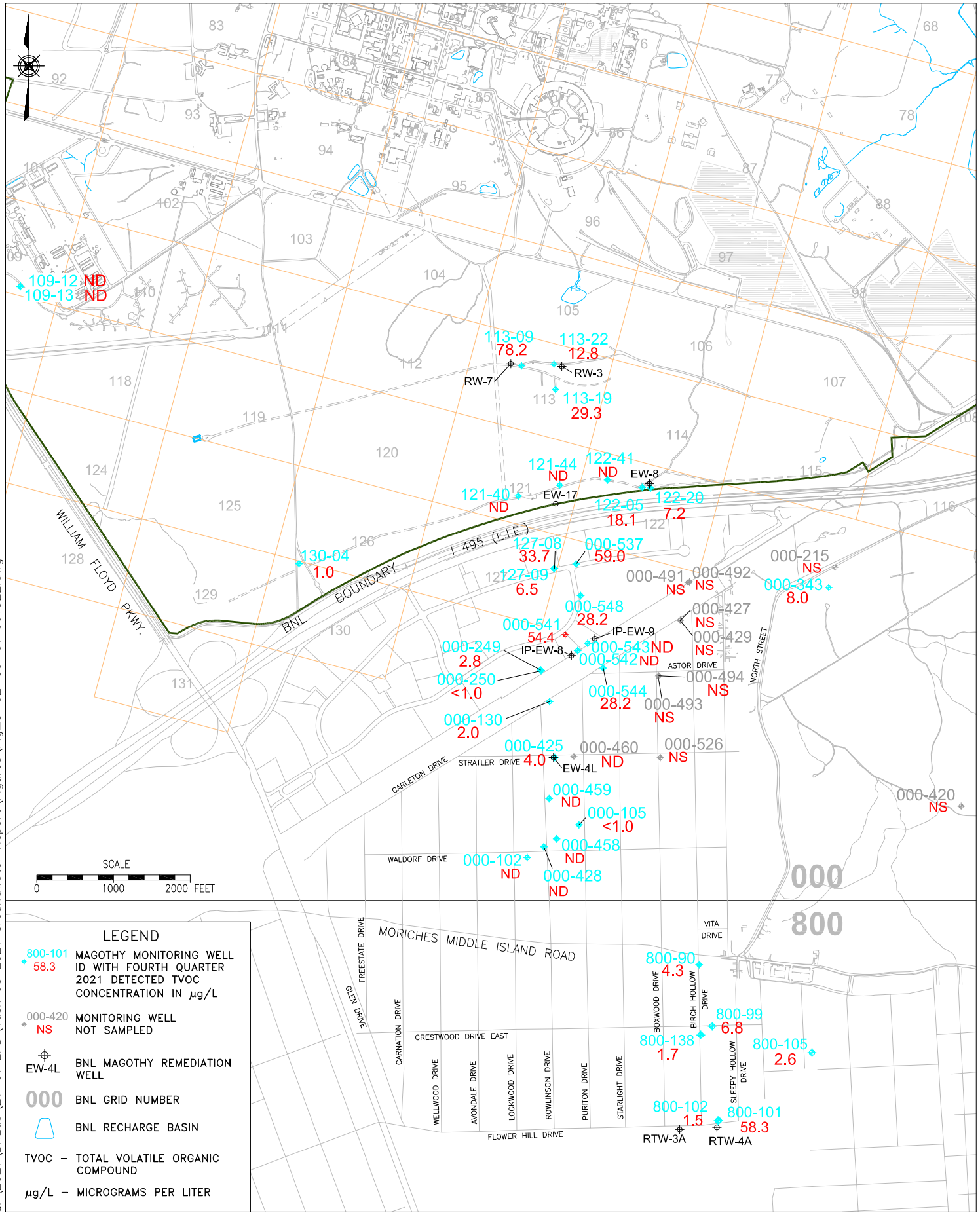
TITLE:

OU III LIPA/AIRPORT HISTORICAL VOC TRENDS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.8–6



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

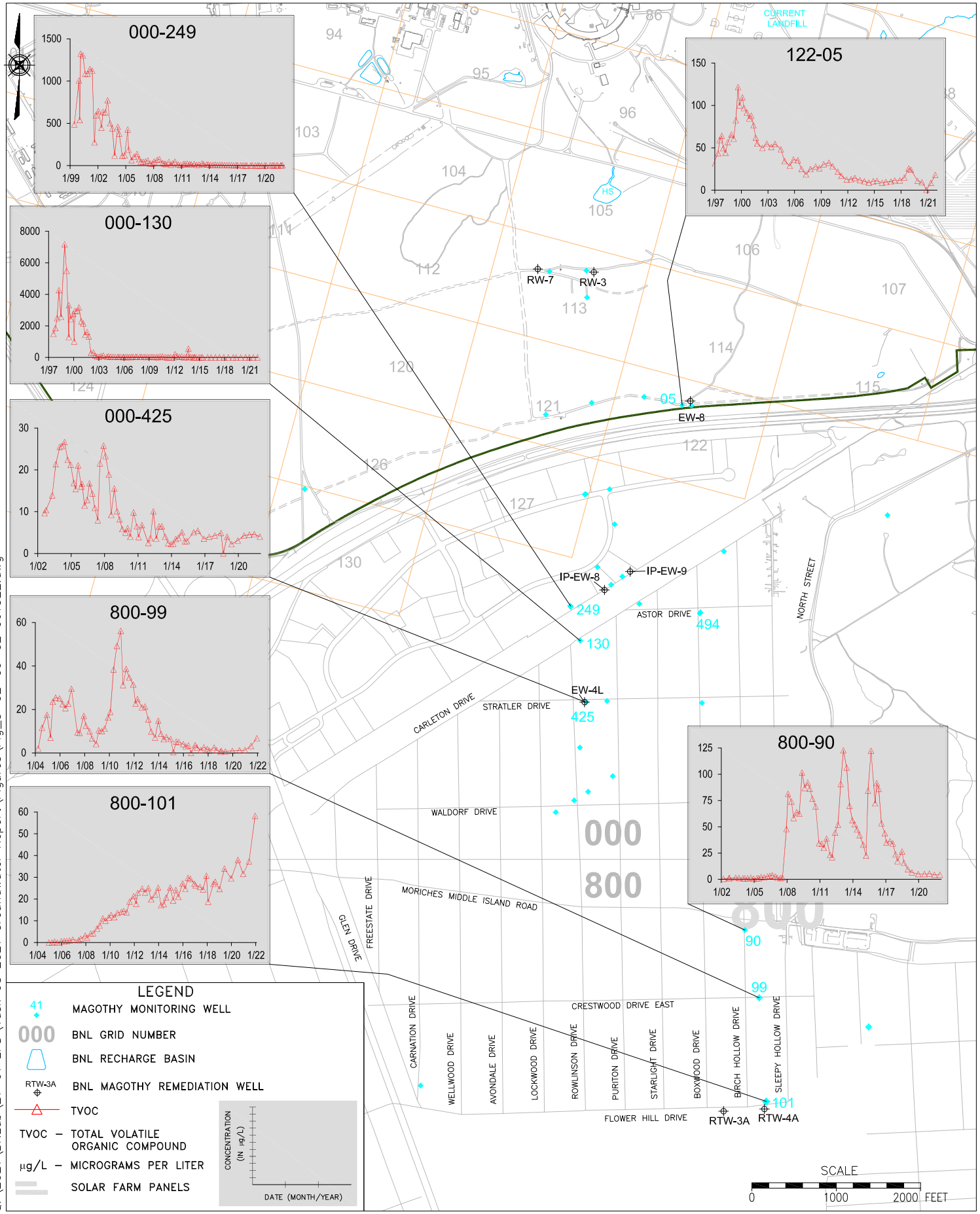
TITLE:

MAGOTHY WELL LOCATIONS AND TVOC RESULTS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.9–1



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

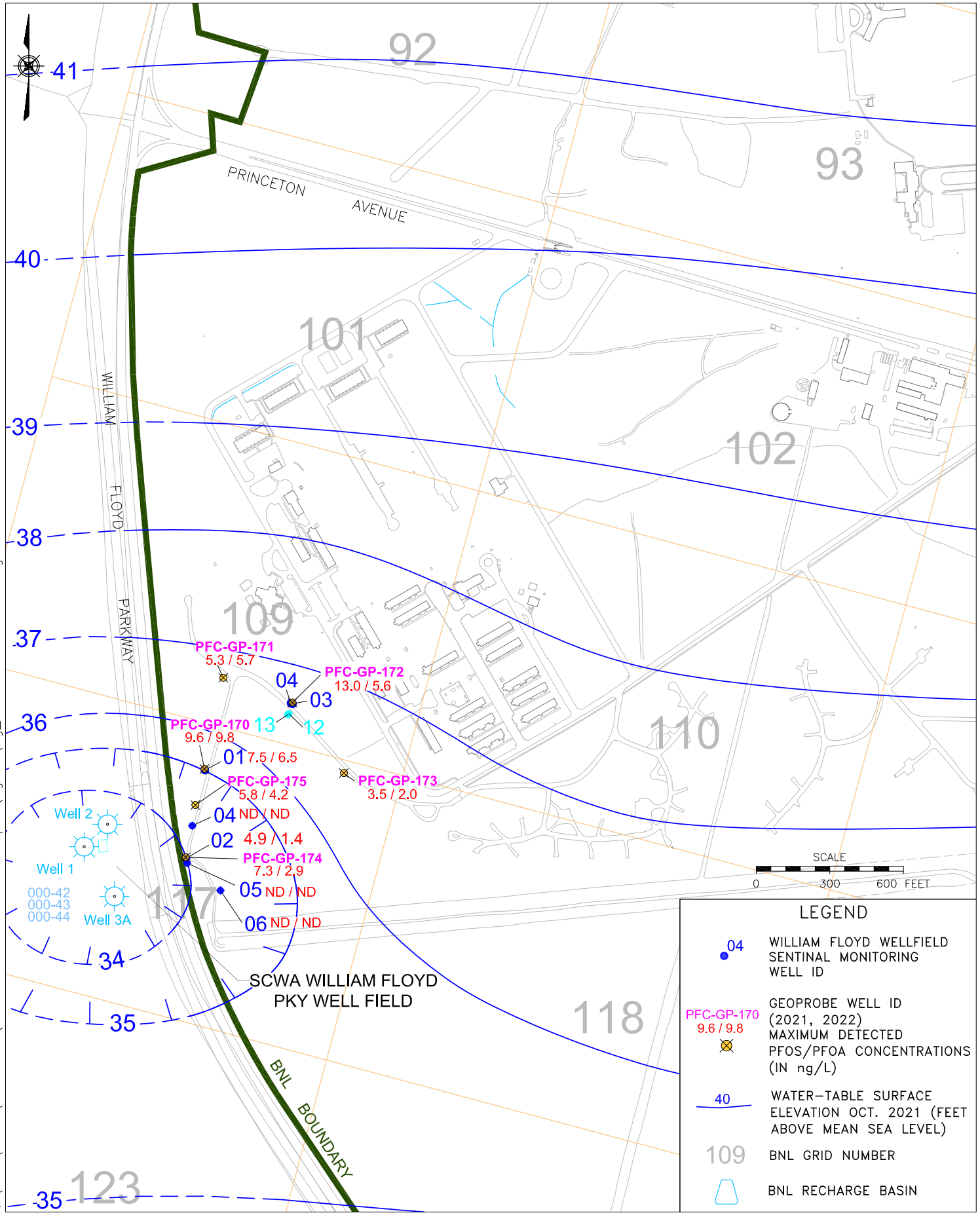
TITLE:

MAGOTHY HISTORICAL TVOC TRENDS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.9-2



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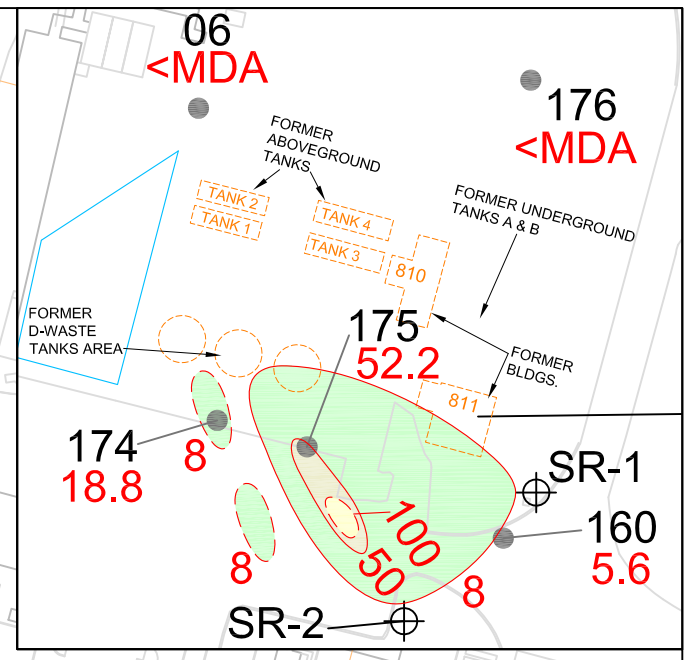
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE: WILLIAM FLOYD WELLFIELD SENTINEL MONITORING MONITORING WELL LOCATIONS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.10-1



LEGEND

- 402 <MDA — MONITORING WELL ID WITH DETECTED Sr–90 CONCENTRATION (IN pCi/L) FROM FOURTH QUARTER 2021.
- BGRR-VP-138 ■ 41.5 — TEMPORARY WELL LOCATION WITH MAXIMUM DETECTED Sr–90 RESULTS pCi/L, SAMPLES OBTAINED DURING MARCH/APRIL. 2022.
- SR-1 — EXTRACTION WELL ID
- 8 — ISOCONCENTRATION LINE REPRESENTING LINE OF EQUAL Sr–90 CONCENTRATION (IN pCi/L) (DASHED WHERE INFERRED)
- CROSS SECTION LINE
- ≥ 8–49 pCi/L Sr–90 CONCENTRATION
- ≥ 50–99 pCi/L Sr–90 CONCENTRATION
- ≥ 100–499 pCi/L Sr–90 CONCENTRATION
- BNL RECHARGE BASIN
- ENGINEERED CAP
- 75 — BNL GRID NUMBER

pCi/L – PICO CURIES PER LITER

HFBR – HIGH FLUX BEAM REACTOR

WCF – WASTE CONCENTRATION FACILITY

BGRR – BROOKHAVEN GRAPHITE RESEARCH REACTOR

NOTES:

"<MDA" INDICATES BELOW MINIMUM DETECTABLE ACTIVITY.

"NS" INDICATES NOT SAMPLED.

CONTOUR INTERVAL AS SHOWN.

IN WELL CLUSTERS THE HIGHEST Sr–90 VALUE WAS USED IN CONTOURING AND DETERMINING PLUME EXTENTS.

Q:\2021\BNLab\21-01 EPD\Task 08 2021 Groundwater Report\Figures\Fig_3-02-11-01 061322.dwg

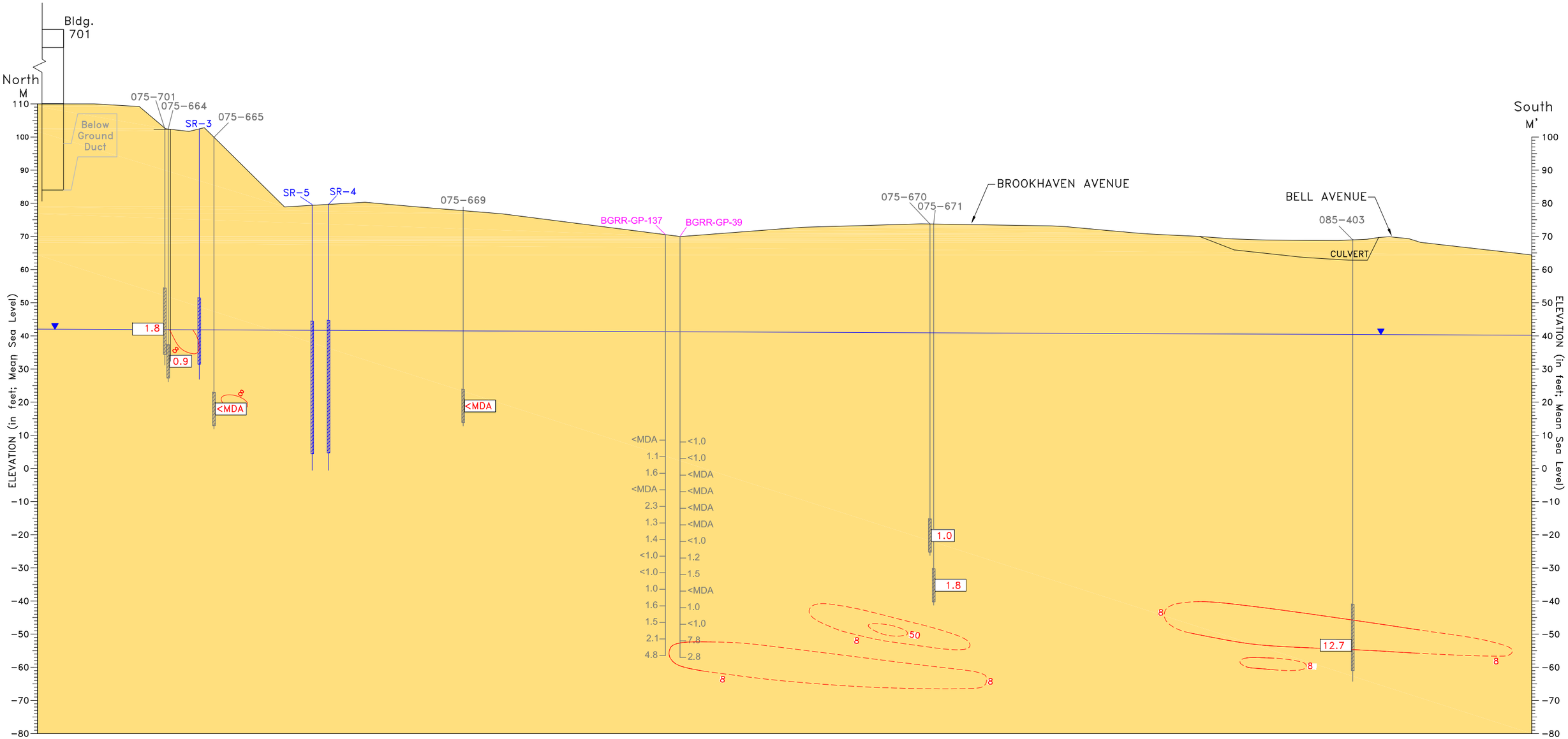
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III BGRR/WCF
Sr–90 PLUME DISTRIBUTION
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.11–1



LEGEND

Upper Glacial aquifer

UG Upper Glacial Sands

8 Strontium–90 (Sr–90) Plume Contours

SR–3 Extraction Well

075–664 Monitoring Well

Well Screen Zone

8.9 Sr–90 results in pCi/L, obtained during 4th quarter 2021.

"<MDA" indicates below minimum detectable activity.

pCi/L – pico Curies per liter

Water Table As Of Oct 13 – Oct 18, 2021

HORIZONTAL SCALE
0 50 100 FEET

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

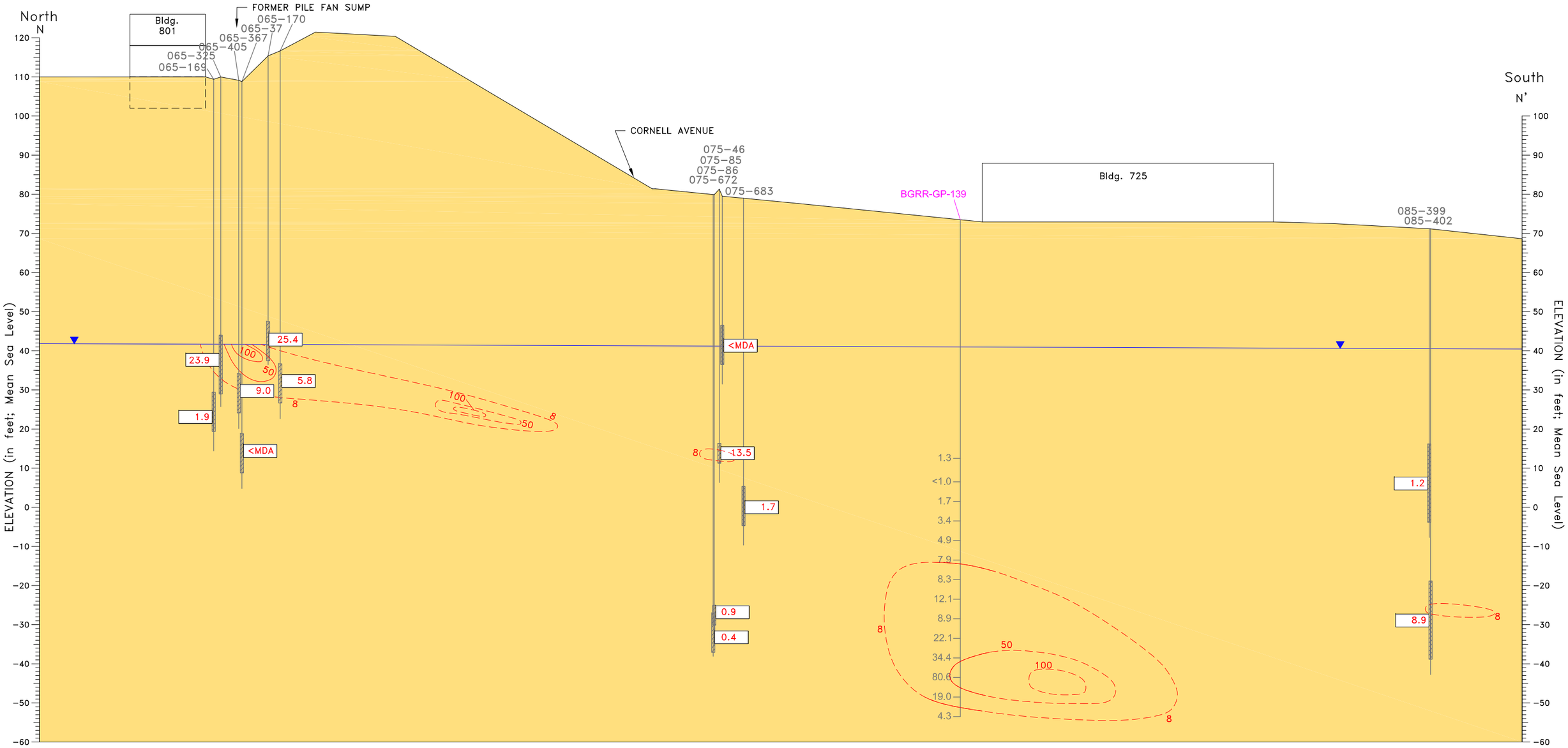
TITLE:

OU III BGRR/WCF
Sr–90 CROSS SECTION (M–M')

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	5:1	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.11–2



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LEGEND

Upper Glacial aquifer

UG Upper Glacial Sands

8 Strontium-90 (Sr-90) Plume Contours

065-169 Monitoring Well

Well Screen Zone

1.3 Sr-90 results in pCi/L, obtained during 4th quarter 2021.

"<MDA" indicates below minimum detectable activity.

pCi/L – pico Curies per liter

Water Table As Of Oct 13 – Oct 18, 2021

HORIZONTAL SCALE

0 50 100 FEET

Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

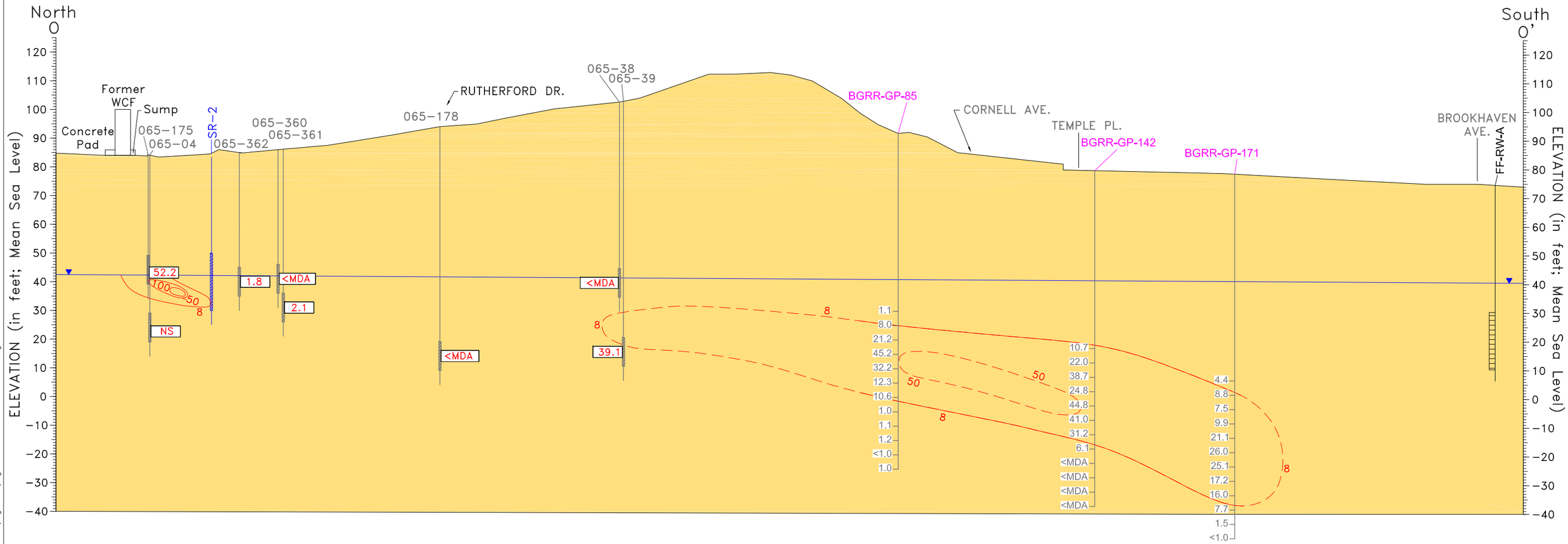
TITLE:

OU III BGRR/WCF
Sr-90 CROSS SECTION (N-N')

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	5:1	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.11-3



LEGEND

Upper Glacial aquifer

UG Upper Glacial Sands

8 Strontium−90 (Sr−90) Plume Contours (Dashed where inferred)

SR−2 Sr−90 Plume Extraction Well

FF−RW−A PFAS Plume Extraction Well

065−175 Monitoring Well

Well Screen Zone

39.1 Sr−90 results in pCi/L, obtained during 4th quarter 2021.

"<MDA" indicates below minimum detectable activity.
"NS" indicates not sampled.

pCi/L − pico Curies per liter

Water Table As Of Oct 13 − Oct 18, 2021

HORIZONTAL SCALE

0 100 200 FEET

Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III BGRR/WCF
Sr−90 CROSS SECTION (O−O')
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	5:1	06/13/22	−
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	−	−

FIGURE NO.: 3.2.11−4

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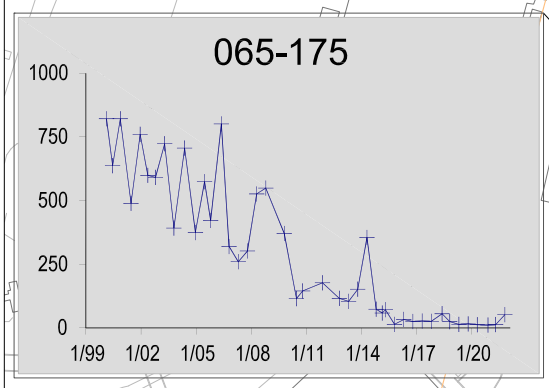

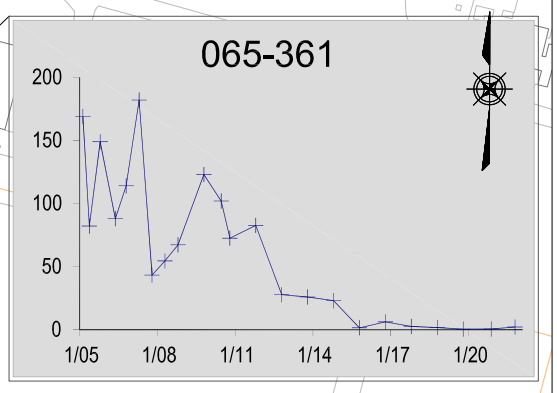

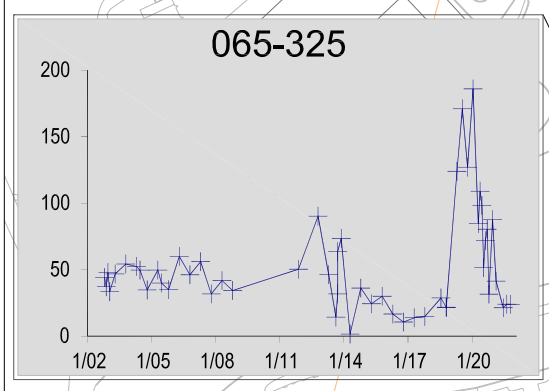

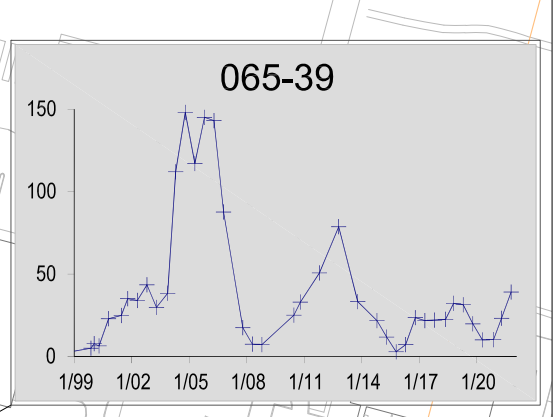

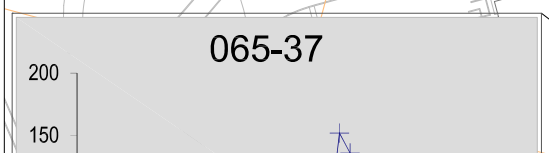

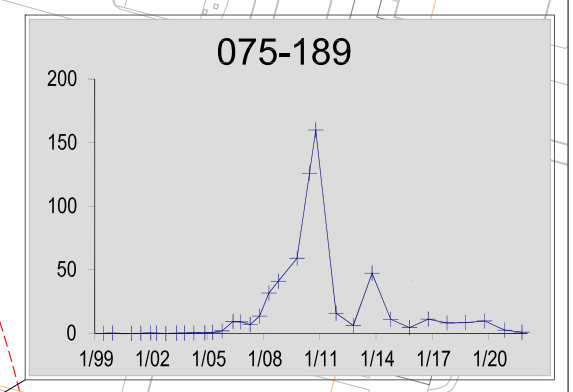

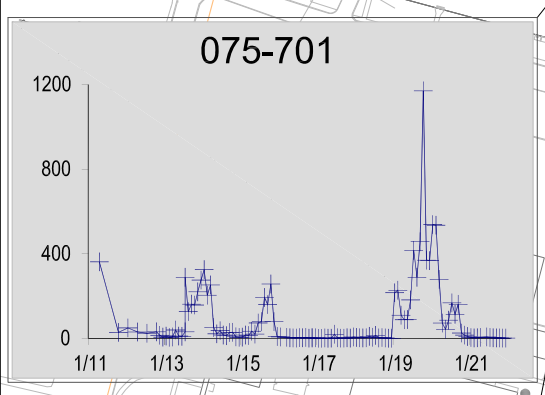

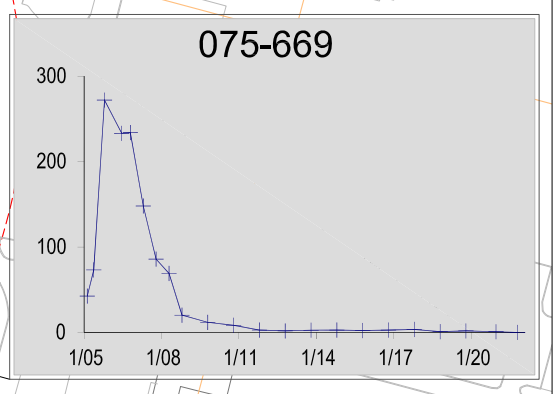

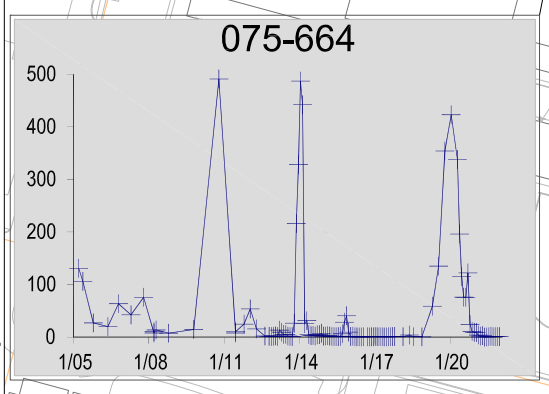

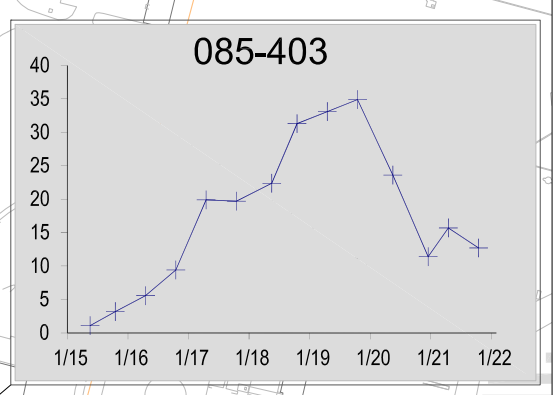

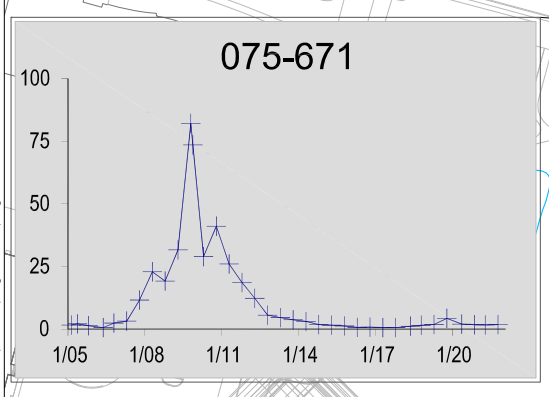

HENRY ST.

WASTE CONCENTRATION FACILITY

175

SR-1

SR-2

361

BGRR

325

39

37

65

701

664

SR-3

SR-6

HFBR

SR-5

SR-4

189

SR-7

SR-8

SR-9

CORNELL AVENUE

669

TEMPLE STREET

75

TECHNOLOGY

671

BROOKHAVEN AVENUE

85

403

ROCHESTER STREET

ROWLAND STREET

SCALE

0 200 400 FEET

LEGEND

- 175 MONITORING WELL ID
- 8 EXTENT OF Sr-90 PLUME BASED ON 8 pCi/L ISOCONTOUR (DASHED WHERE INFERRED)
- 75 BNL GRID NUMBER
- pCi/L- PICOCURIES PER LITER
- WCF- WASTE CONCENTRATION FACILITY
- BGRR- BROOKHAVEN GRAPHITE RESEARCH REACTOR
- -+- STRONTIUM-90 (Sr-90) (pCi/L)

CONCENTRATION (IN pCi/L)

TIME (MONTH/YEAR)

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III BGRR/WCF HISTORICAL Sr-90 TRENDS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.11-5

Figure 3.2.11-6
OU III BGRR/WCF Monitoring Well 075-701
Sr-90 Concentration Comparison to Water Table Elevation

2021 BNL Groundwater Status Report

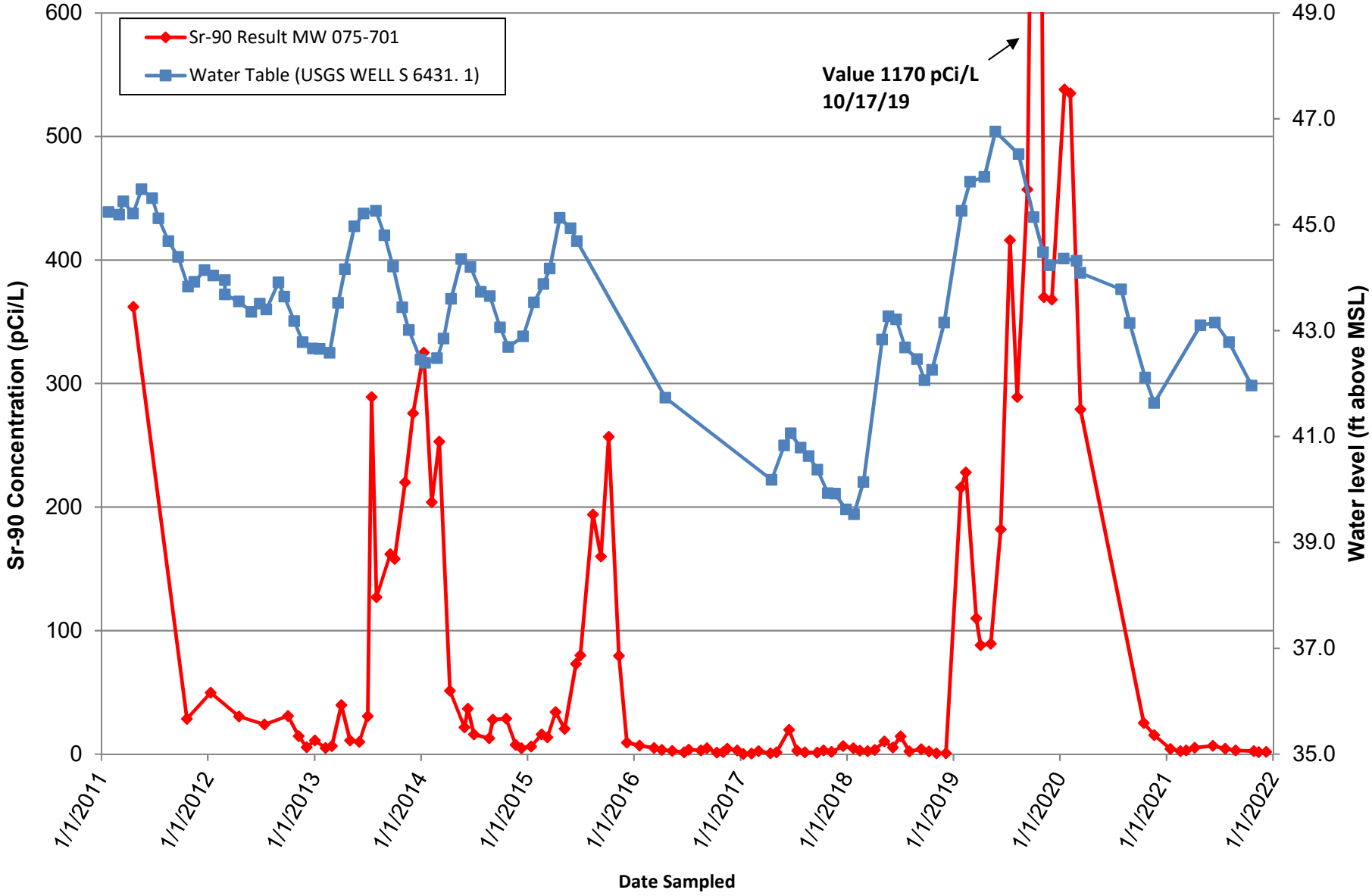


Figure 3.2.11-7
OU III BGRR/WCF
Sr-90 Cumulative
MilliCuries Removed

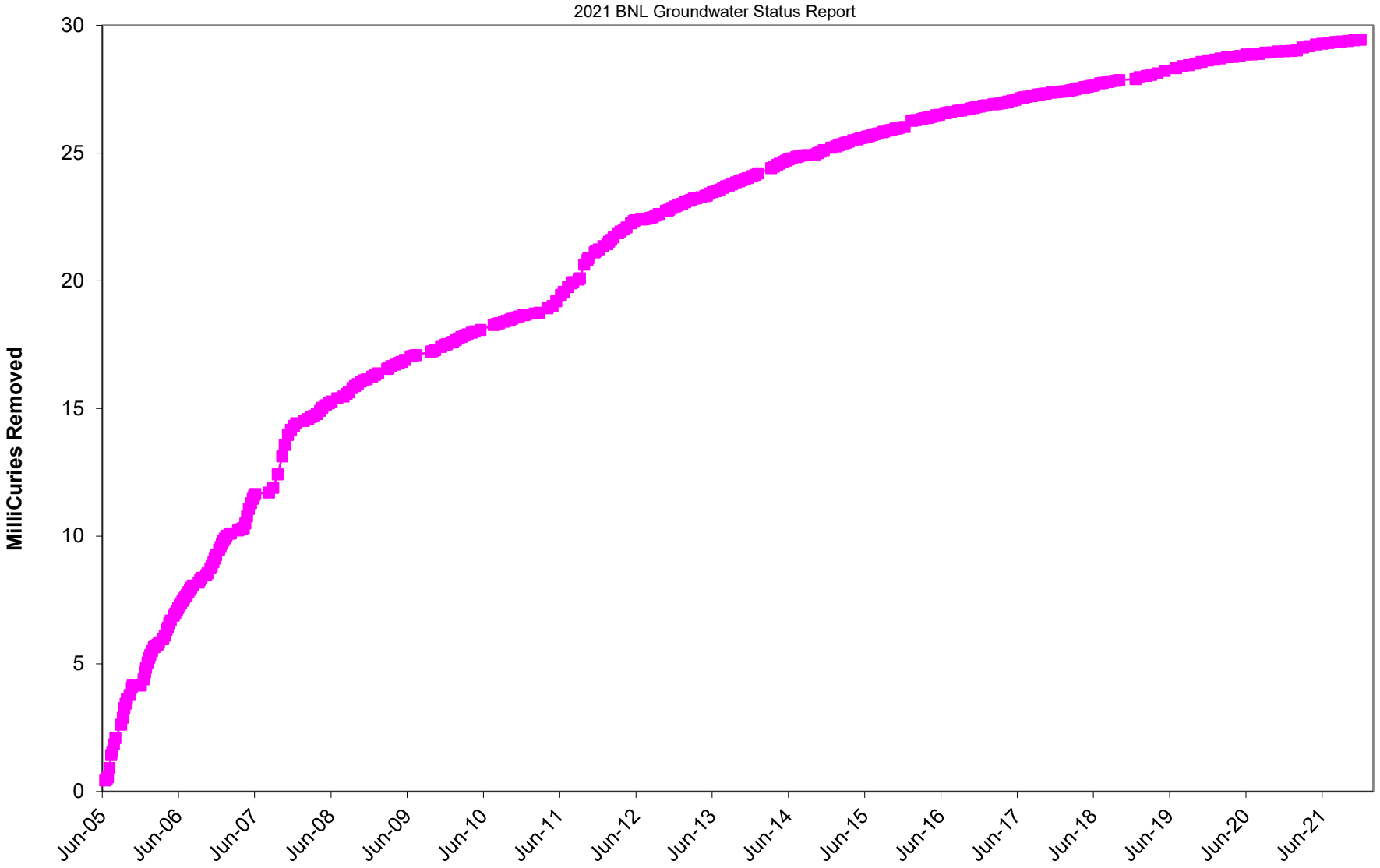


Figure 3.2.11-8
OU III BGRR/WCF
Sr-90 Influent Concentrations For Extraction Wells

2021 BNL Groundwater Status Report

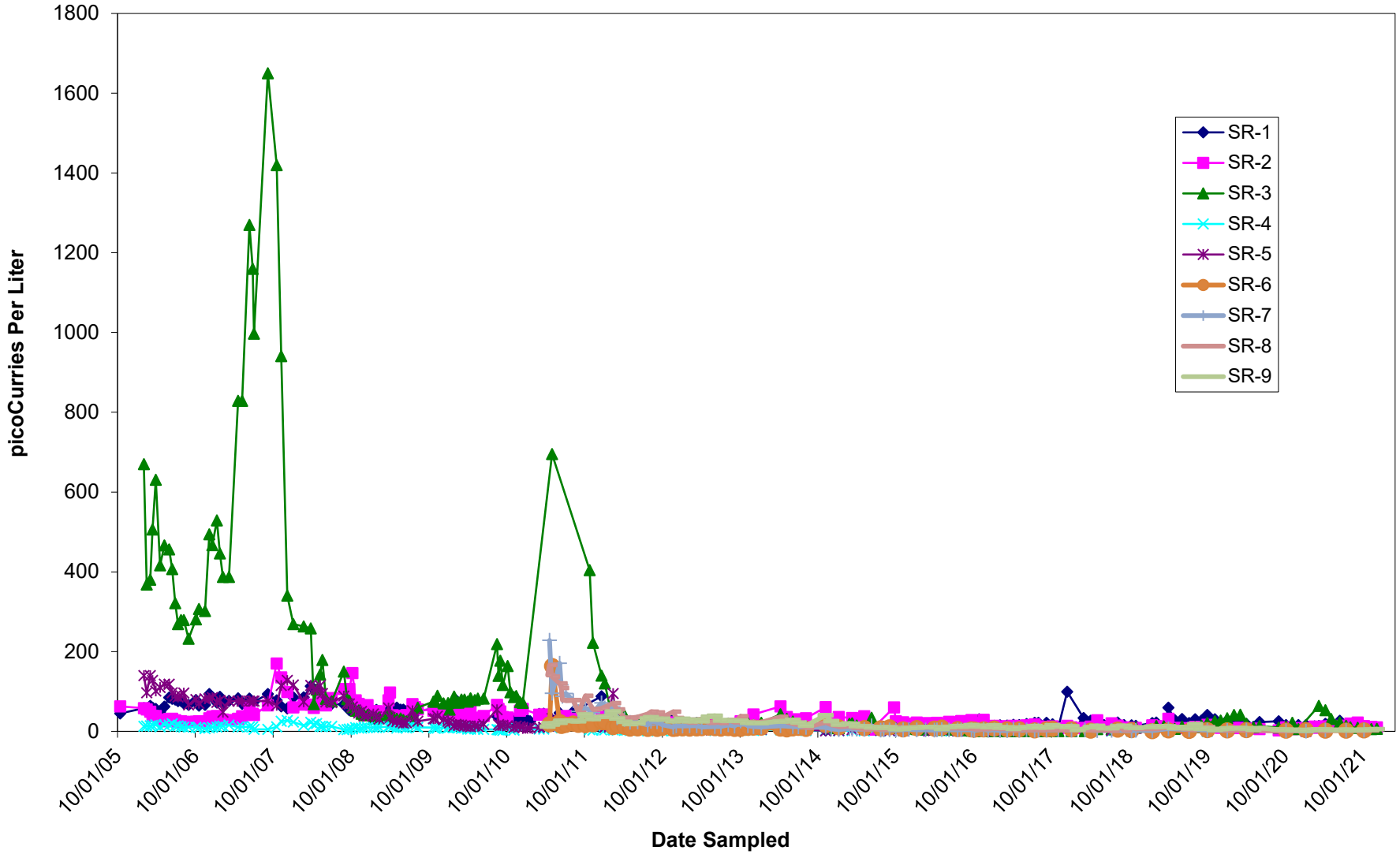
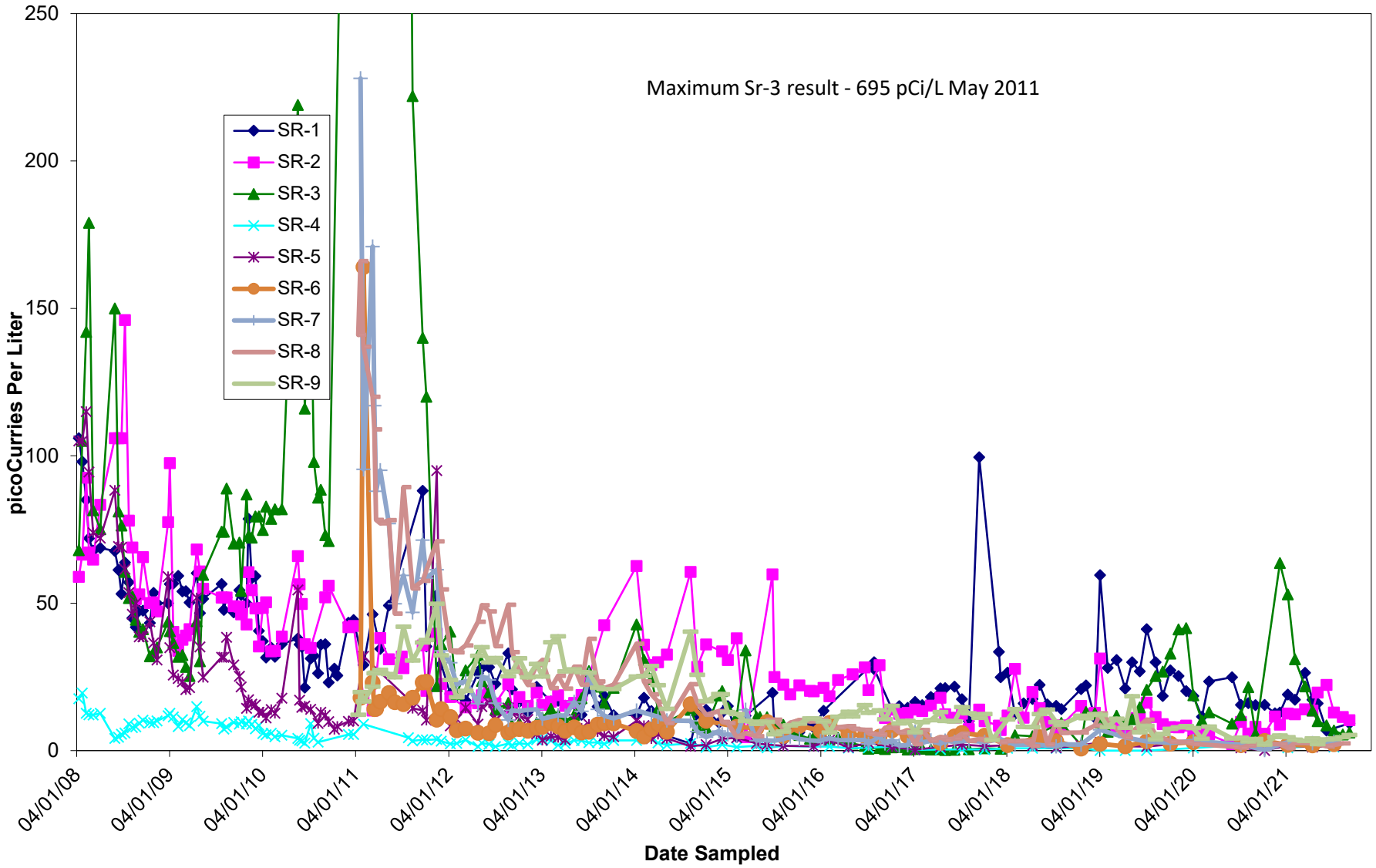


Figure 3.2.11-9
OU III BGRR/WCF
Sr-90 Influent Concentrations From April 2008 to Present

2021 BNL Groundwater Status Report



2004

2008

2021

FORMER D-WASTE TANK AREA

WASTE CONCENTRATION FACILITY

SR-1

SR-2

FORMER PILE FAN SUMP LOCATION

BELOW GROUND DUCTS LOCATION

SR-3

SR-4

SR-5

SR-6

SR-7

SR-8

SR-9

BGRR

Building 701

FORMER CANAL HOUSE

Building 801

HFBR

LIGHT SOURCE
Building 725

CFN
Building 735

65

75

85

HENRY ST.

LAWRENCE DR.

RUTHERFORD DR.

TO BLDG

PENNSYLVANIA STREET

CORNELL AVENUE

RAILROAD STREET

TEMPLE PLACE

TECHNOLOGY STREET

BROOKHAVEN AVENUE

DUKE STREET

BELL AVENUE

ROWLAND STREET

LEGEND

- TEMPORARY WELL
- MONITORING WELL
- SR-1 GW EXTRACTION WELL
- BGRR– BROOKHAVEN GRAPHITE RESEARCH REACTOR
- HFBR– HIGH FLUX BEAM REACTOR
- pCi/L– PICO CURIES PER LITER
- ≥ 8–49 pCi/L Sr-90 CONCENTRATION
- ≥ 50–99 pCi/L Sr-90 CONCENTRATION
- ≥ 100–499 pCi/L Sr-90 CONCENTRATION
- ≥ 500 – pCi/L Sr-90 CONCENTRATION

SCALE
0 300 600 FEET

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Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

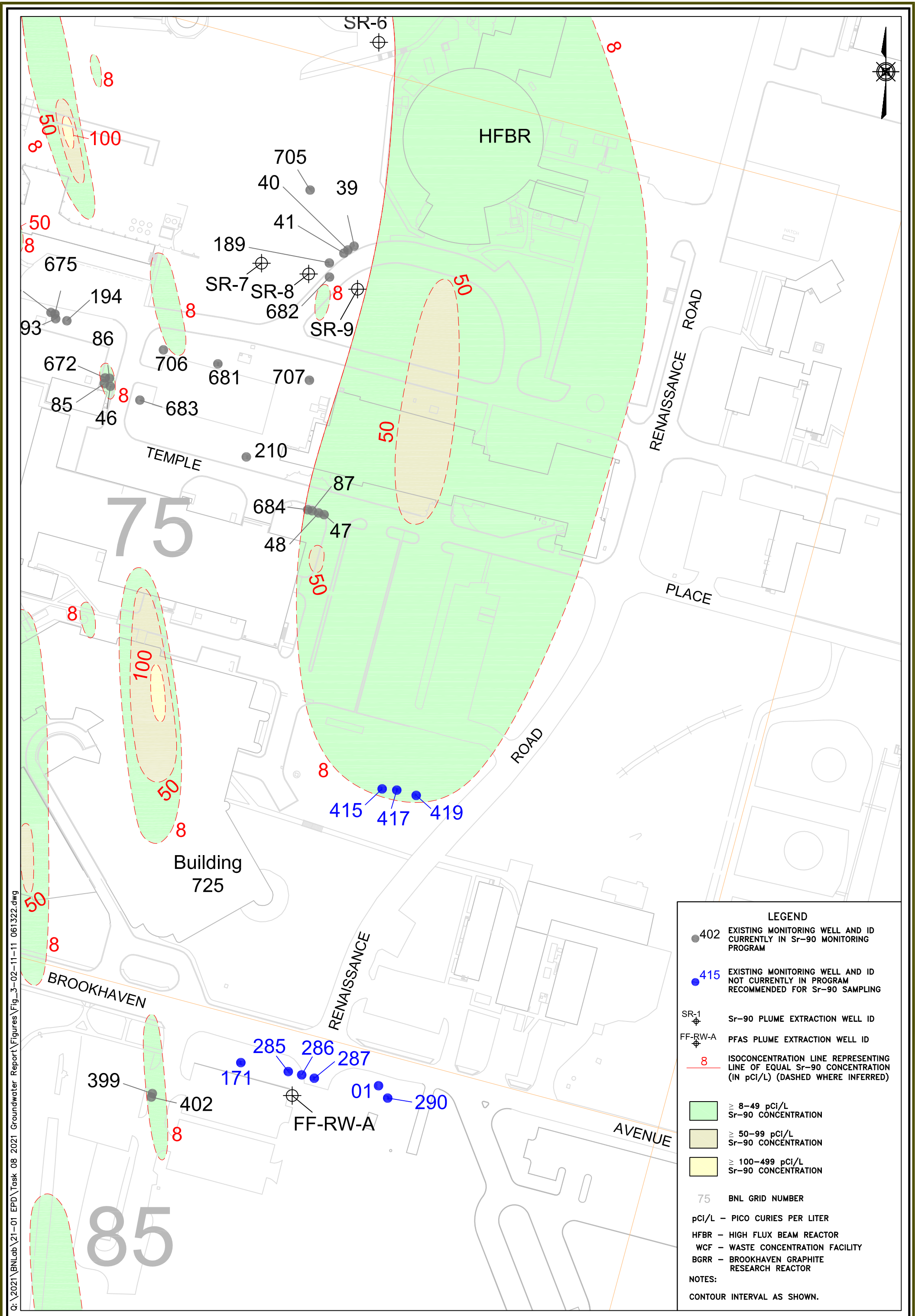
TITLE:

OU III BGRR/WCF
Sr–90 PLUME COMPARISON 2004 – 2021

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.11–10



LEGEND

- 402 EXISTING MONITORING WELL AND ID CURRENTLY IN Sr-90 MONITORING PROGRAM
- 415 EXISTING MONITORING WELL AND ID NOT CURRENTLY IN PROGRAM RECOMMENDED FOR Sr-90 SAMPLING
- SR-1 Sr-90 PLUME EXTRACTION WELL ID
- FF-RW-A PFAS PLUME EXTRACTION WELL ID
- 8 ISOCONCENTRATION LINE REPRESENTING LINE OF EQUAL Sr-90 CONCENTRATION (IN pCi/L) (DASHED WHERE INFERRED)
- ≥ 8–49 pCi/L Sr-90 CONCENTRATION
- ≥ 50–99 pCi/L Sr-90 CONCENTRATION
- ≥ 100–499 pCi/L Sr-90 CONCENTRATION
- 75 BNL GRID NUMBER

pCi/L – PICO CURIES PER LITER

HFBR – HIGH FLUX BEAM REACTOR

WCF – WASTE CONCENTRATION FACILITY

BGRR – BROOKHAVEN GRAPHITE RESEARCH REACTOR

NOTES:

CONTOUR INTERVAL AS SHOWN.

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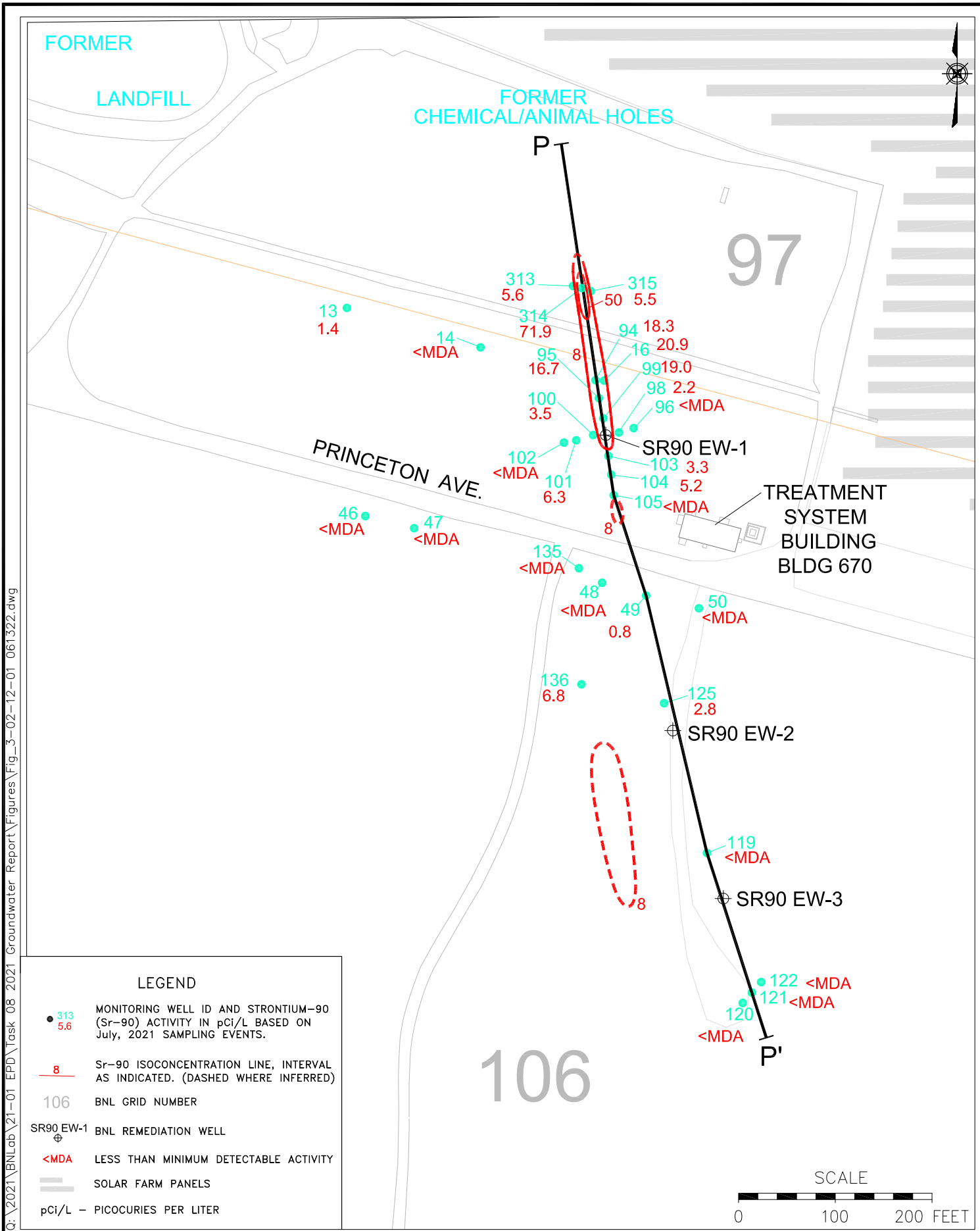
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
OU III BGRR/WCF RECOMMENDED ADDITIONAL MONITORING WELL SAMPLING FOR Sr-90
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.11-11



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

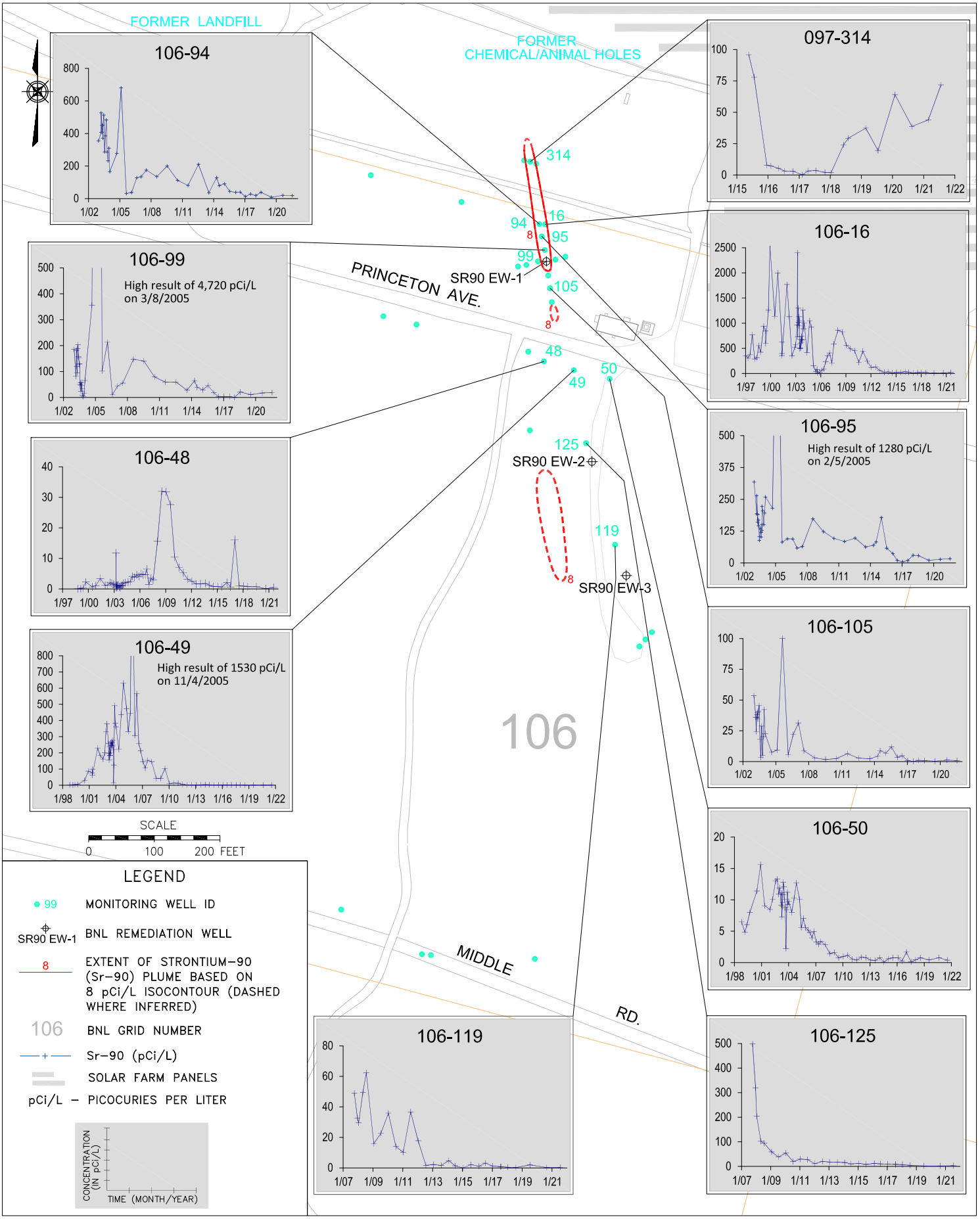
TITLE:

OU III CHEMICAL/ANIMAL HOLES Sr-90 PLUME DISTRIBUTION

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.12-1



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

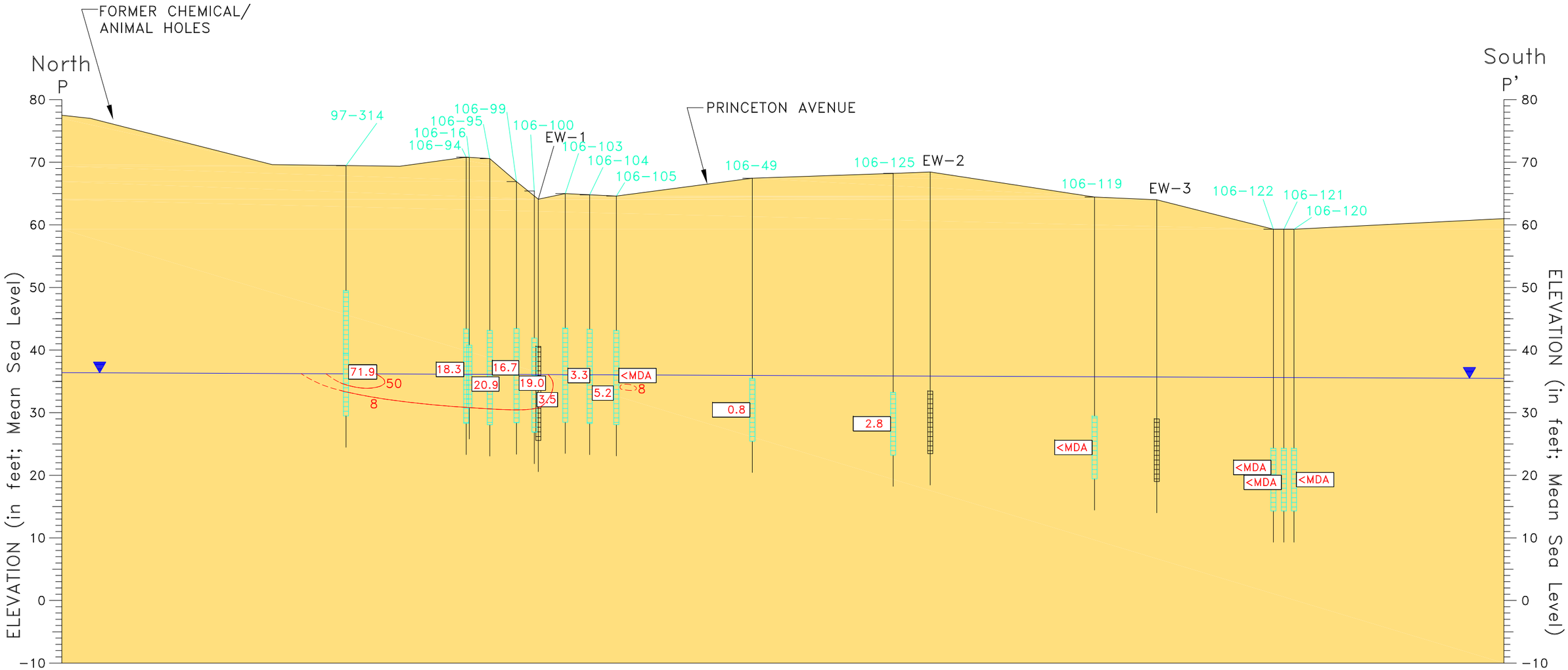
TITLE:

OU III CHEMICAL/ANIMAL HOLES HISTORICAL Sr-90 TRENDS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.12-2



LEGEND

Upper Glacial aquifer

UG Upper Glacial Sands

20.9 — Sr-90 results in pCi/L, obtained during JULY 2021 sampling events.

"<MDA" indicates below minimum detectable activity.

8 — Strontium-90 (Sr-90) Plume Contours

106-94 — Monitoring Well

Monitoring Well Screen

Extraction Well Screen

Water Table As Of Oct 13 – Oct 18, 2021

pCi/L – pico Curies per liter

HORIZONTAL SCALE

0 50 100 FEET

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Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III CHEMICAL/ANIMAL HOLES
Sr-90 HYDROGEOLOGIC CROSS SECTION (P-P')

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	5:1	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.12-3

Figure 3.2.12-4
OU III Chemical/Animal Holes
Sr-90 Extraction Well Concentrations

2021 BNL Groundwater Status Report

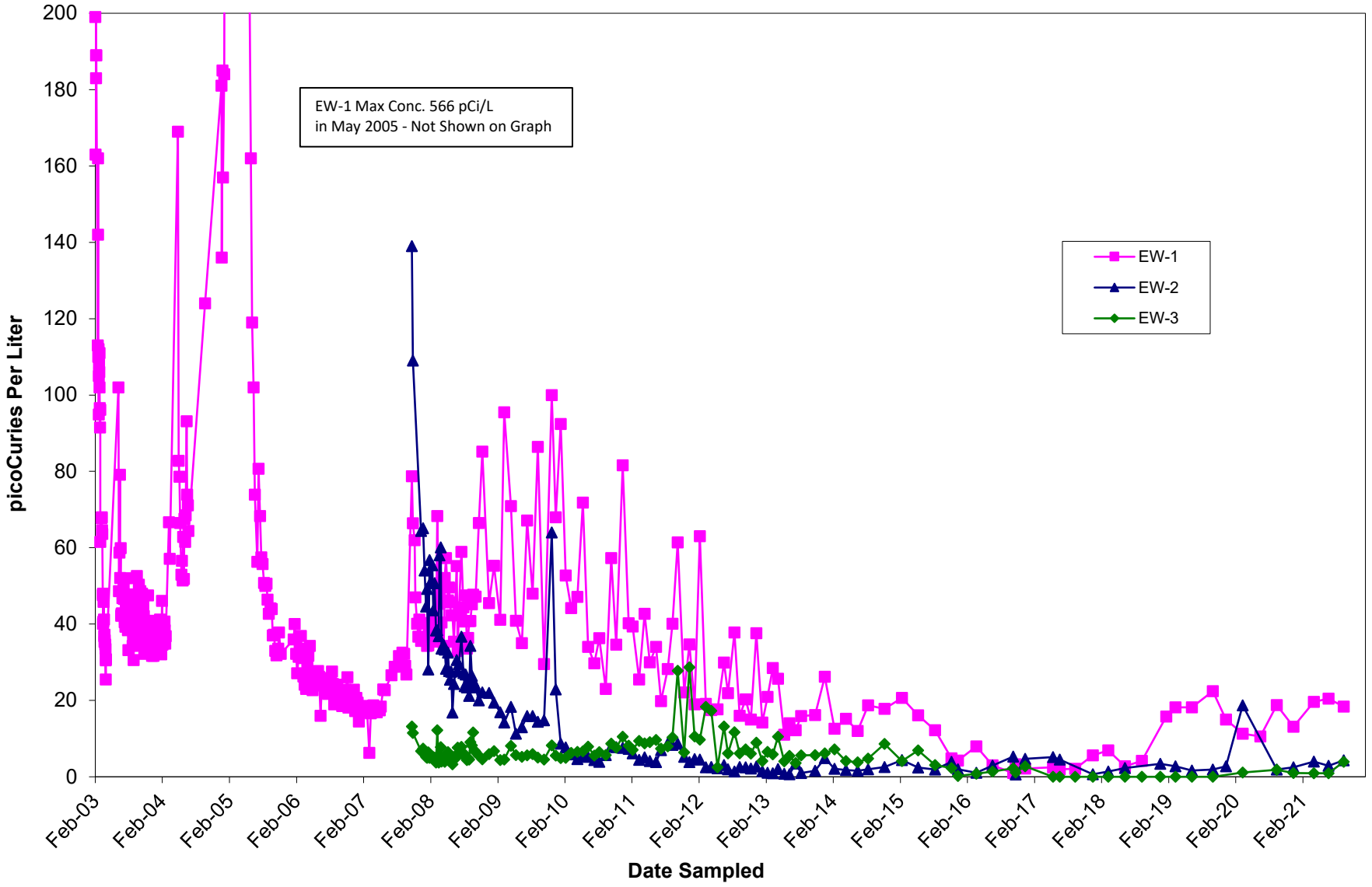
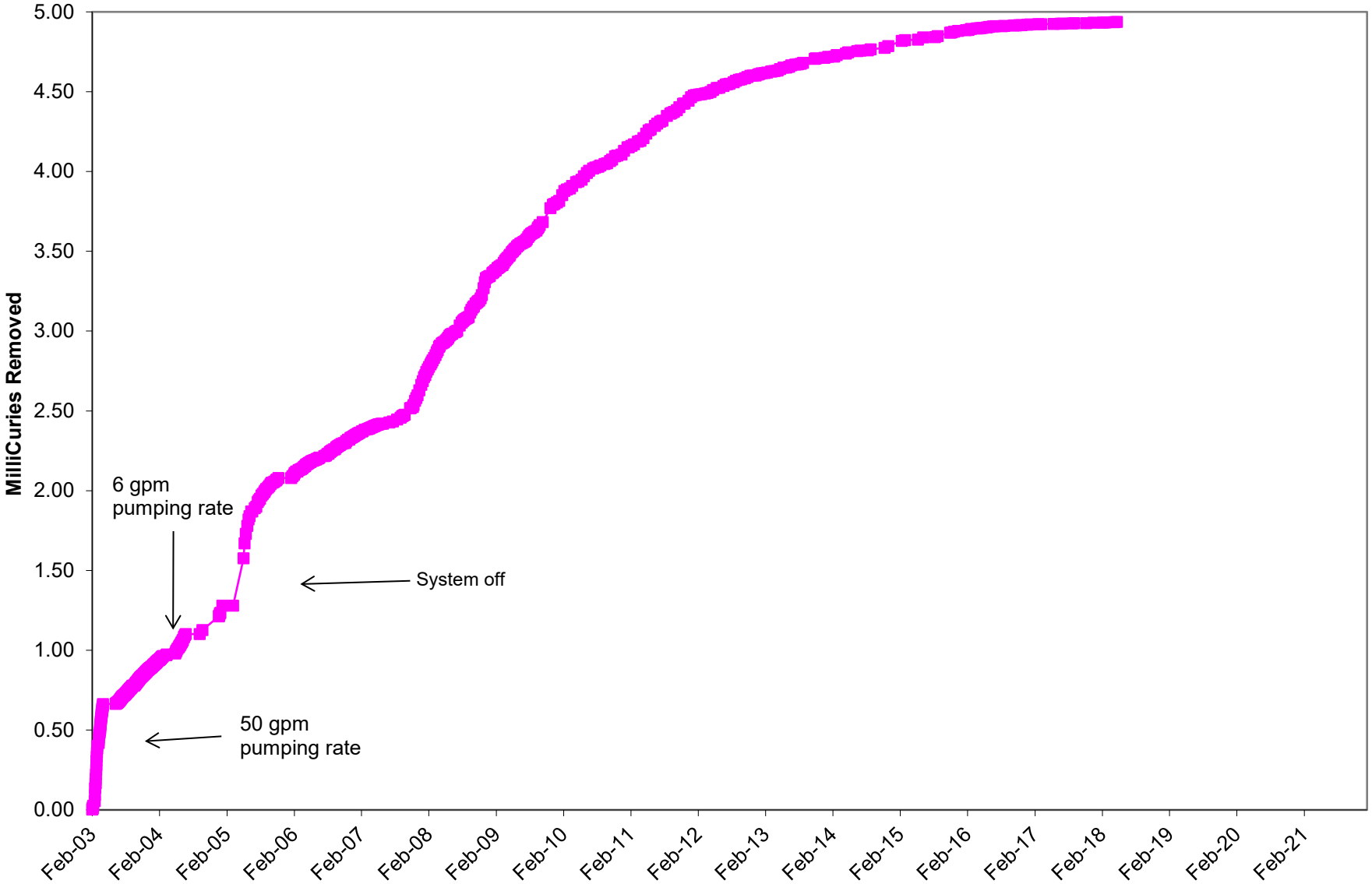
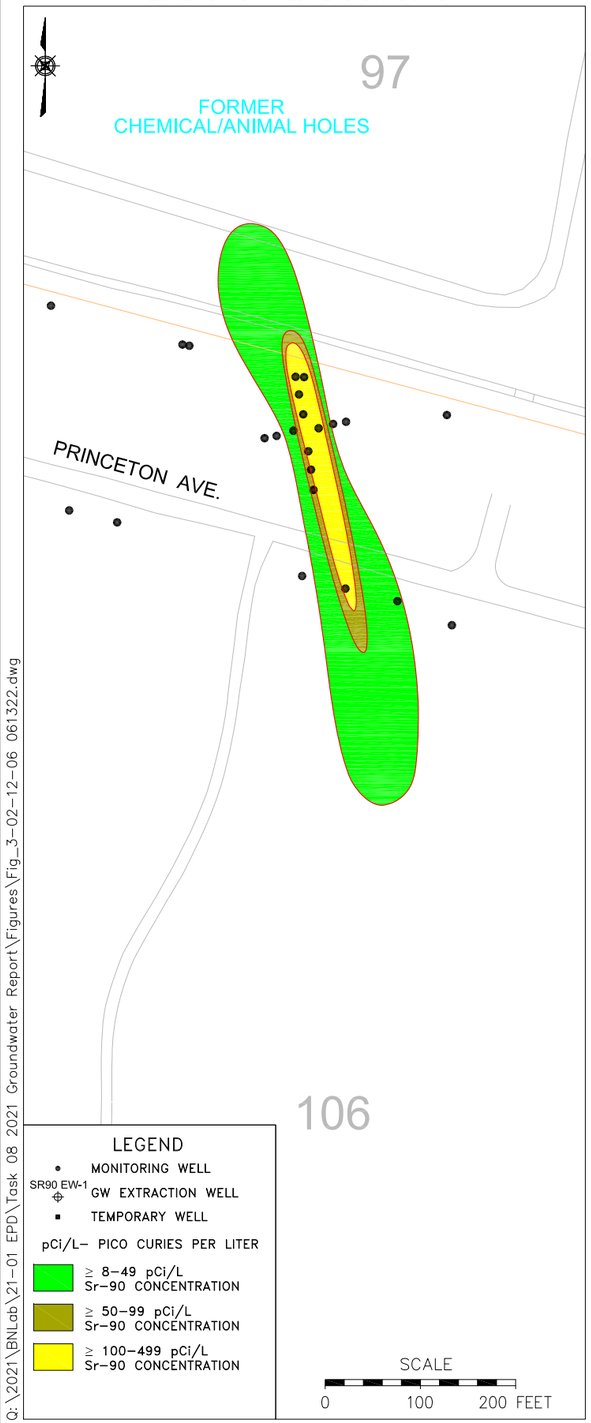


Figure 3.2.12-5
OU III Chemical/Animal Holes
Sr-90 Cumulative MilliCuries Removed

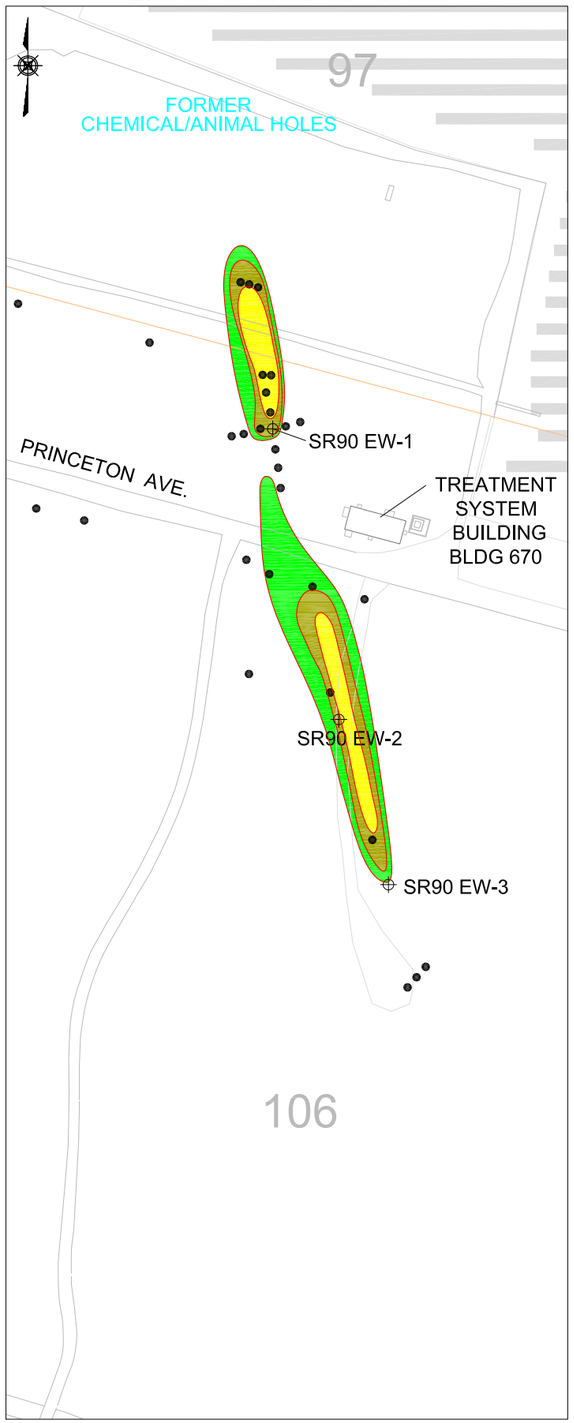
2021 BNL Groundwater Status Report



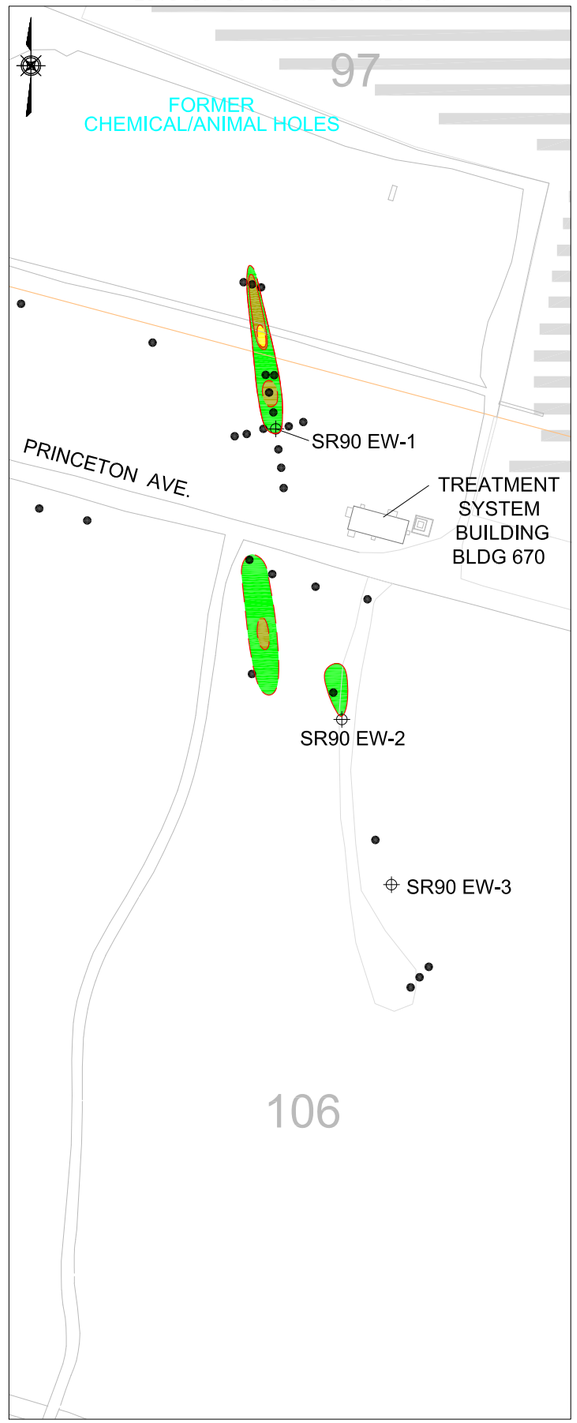
2002 Sr-90 PLUME DISTRIBUTION



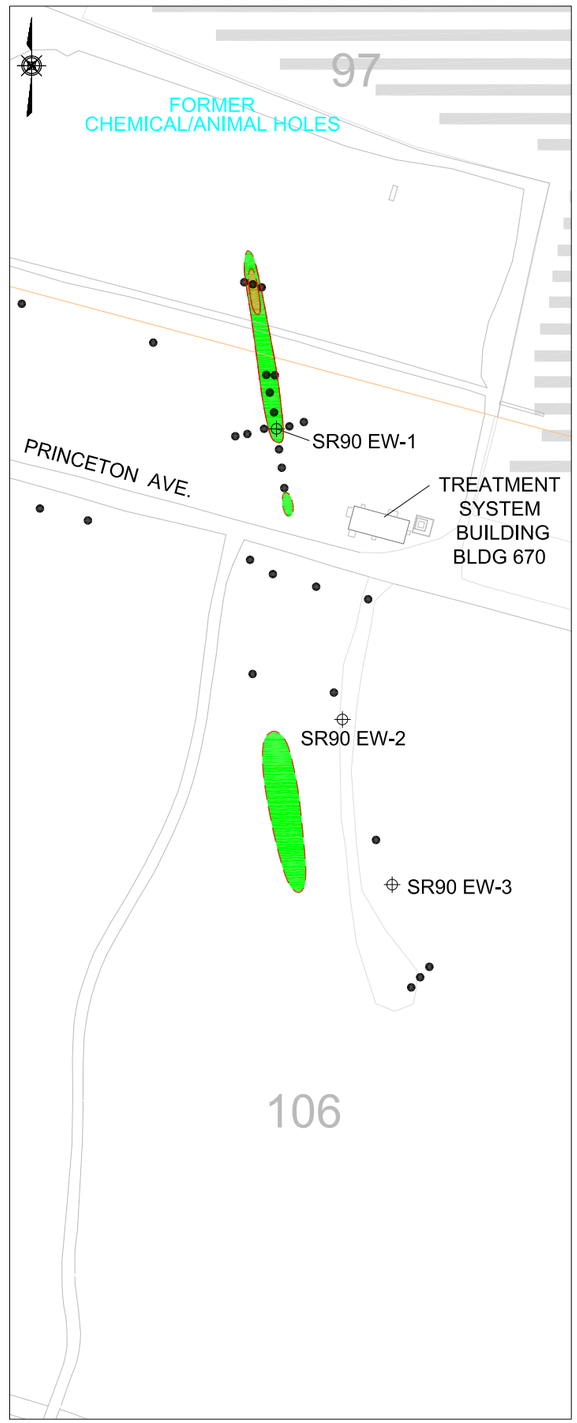
2008 Sr-90 PLUME DISTRIBUTION



2013 Sr-90 PLUME DISTRIBUTION



2021 Sr-90 PLUME DISTRIBUTION



LEGEND

- MONITORING WELL
- SR90 EW-1 GW EXTRACTION WELL
- TEMPORARY WELL

pCi/L- PICO CURIES PER LITER

- ≥ 8-49 pCi/L Sr-90 CONCENTRATION
- ≥ 50-99 pCi/L Sr-90 CONCENTRATION
- ≥ 100-499 pCi/L Sr-90 CONCENTRATION

SCALE
0 100 200 FEET

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

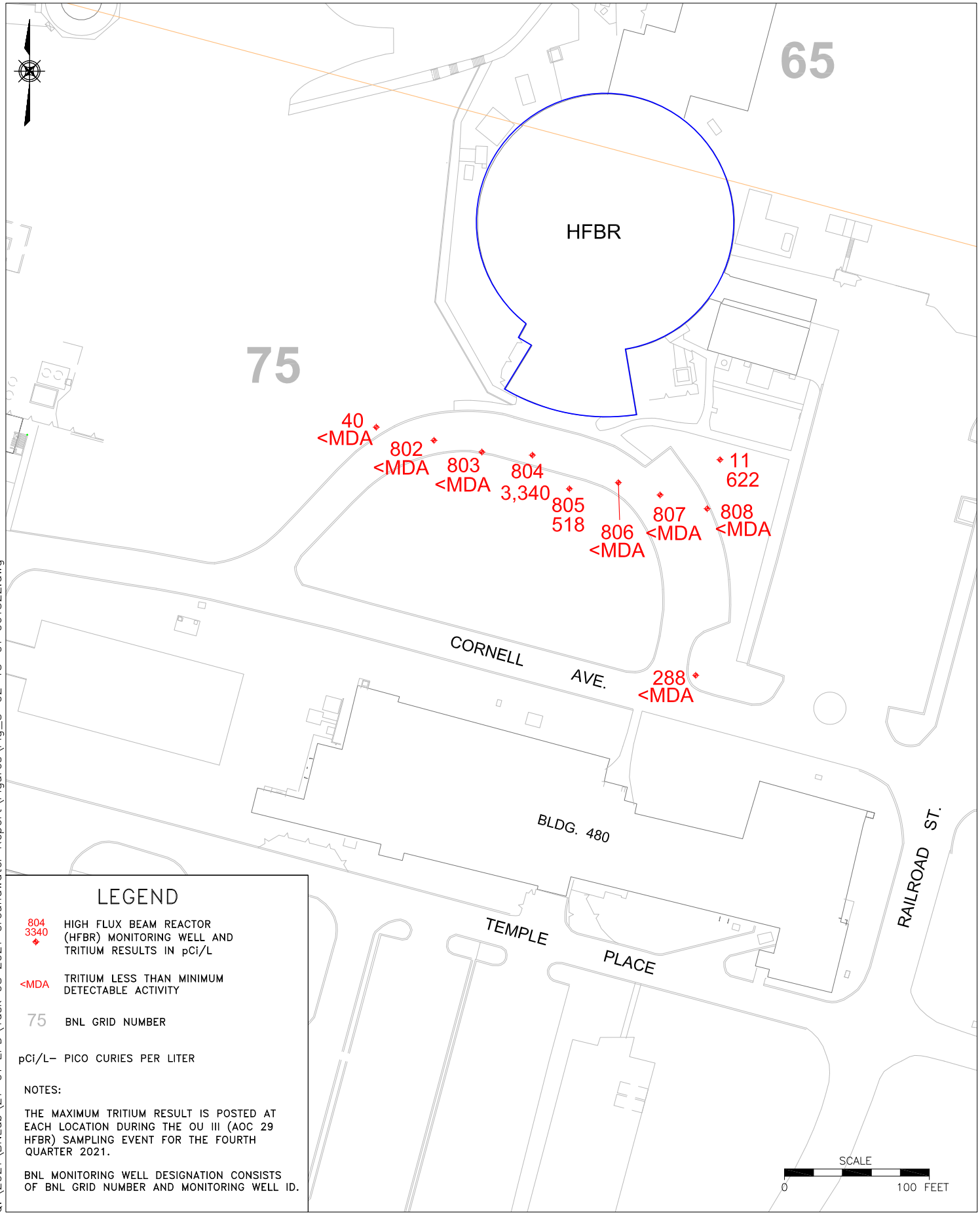
TITLE:

OU III CHEMICAL/ANIMAL HOLES
Sr-90 PLUME COMPARISON
2002, 2008, 2013 AND 2021

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.12-6



LEGEND

804 / 3340 — HIGH FLUX BEAM REACTOR (HFBR) MONITORING WELL AND TRITIUM RESULTS IN pCi/L

<MDA — TRITIUM LESS THAN MINIMUM DETECTABLE ACTIVITY

75 — BNL GRID NUMBER

pCi/L– PICO CURIES PER LITER

NOTES:

THE MAXIMUM TRITIUM RESULT IS POSTED AT EACH LOCATION DURING THE OU III (AOC 29 HFBR) SAMPLING EVENT FOR THE FOURTH QUARTER 2021.

BNL MONITORING WELL DESIGNATION CONSISTS OF BNL GRID NUMBER AND MONITORING WELL ID.

Q:\2021\BNLab\21-01 EPD\Task 08 2021 Groundwater Report\Figures\Fig_3-02-13-01 061322.dwg

Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III HFBR AOC 29 TRITIUM MONITORING WELL RESULTS

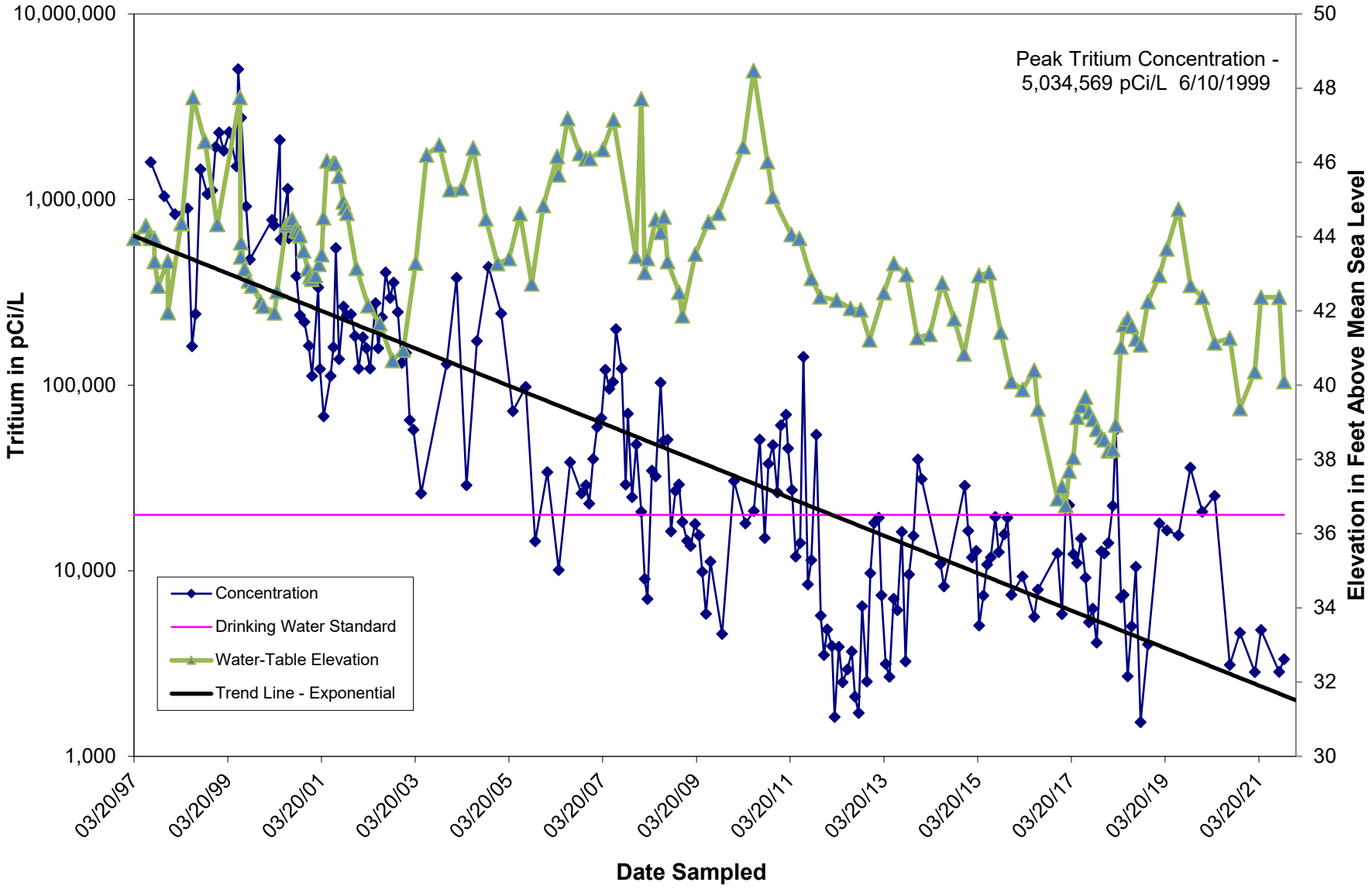
2021 BNL GROUNDWATER STATUS REPORT

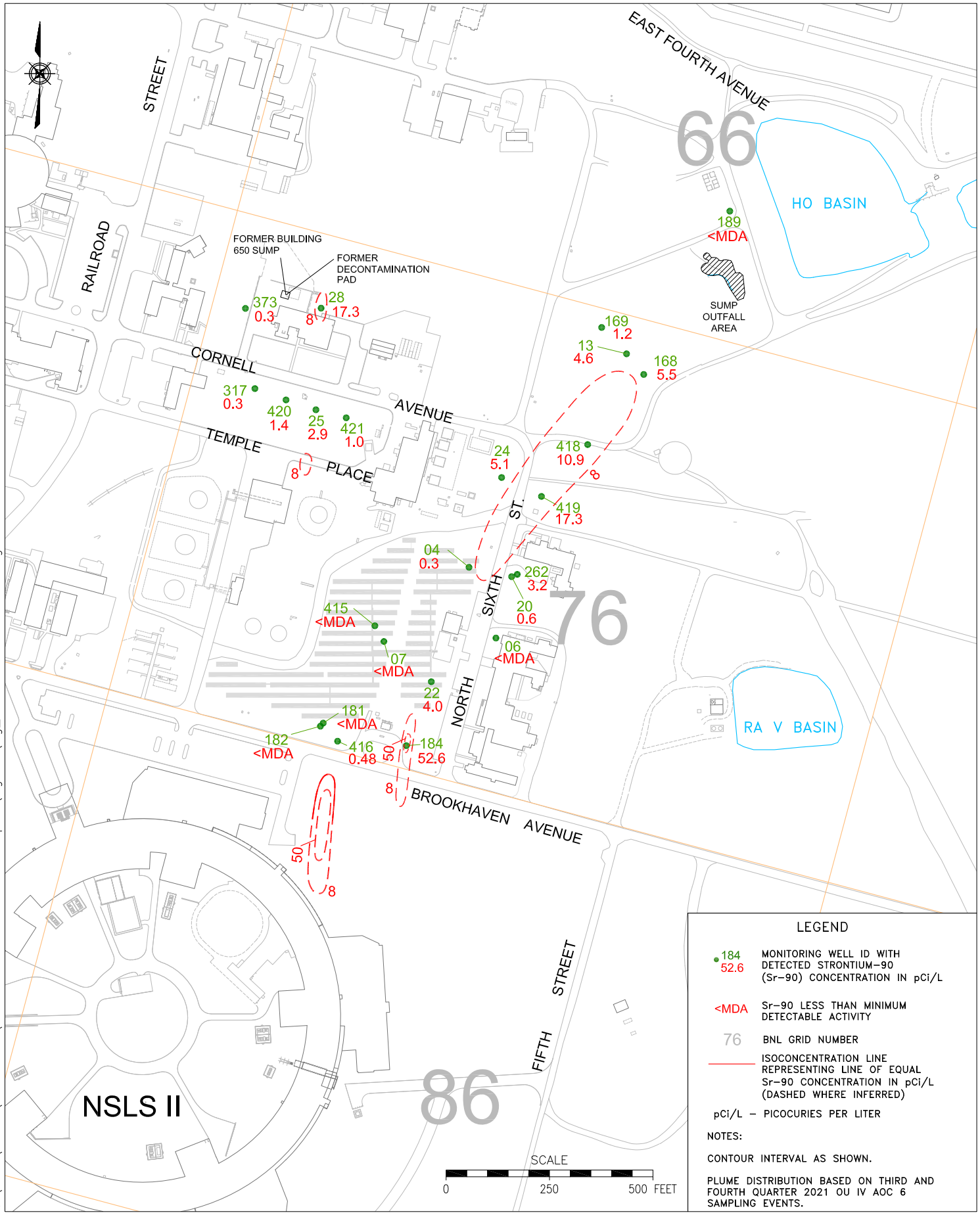
DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.2.13-1

Figure 3.2.13- 2
OU III HFBR
Peak Tritium Concentrations in Groundwater - HFBR to Cornell Avenue

2021 BNL Groundwater Status Report





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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

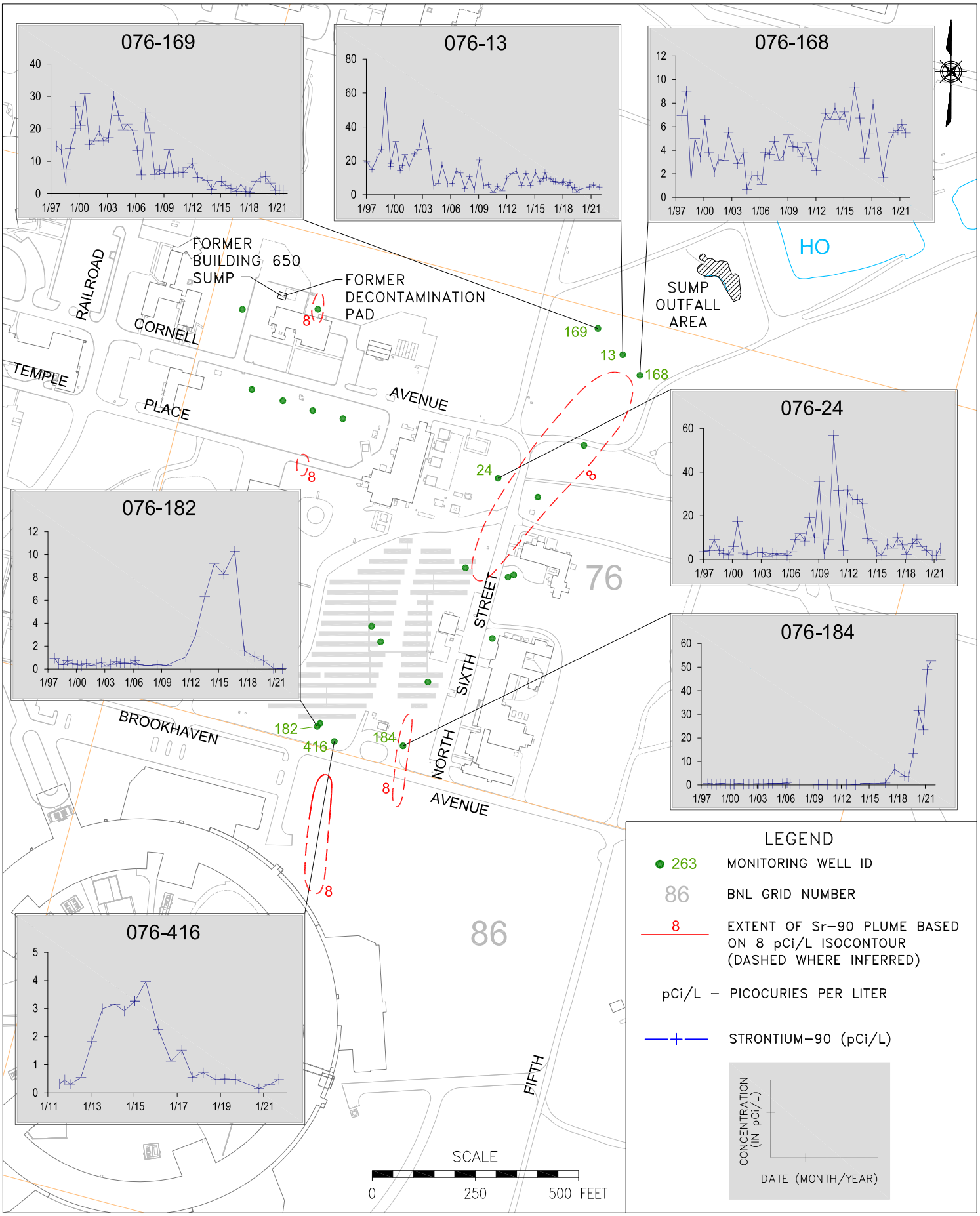
TITLE:

OU IV AOC 6
Sr-90 PLUME DISTRIBUTION

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.3.1-1



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

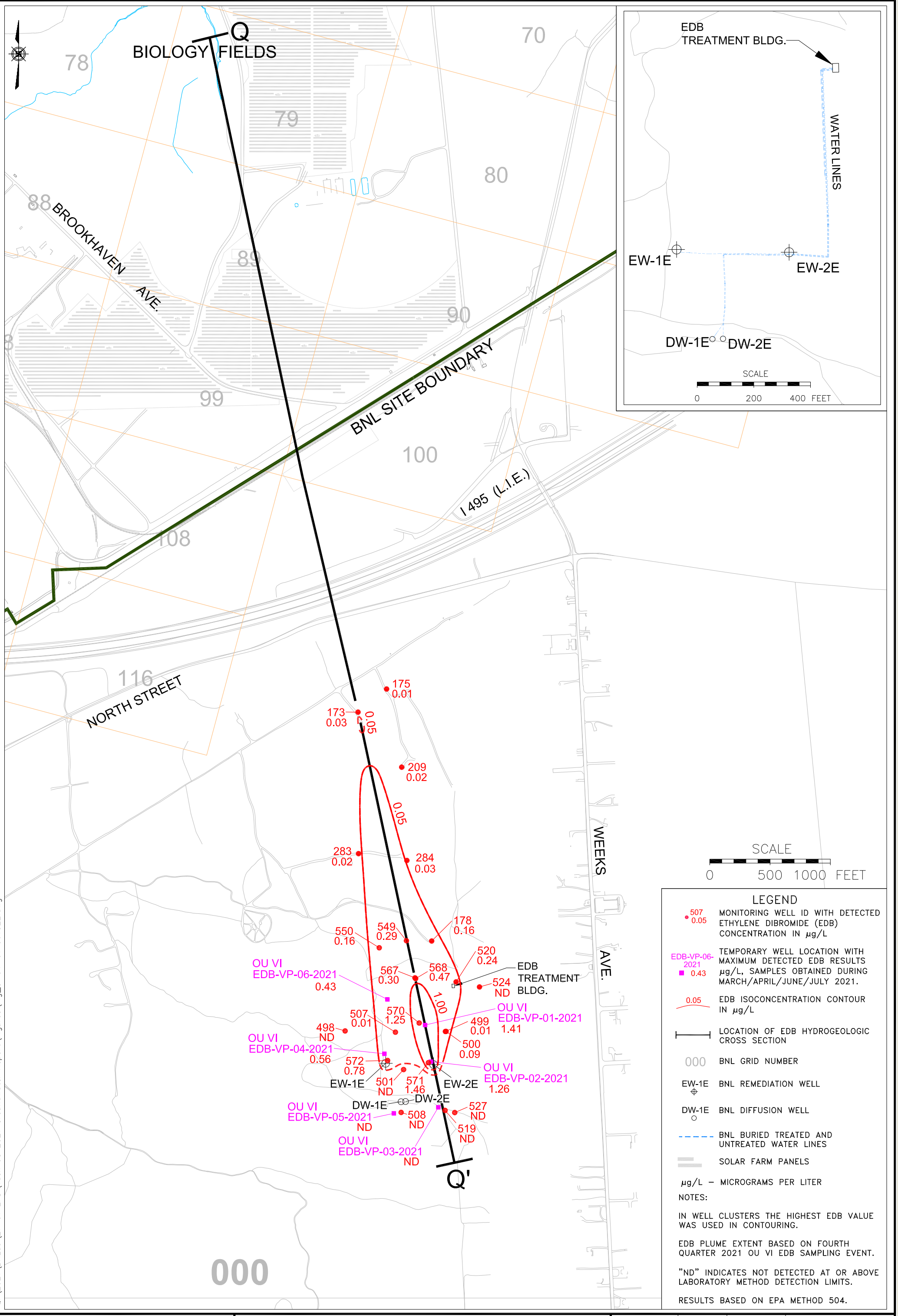
TITLE:

OU IV AOC 6
HISTORICAL Sr-90 TRENDS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.3.1-2



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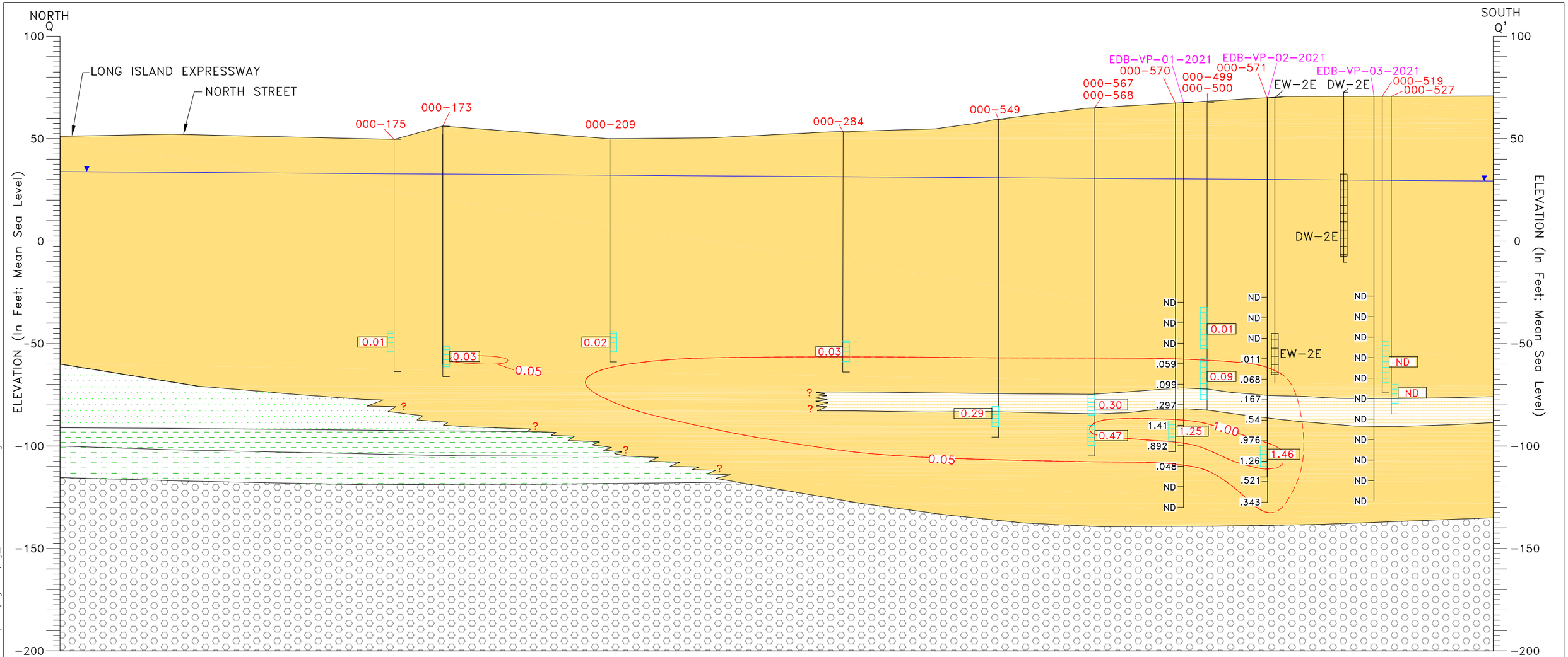
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU VI
EDB PLUME DISTRIBUTION

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–
FIGURE NO.:			
3.4–1			



LEGEND

Upper Glacial aquifer

- UG Upper Glacial Sands
- UC Upper Glacial Silts & Clays
- UU Upton Unit

Gardiners Clay

- GL Gardiners Clay
- GS Gardiners Clay – Silt

Magothy aquifer

- MA Magothy Sands and Clay
- MB Magothy Brown Clay
- MC Magothy Clays (undifferentiated)
- MO Magothy – OTHER

000-500 BNL Well ID

ND Indicates not detected at or above laboratory method detection limits

NS Indicates not sampled

.080 Ethylene dibromide (EDB) Concentration (µg/L)

0.05 EDB Contour (µg/L) (Dashed Where Inferred)

µg/L – Micrograms Per Liter

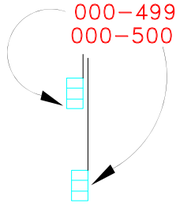
Water Table As Of Oct. 13 – Oct. 18, 2021

Monitoring Well Screen

Extraction Well Screen

HORIZONTAL SCALE
0 300 600

Monitoring Well IDs are stacked in order of the depth of the well from shallow to deep



NOTES:

1) GEOLOGIC INFORMATION SHOWN IS BASED ON ADDITIONAL EXPLORATIONS (e.g., HYDROPUNCHES, GEOPROBES, VERTICAL PROFILES, AND/OR TEST WELLS) DOCUMENTED IN PREVIOUS, MORE DETAILED REPORTS.

2) EDB EXTENT IS BASED ON FOURTH QUARTER 2021 OU VI SAMPLING EVENTS.

3) RESULTS BASED ON EPA METHOD 504.

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

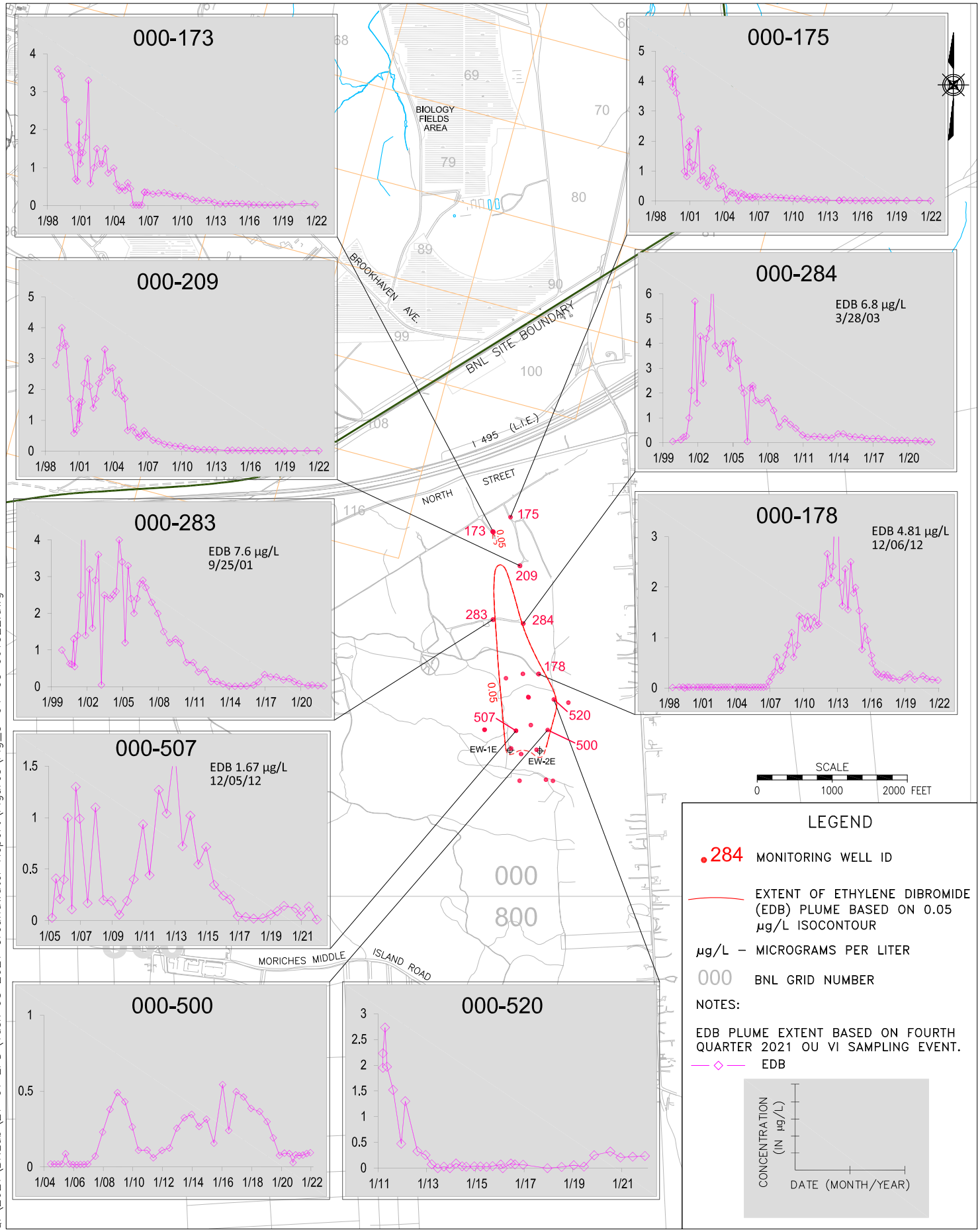
TITLE:

OU VI
EDB HYDROGEOLOGIC CROSS SECTION (Q–Q')

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	25:1	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.4-2



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU VI HISTORICAL EDB TRENDS

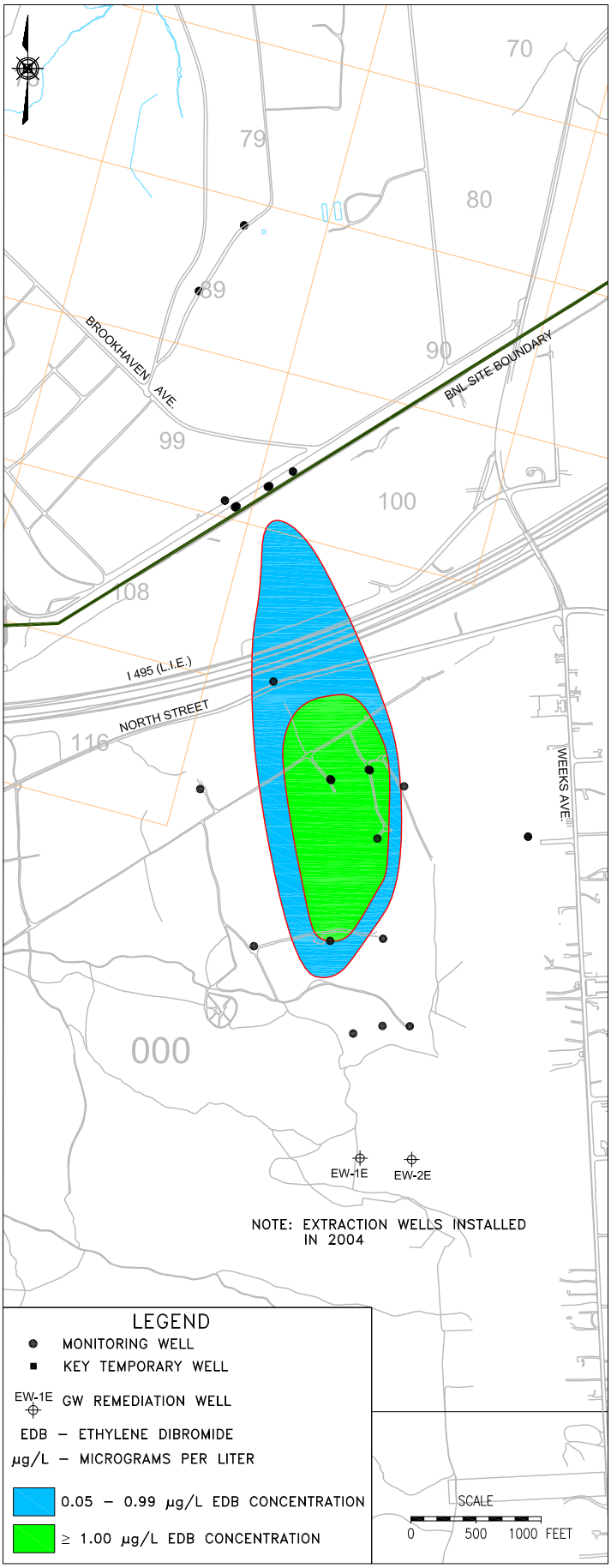
2021 BNL GROUNDWATER STATUS REPORT

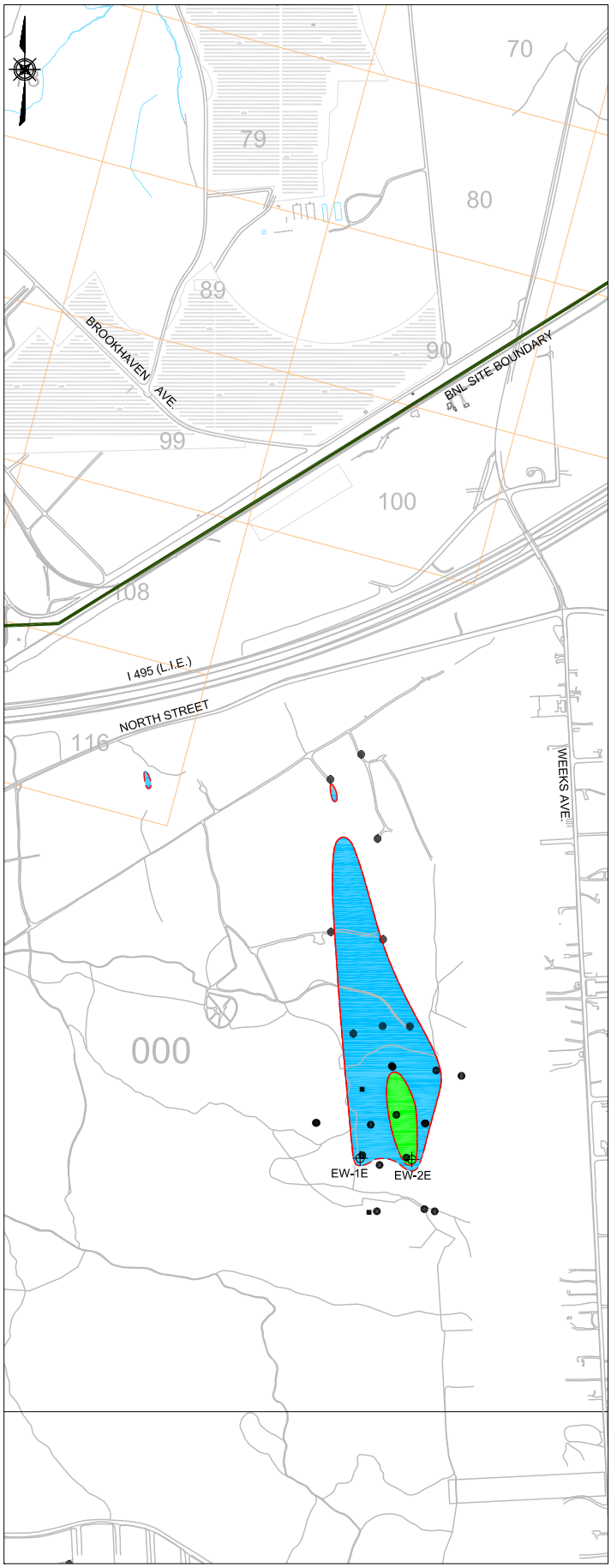
DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.4-3

1999 EDB PLUME DISTRIBUTION

2021 EDB PLUME DISTRIBUTION





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Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU VI EDB PLUME COMPARISON 1999 – 2021

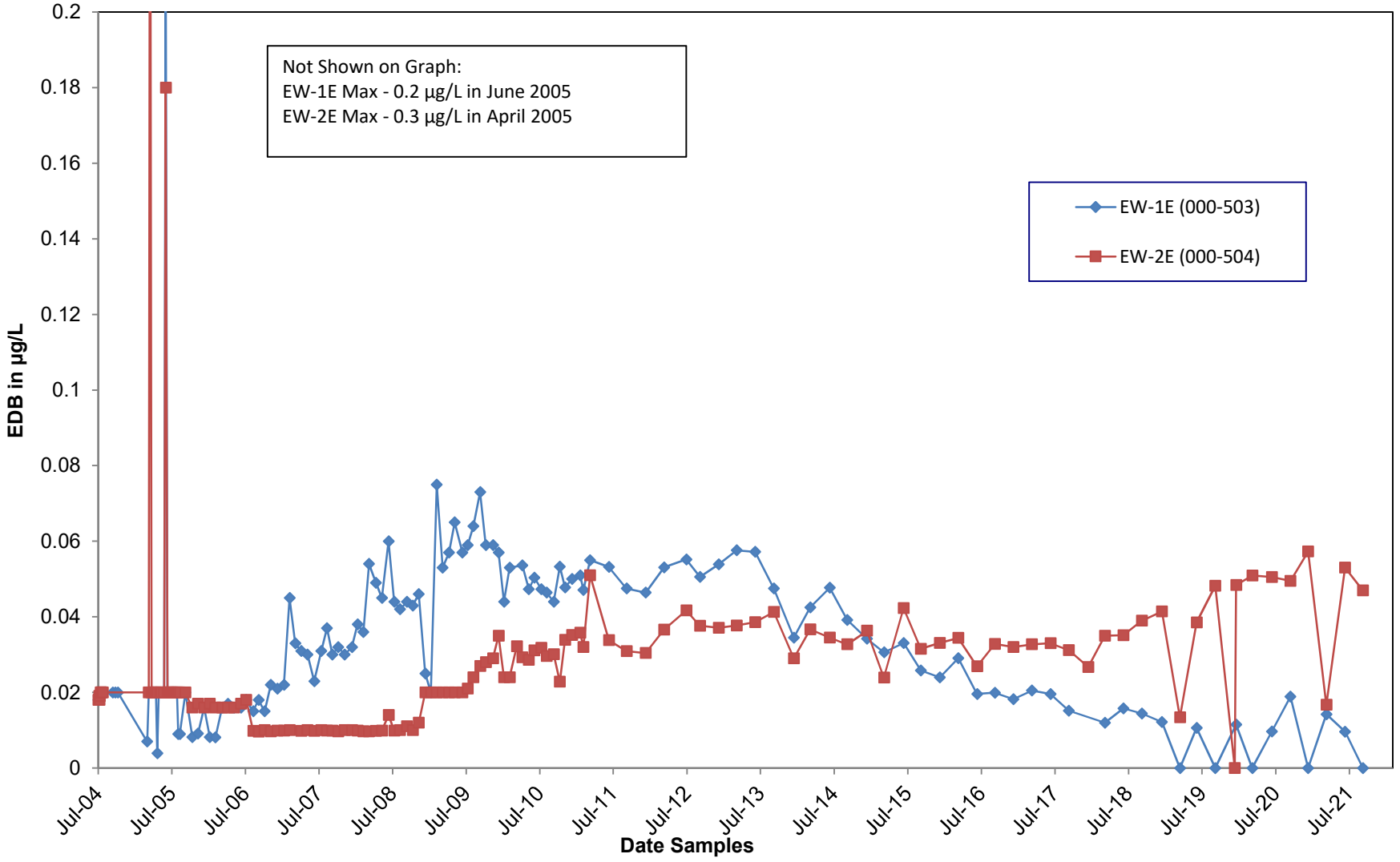
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	WRD	–	–

FIGURE NO.: 3.4–4

Figure 3.4-5
OU VI EDB
EDB Concentrations in Extraction Wells

2021 BNL Groundwater Status Report



Water Treatment Plant
Recharge Basins
73-01
11.9 / 1.17
Cornell
Current Fire House
Drywell
Training Area
PFC-GP-55
21 / 6
PFC-GP-35
870 / 25.1
PFC-GP-36
183 / 25.7
CF-RW-B
PFC-GP-37
5,130 / 80
ND / 1.2 PFC-GP-152
3.9 / 4.6 PFC-GP-150
25.3 / 10.9 PFC-GP-149
10.8 / 4.2 PFC-GP-148
West
Brookhaven
Avenue
PFC-GP-38
12,200 / 240
Drywell
CF-RW-A
PFC-GP-102
2,980 / 144
PFC-GP-39
287 / 12.7
PFC-GP-104
136 / 2.6
PFC-GP-56
140 / 51
83-03
6.4 / 2.5
83-01
22.17 ND
BNL Paint Shop
PFC-GP-57
12 / 2
83-02
ND / ND
PFC-GP-61
3360 / 602
Street
83-06
1.1 / 0.8
PFC-GP-58
700 / 26
PFC-GP-63
58 / 7
BNL-4
PFC-GP-59
710 / 22
PFC-GP-60
126 / 13
PFC-GP-62
6100 / 71
Woods
Road
Road
Upton
Columbia
(PFC-VP-01)
PFC-GP-68
1560 / 62
PFC-GP-06
155 / 5
PFC-GP-69
329 / 11
Bell
PFC-GP-158
ND / 0.6
PFC-GP-156
ND / 1.2
PFC-GP-65
109 / 3
CF-RW-C
PFC-GP-157
ND / ND
PFC-GP-67
215 / 9
CF-RW-E
PFC-GP-79
98 / 6
PFC-GP-181
70 / 3
Training Areas
PFC-GP-64
175 / 7
CF-RW-D
Mitchell
Lane
PFC-GP-177
3,230 / 45
PFC-GP-178
2.8 / 1.0
83-05
62.9 / 2.1
PFC-GP-176
1,250 / 12
Bldg. 170
PFC-GP-01
120 / 9.0
PFC-GP-74
158 / 13
PFC-GP-87
345 / 26
PFC-GP-146
5,760 / 41
PFC-GP-147
787 / 31
PFC-GP-71
134 / 5
PFC-GP-73
71 / 9
PFC-GP-76
87 / 10
PFC-GP-182
8,470 / 66
PFC-GP-72
69 / 2
PFC-GP-75
1740 / 70
PFC-GP-142
1,120 / 16
BNL-6
93-04
PFC-GP-145
15.8 / 5.8
PFC-GP-143
1,750 / 144
PFC-GP-144
118 / 16.9
PFC-GP-78
117 / 3
PFC-GP-79
415 / 6
PFC-GP-82
761 / 24
Upton
Road
PFC-GP-80
122 / 8
PFC-GP-81
213 / 15
PFC-GP-83
164 / 10
PFC-GP-84
36 / 5
PFC-GP-85
47 / 4
PFC-GP-160
2,330 / 45
CF-RW-I
PFC-GP-161
9 / 4
CF-RW-F
PFC-GP-96
774 / 20
CF-RW-G
PFC-GP-95
1,970/32
PFC-GP-94
485 / 16
CF-RW-H
West
Princeton
Ave.
PFC-GP-93
104 / 7.2
PFC-GP-88
495 / 15
PFC-GP-89
755 / 23
PFC-GP-90
163 / 10
PFC-GP-91
79 / 4
PFC-GP-92
30 / 5
102-12
1.57 / 2.89
103-10
13.6 / 1.15
103-18
ND / ND
103-18
ND / ND
East Princeton
Yale Road
Yule Lane
York Lane
Yale
Stormwater
Discharge
Area
Recreation
Center Area
East St.
Road
Upton Road
PFC-GP-162
1.6 / 3.9
PFC-GP-163
2.5 / 1.9
PFC-GP-164
7.1 / 3.6
109-29
ND / 0.9
PFC-GP-166
4 / 0.9
PFC-GP-167
15.6 / 5.3
PFC-GP-168
552 / 34
PFC-GP-165
5.2 / 2.9
Yale
Carver
Ct.
PFC-GP-169
231 / 16.9
PFC-GP-171
5.3 / 5.7
PFC-GP-172
13.0 / 5.6
Yule
Lane
York
Lane
Road
Yale
Lane
Road
Lane
Yaphank
Road
Mendel
Lane
117-01 7.5 / 6.5
PFC-GP-170
9.6 / 9.8
PFC-GP-173
3.5 / 2.0
000-42
000-43
000-44
Well 2
PFC-GP-175
5.8 / 4.2
117-04 ND / ND
Well 1
117-02 4.9 / 1.4
PFC-GP-174
7.3 / 2.9
117-05 ND / ND
117-06 ND / ND
Well 3A
Aston
Suffolk County Water Authority
William Floyd Well Field
William Floyd Parkway
West Princeton Ave.
72
73
82
83
92
93
101
102
103
109
110
117
118

SCALE
0 400 800 FEET

LEGEND

- PFC-GP-57 12 / 2 — GEOPROBE WELL ID (2018 – 2022) MAXIMUM DETECTED PFOS/PFOA CONCENTRATIONS (IN ng/L)
- 103-10 13.6 / 1.2 — MONITORING WELL ID WITH DETECTED (PFAS), PFOS/PFOA CONCENTRATIONS (IN ng/L)
- CF-RW-A — PROPOSED GROUNDWATER REMEDIATION WELL
- 10 — ISOCONCENTRATION CONTOUR REPRESENTING LINE OF EQUAL PFOS CONCENTRATION IN ng/L (DASHED WHERE INFERRED)
- BNL-4 — POTABLE SUPPLY WELL
- SUSPECTED FOAM RELEASE AREA

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

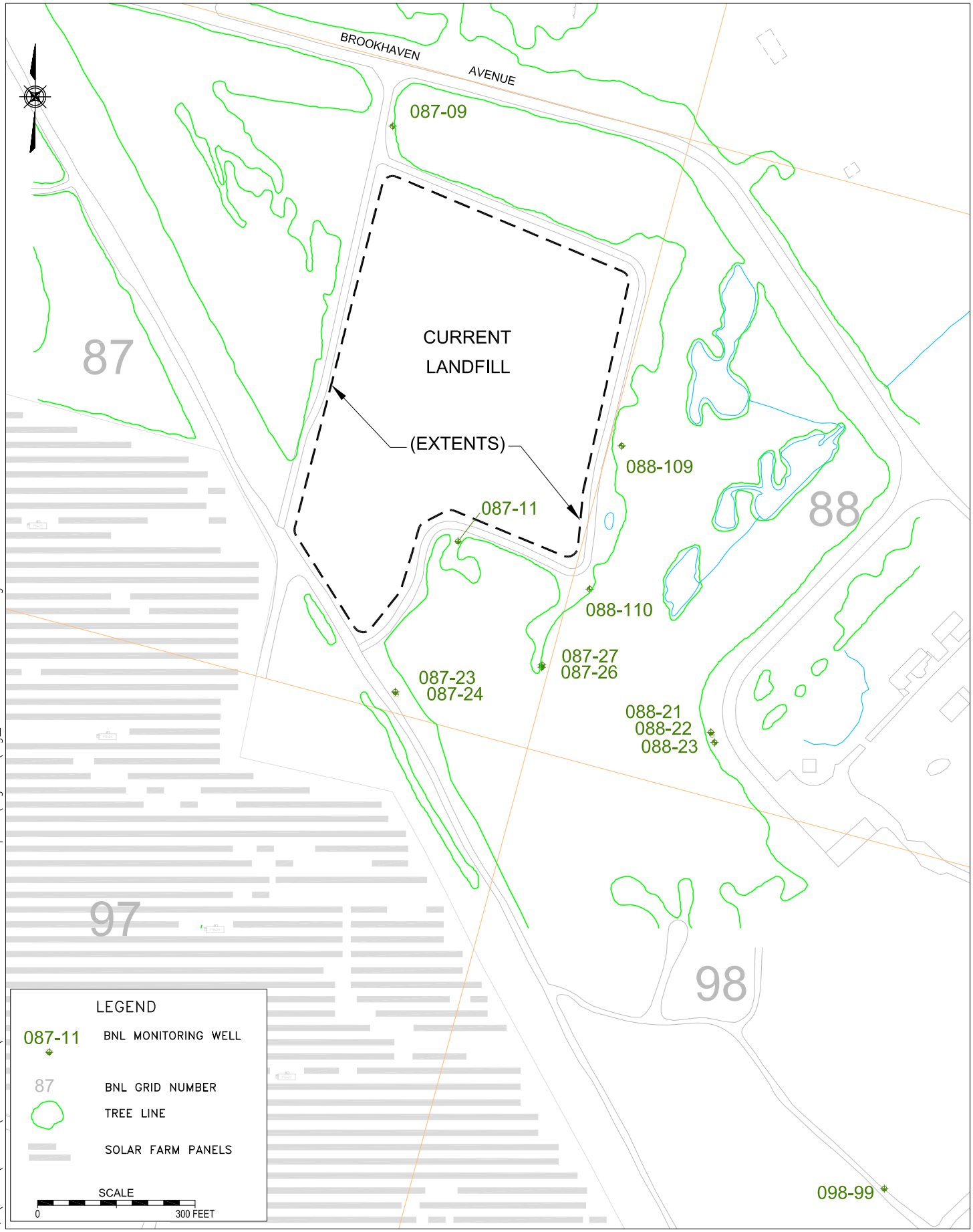
TITLE:

CURRENT FIREHOUSE AND BUILDING 170 AREA PFAS PLUMES

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
DEP	DEP		–

FIGURE NO.: 3.5.1-1



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

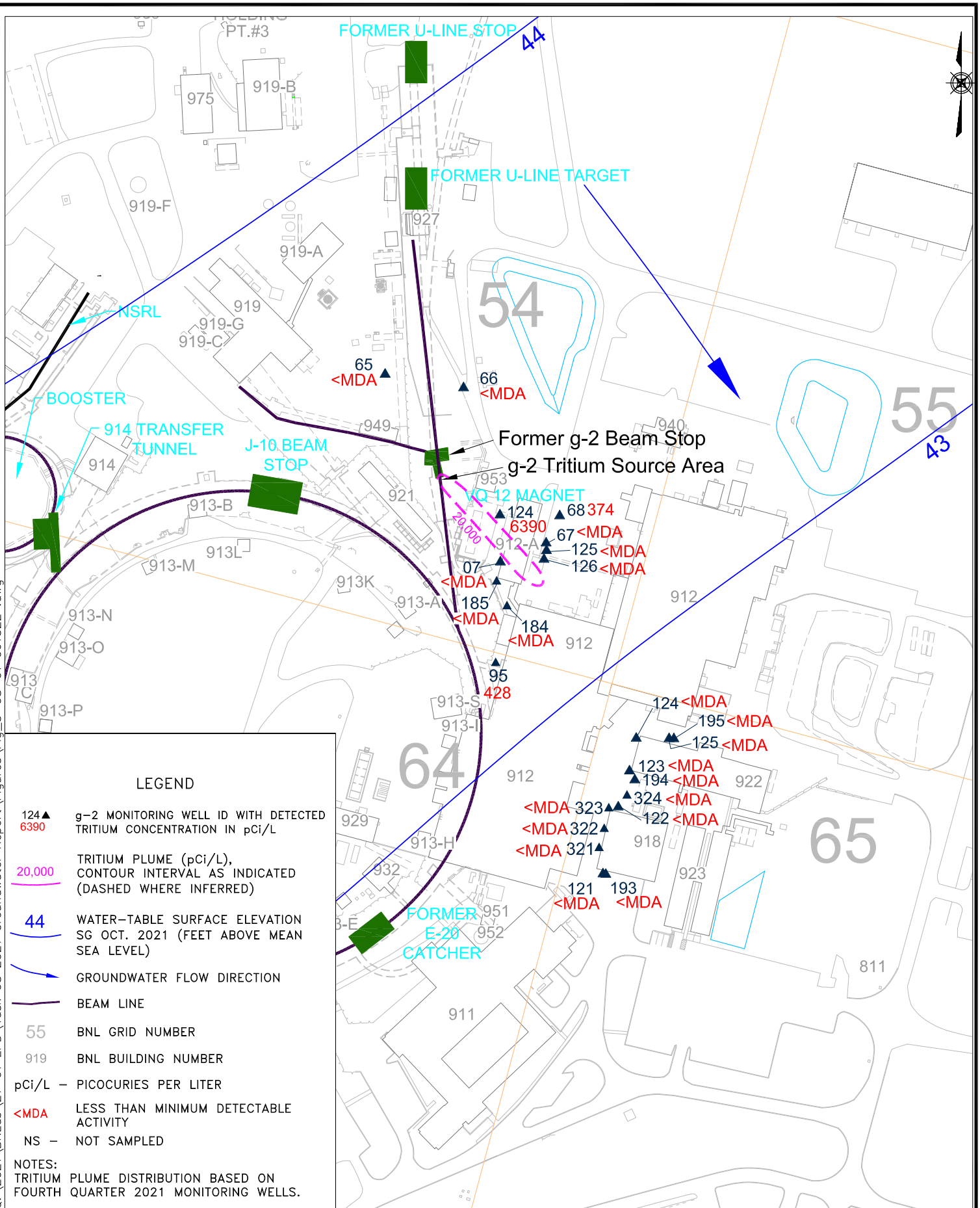
TITLE:

CURRENT LANDFILL MONITORING WELL LOCATIONS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	RFH	–	–

FIGURE NO.: 3.7-1



LEGEND

124▲ 6390	g-2 MONITORING WELL ID WITH DETECTED TRITIUM CONCENTRATION IN pCi/L
20,000	TRITIUM PLUME (pCi/L), CONTOUR INTERVAL AS INDICATED (DASHED WHERE INFERRED)
44	WATER-TABLE SURFACE ELEVATION SG OCT. 2021 (FEET ABOVE MEAN SEA LEVEL)
	GROUNDWATER FLOW DIRECTION
	BEAM LINE
55	BNL GRID NUMBER
919	BNL BUILDING NUMBER
pCi/L	– PICOCURIES PER LITER
<MDA	LESS THAN MINIMUM DETECTABLE ACTIVITY
NS	– NOT SAMPLED

NOTES:
TRITIUM PLUME DISTRIBUTION BASED ON FOURTH QUARTER 2021 MONITORING WELLS.

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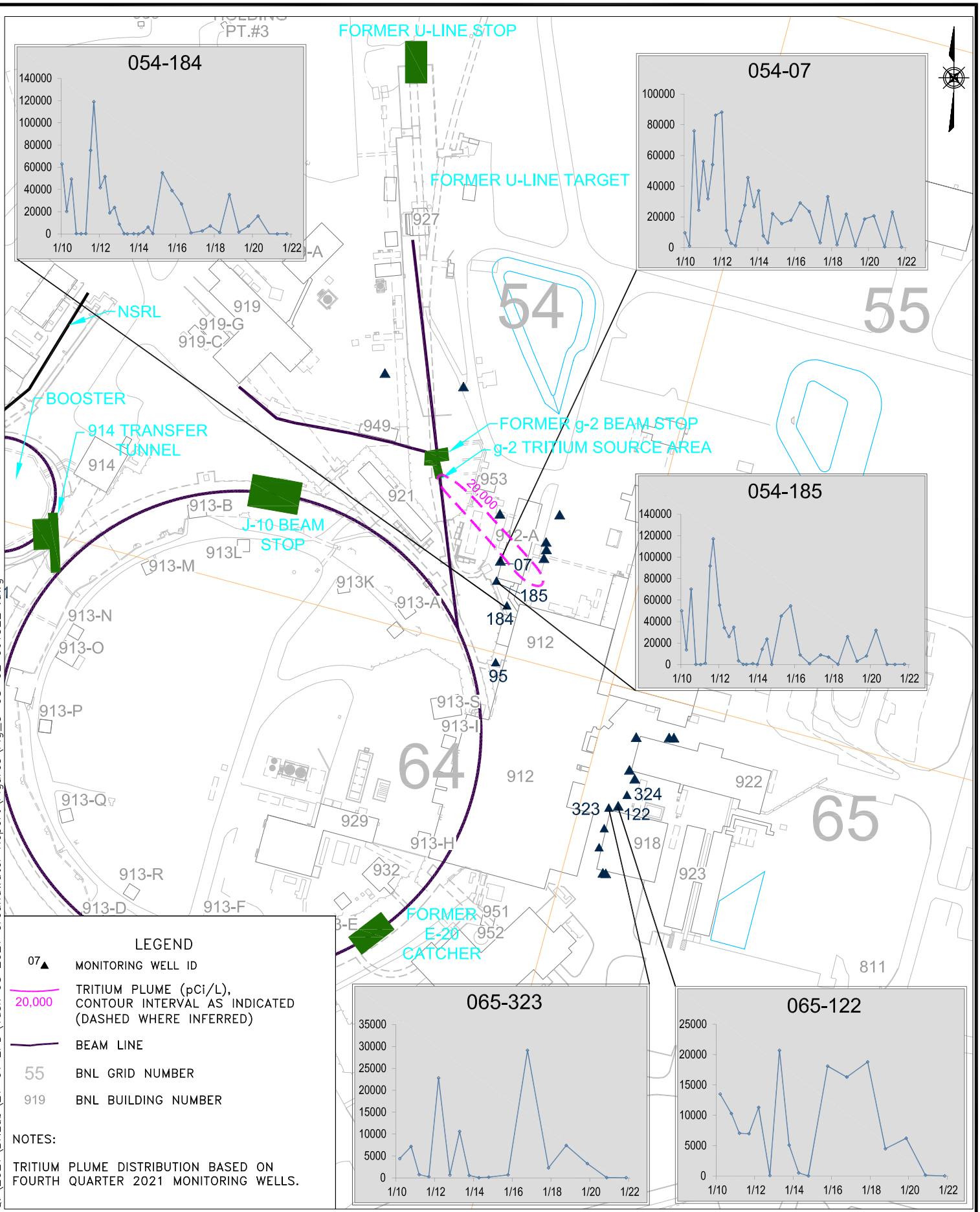
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
FACILITY MONITORING PROGRAM, AOC 16T g-2 TRITIUM PLUME 4th QUARTER 2021
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	DEP	–	–

FIGURE NO.: 3.8-1



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

FACILITY MONITORING PROGRAM, AOC 16T g-2 HISTORICAL TRITIUM TRENDS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	DEP	–	–

FIGURE NO.: 3.8-2

Figure 3.8-3
Facility Monitoring Program
AOC 16T g-2 Tritium Plume
Comparison to ROD Trigger

2021 BNL Groundwater Status Report

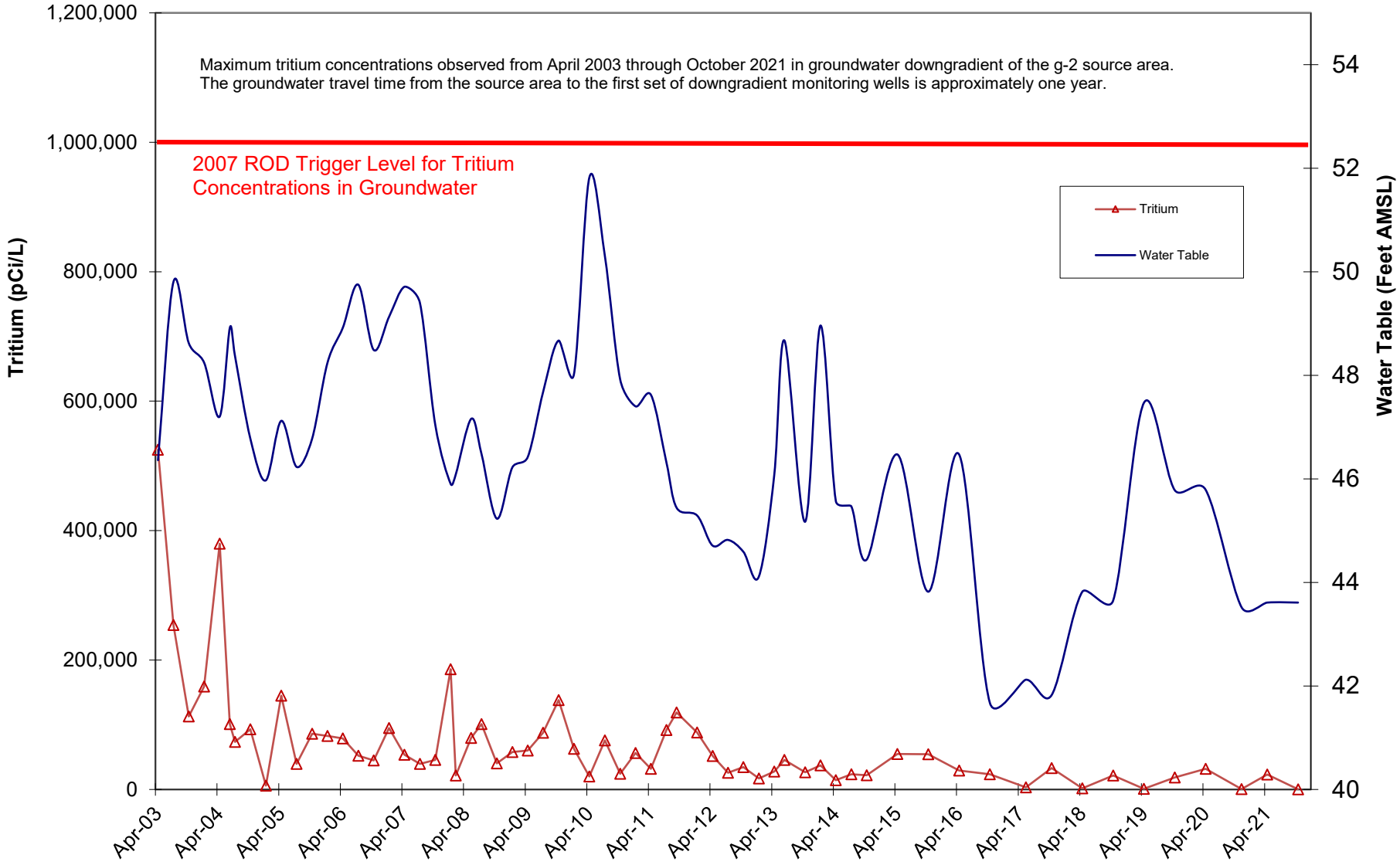
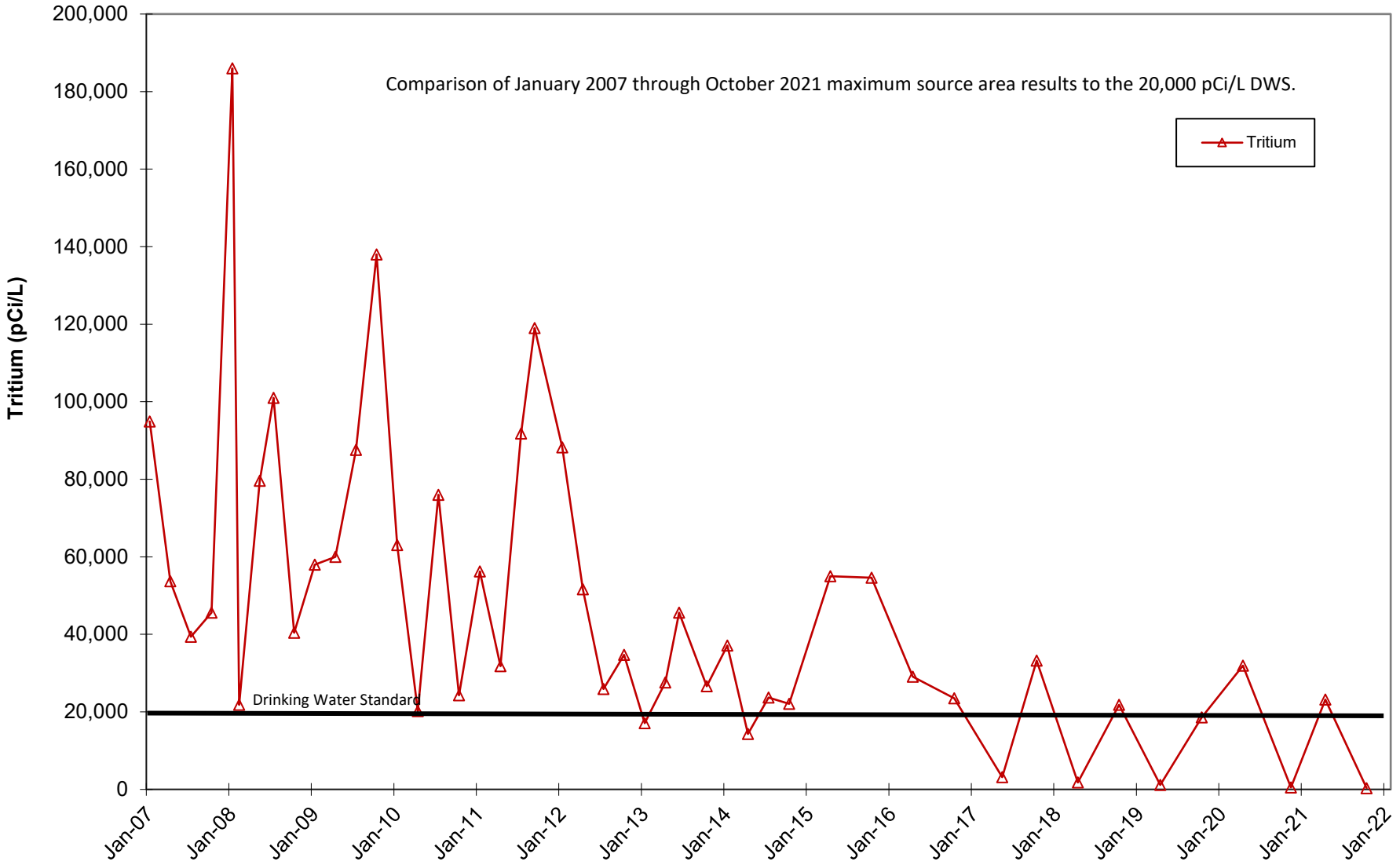
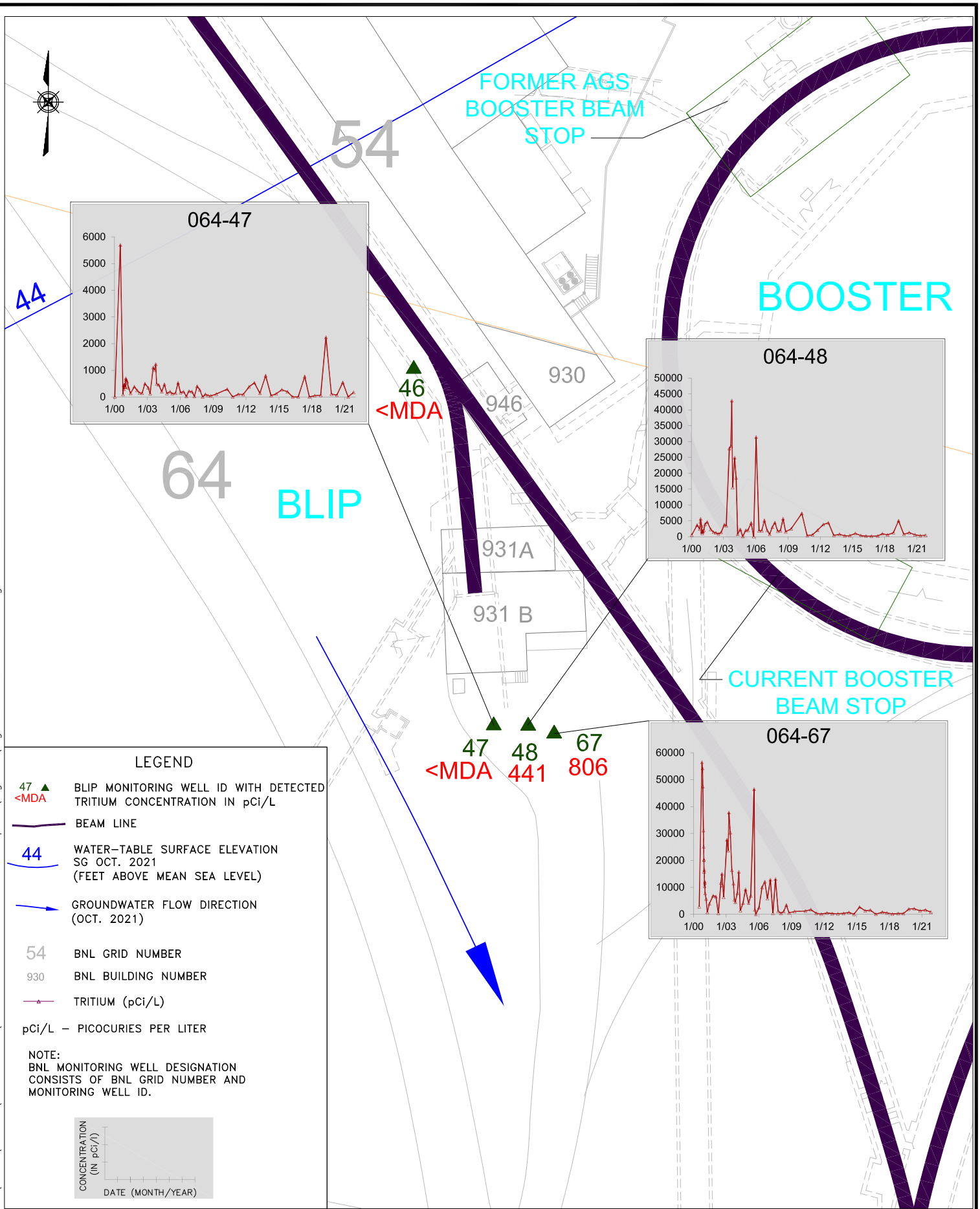


Figure 3.8-4
Facility Monitoring Program
AOC 16T g-2 Tritium Plume
Comparison to DWS

2021 BNL Groundwater Status Report





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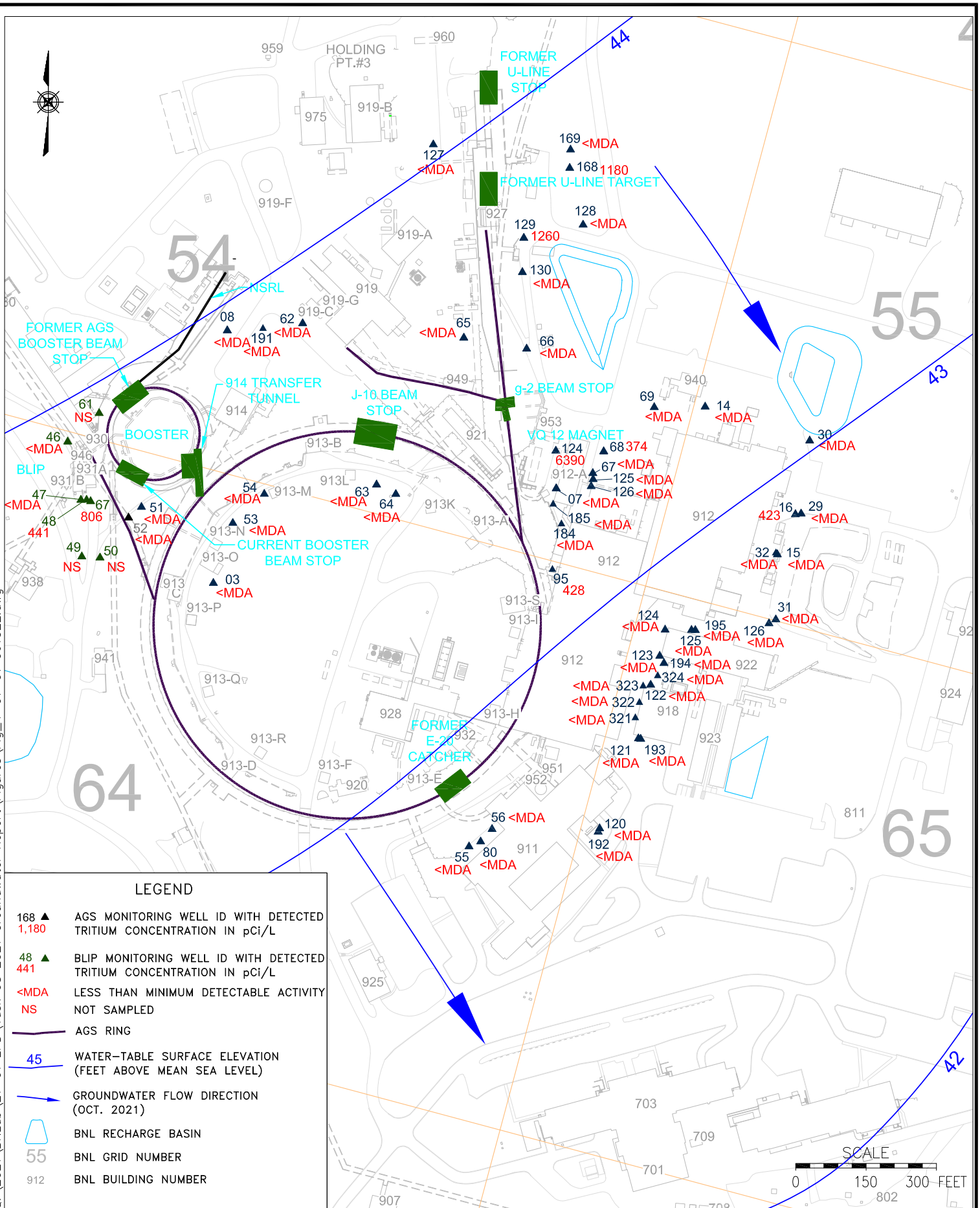
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE: FACILITY MONITORING PROGRAM, BLIP FACILITY AREA MONITORING WELL LOCATIONS AND TRITIUM RESULTS, 2021
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	DEP	–	–

FIGURE NO.: 3.9-1



LEGEND

- 168 ▲ / 1,180 — AGS MONITORING WELL ID WITH DETECTED TRITIUM CONCENTRATION IN pCi/L
- 48 ▲ / 441 — BLIP MONITORING WELL ID WITH DETECTED TRITIUM CONCENTRATION IN pCi/L
- <MDA — LESS THAN MINIMUM DETECTABLE ACTIVITY
- NS — NOT SAMPLED
- AGS RING
- 45 — WATER-TABLE SURFACE ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- GROUNDWATER FLOW DIRECTION (OCT. 2021)
- BNL RECHARGE BASIN
- 55 — BNL GRID NUMBER
- 912 — BNL BUILDING NUMBER

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE: FACILITY MONITORING PROGRAM, AGS AND BLIP FACILITY AREA MONITORING WELL LOCATIONS AND TRITIUM RESULTS, 2021
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	DEP	–	–

FIGURE NO.: 4.1-1

Figure 4.1-2
Facility Monitoring Program
AGS Facility Area
Maximum Tritium Concentrations Downgradient of Booster Stop

2021 BNL Groundwater Status Report

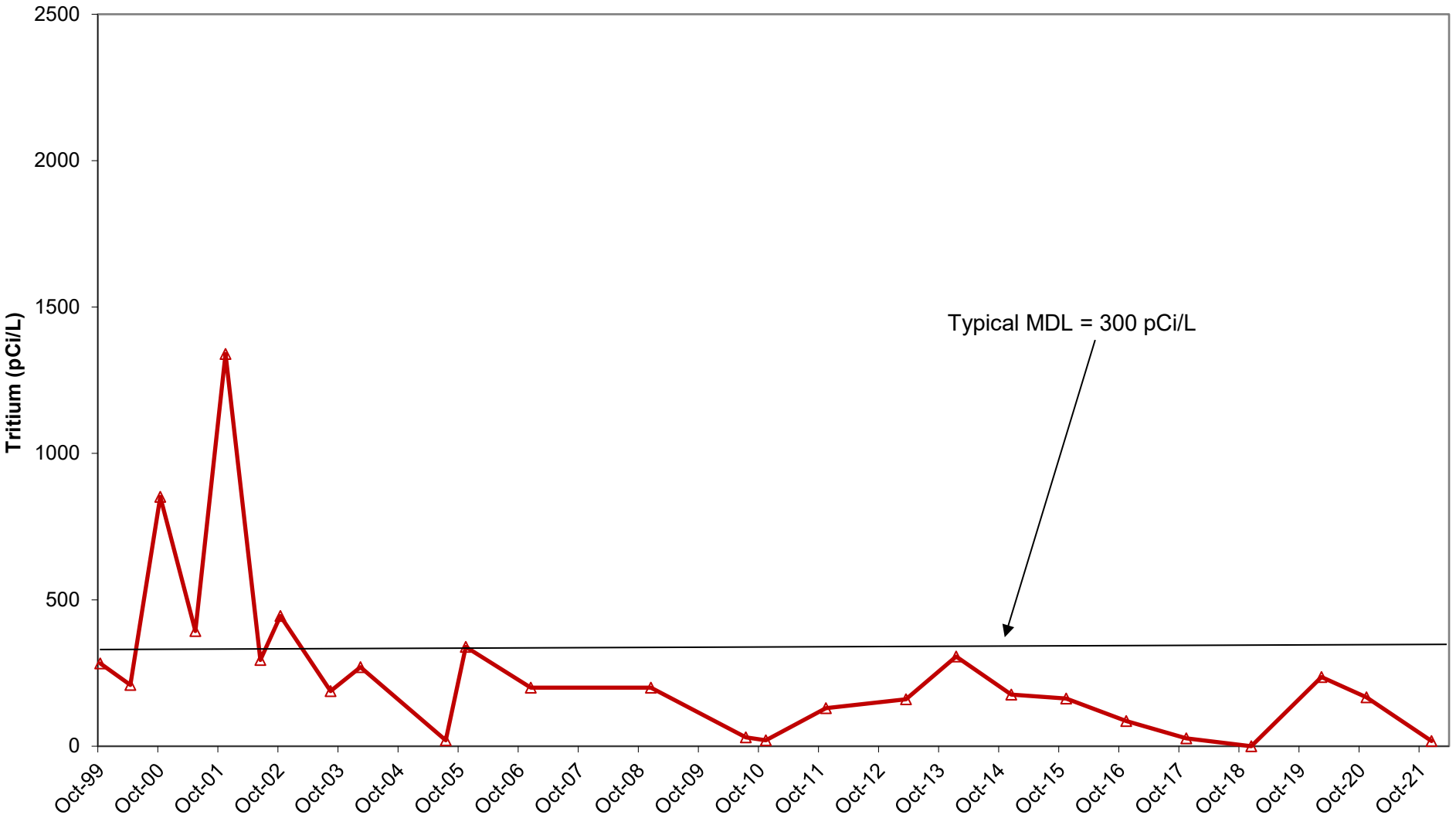


Figure 4.1-3
Facility Monitoring Program
AGS Facility Area
Maximum Tritium Concentrations
Downgradient of Former AGS E-20 Catcher

2021 BNL Groundwater Status Report

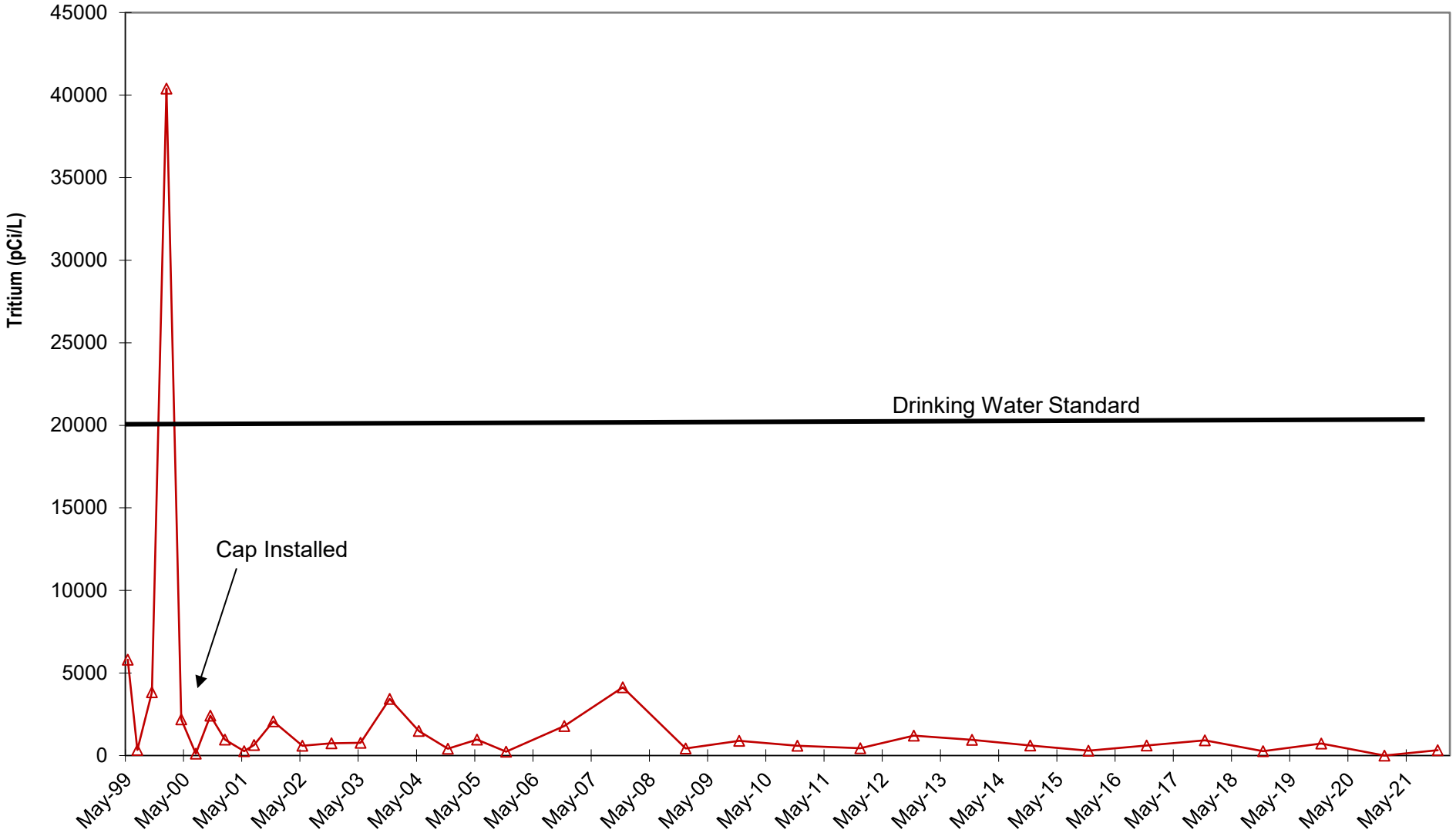


Figure 4.1-4
Facility Monitoring Program
AGS FacilityArea
Maximum Tritium Concentrations
Downgradient of Building 914

2021 BNL Groundwater Status Report

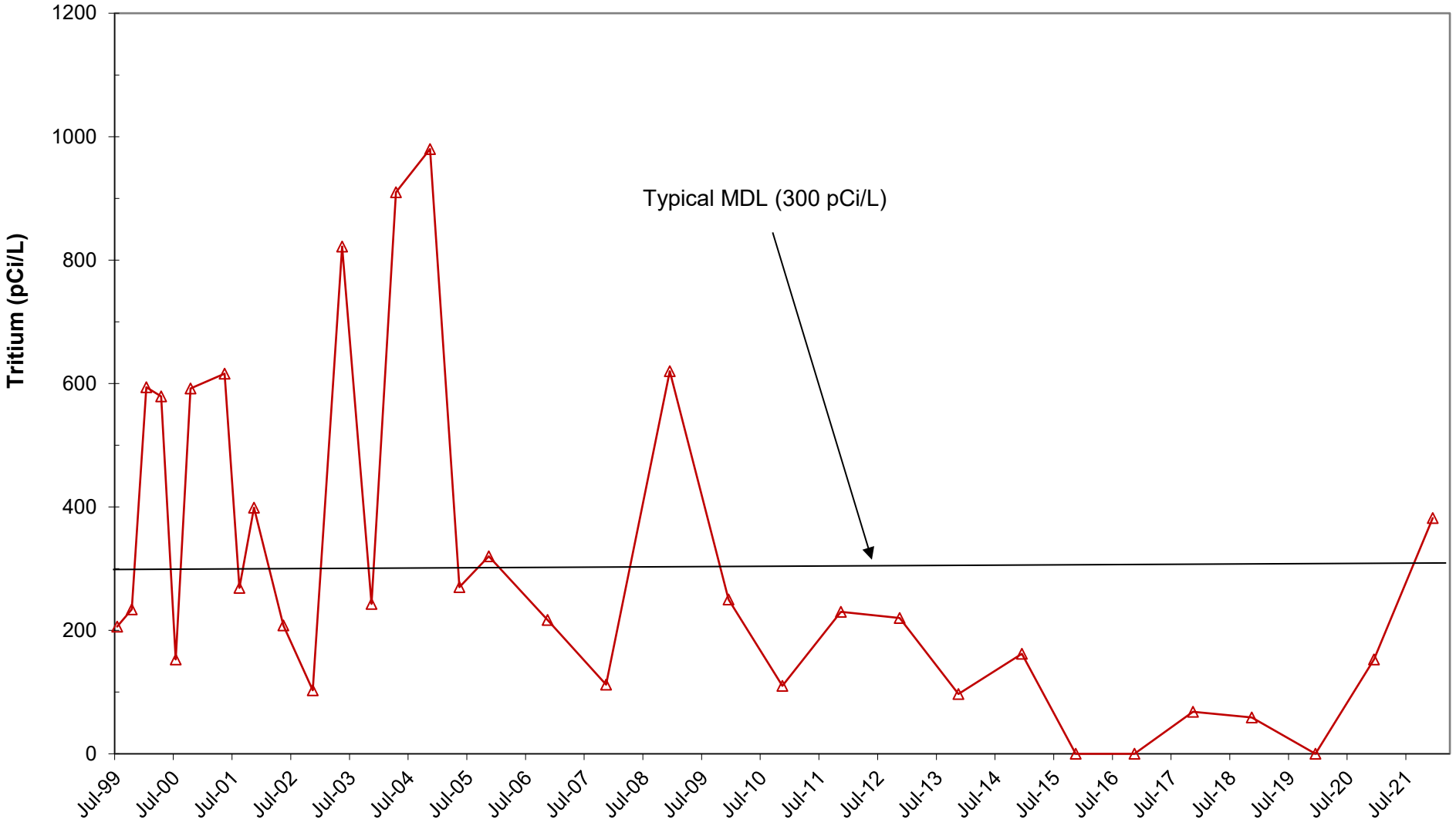


Figure 4.1-5
Facility Monitoring Program
AGS Facility Area
Maximum Tritium Concentrations
Downgradient of J-10 Beam Stop

2021 BNL Groundwater Status Report

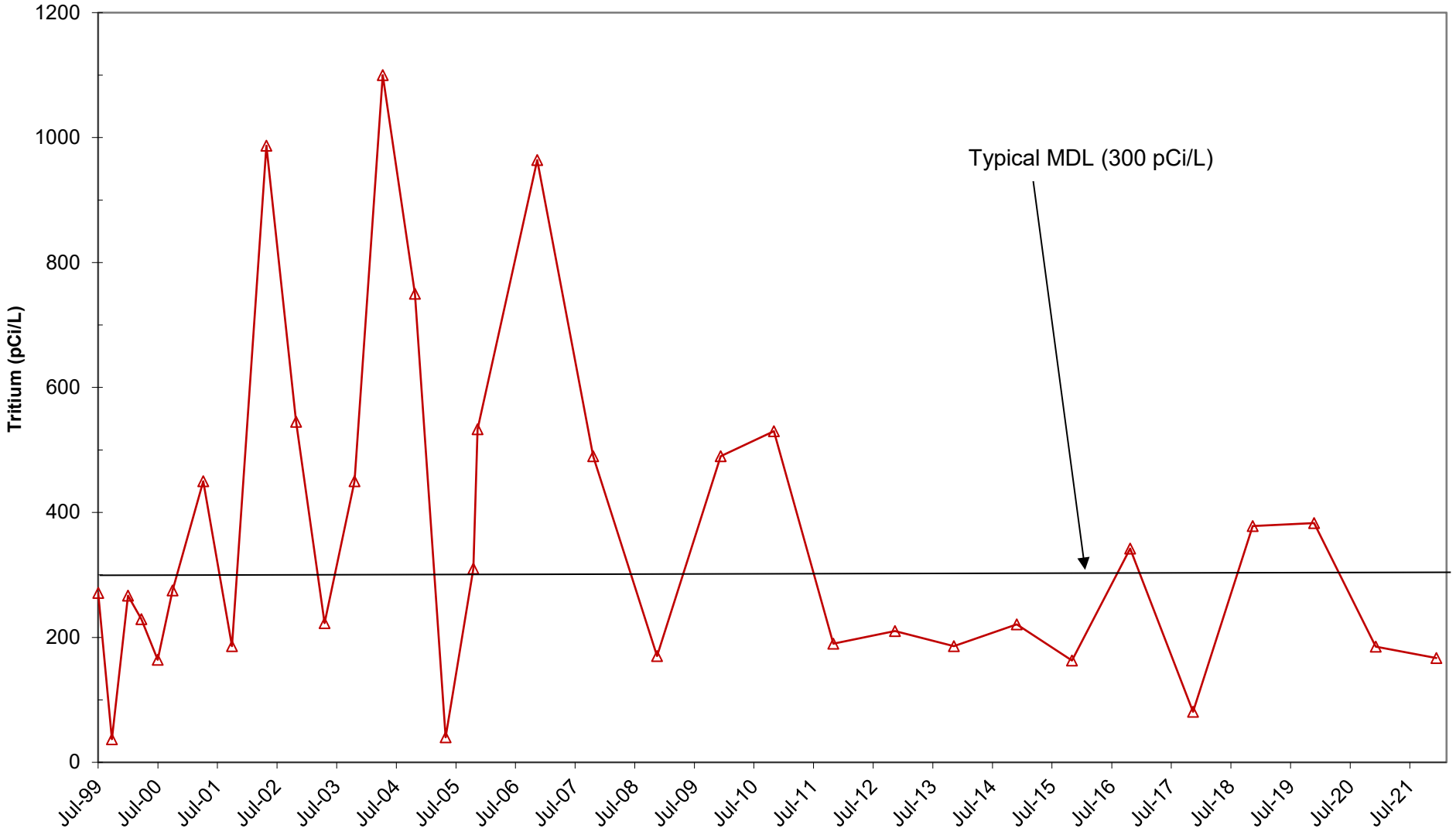


Figure 4.1-6
Facility Monitoring Program
AGS Facility Area
Maximum Tritium Concentrations
Downgradient of Former U-Line Target

2021 BNL Groundwater Status Report

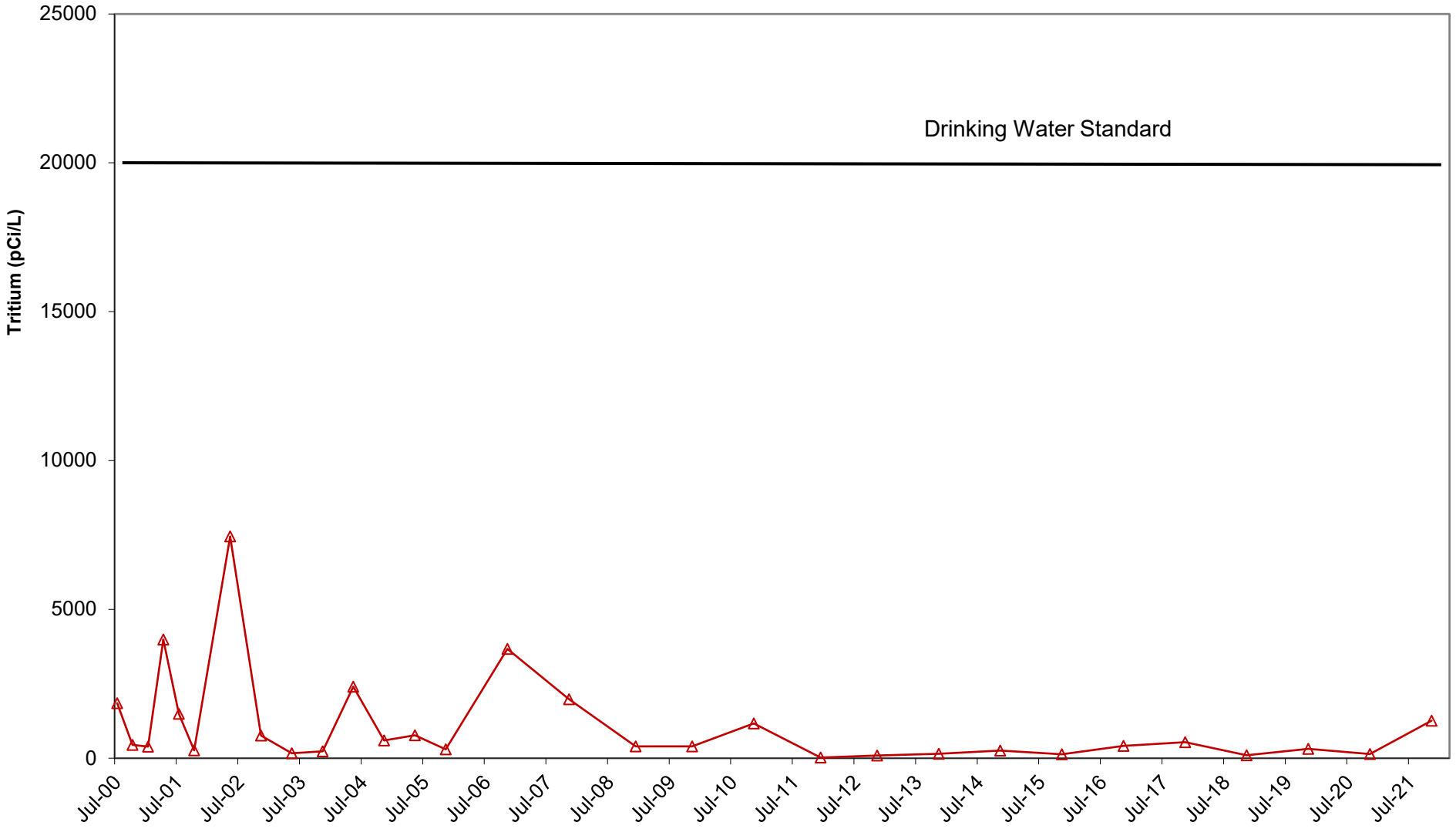
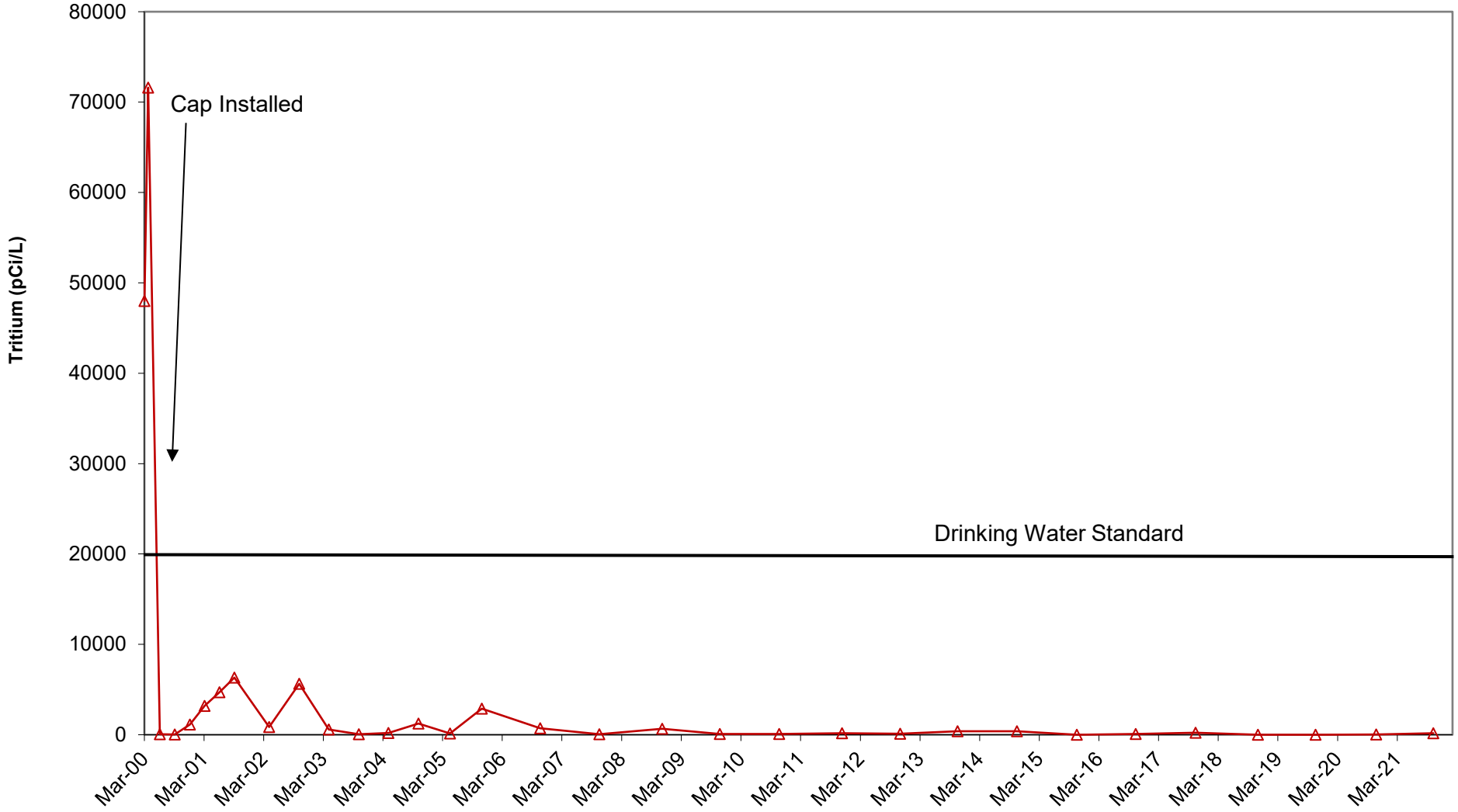
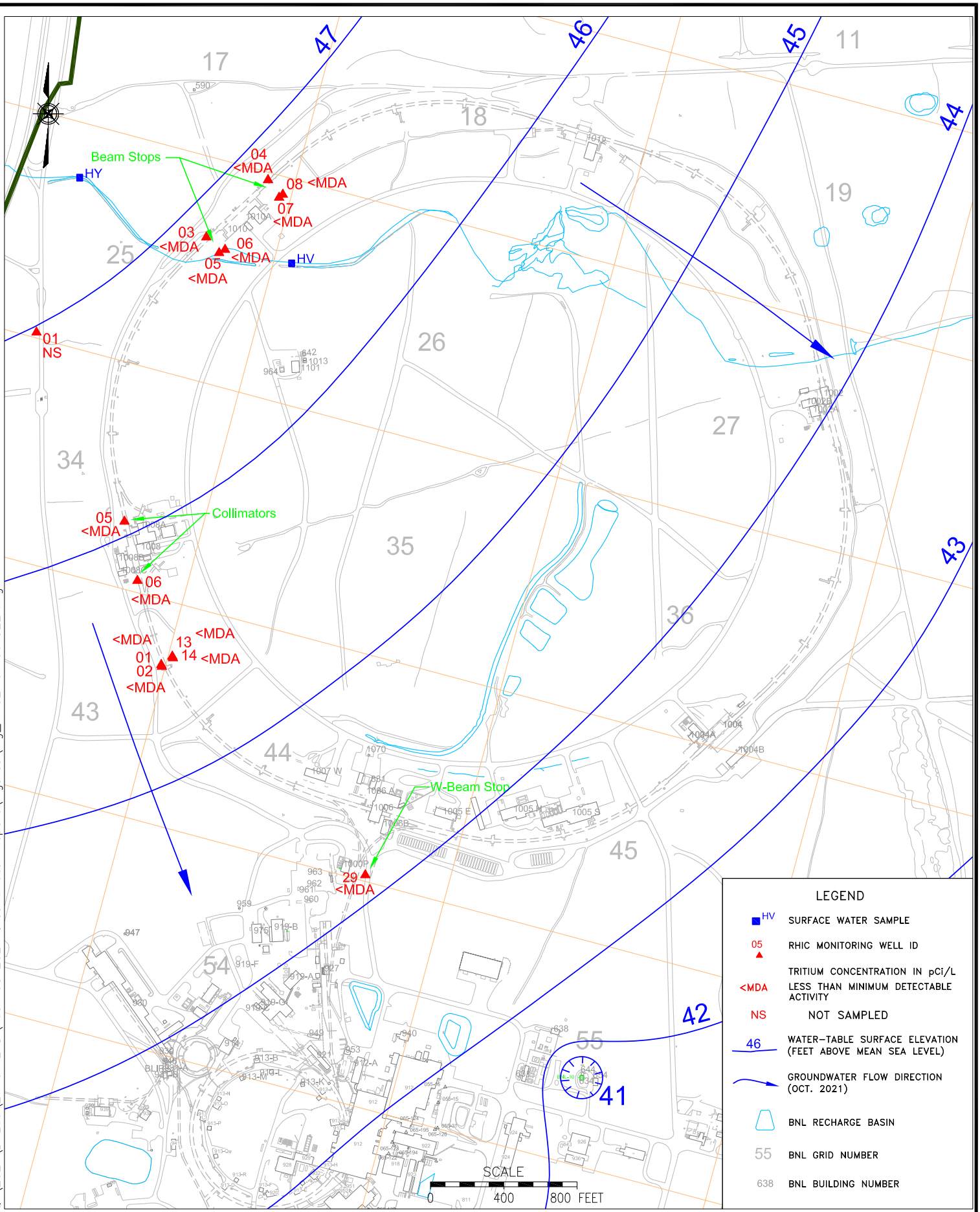


Figure 4.1-7
Facility Monitoring Program
AGS Facility Area
Maximum Tritium Concentrations
Downgradient of Former U-Line Beam Stop Area





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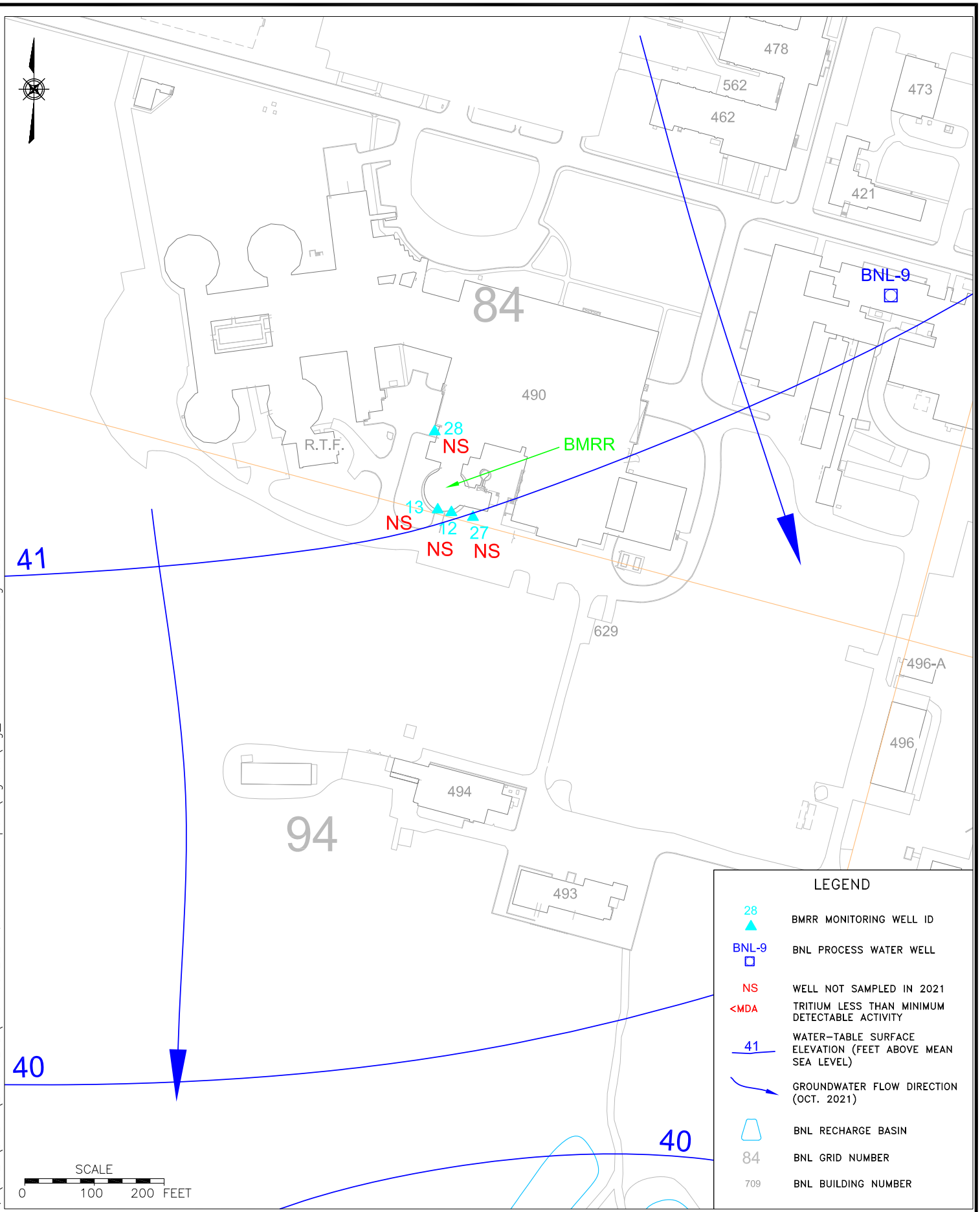
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE: FACILITY MONITORING PROGRAM, RELATIVISTIC HEAVY ION COLLIDER, MONITORING WELL LOCATIONS TRITIUM RESULTS, 3RD QTR 2021
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	DEP	–	–

FIGURE NO.: 4.2-1



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
FACILITY MONITORING PROGRAM,
BROOKHAVEN MEDICAL RESEARCH REACTOR
MONITORING WELL LOCATIONS

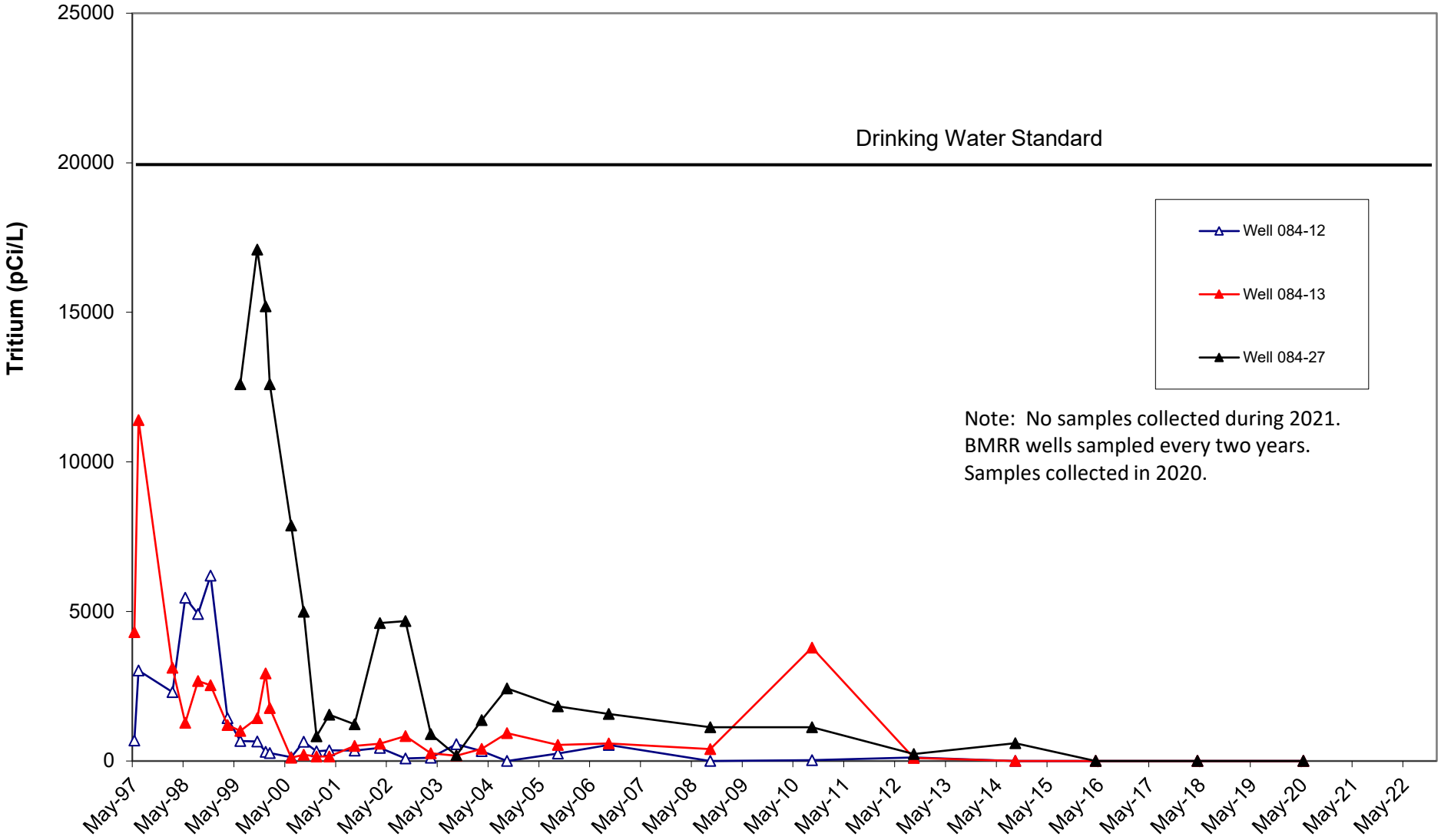
2021 BNL GROUNDWATER STATUS REPORT

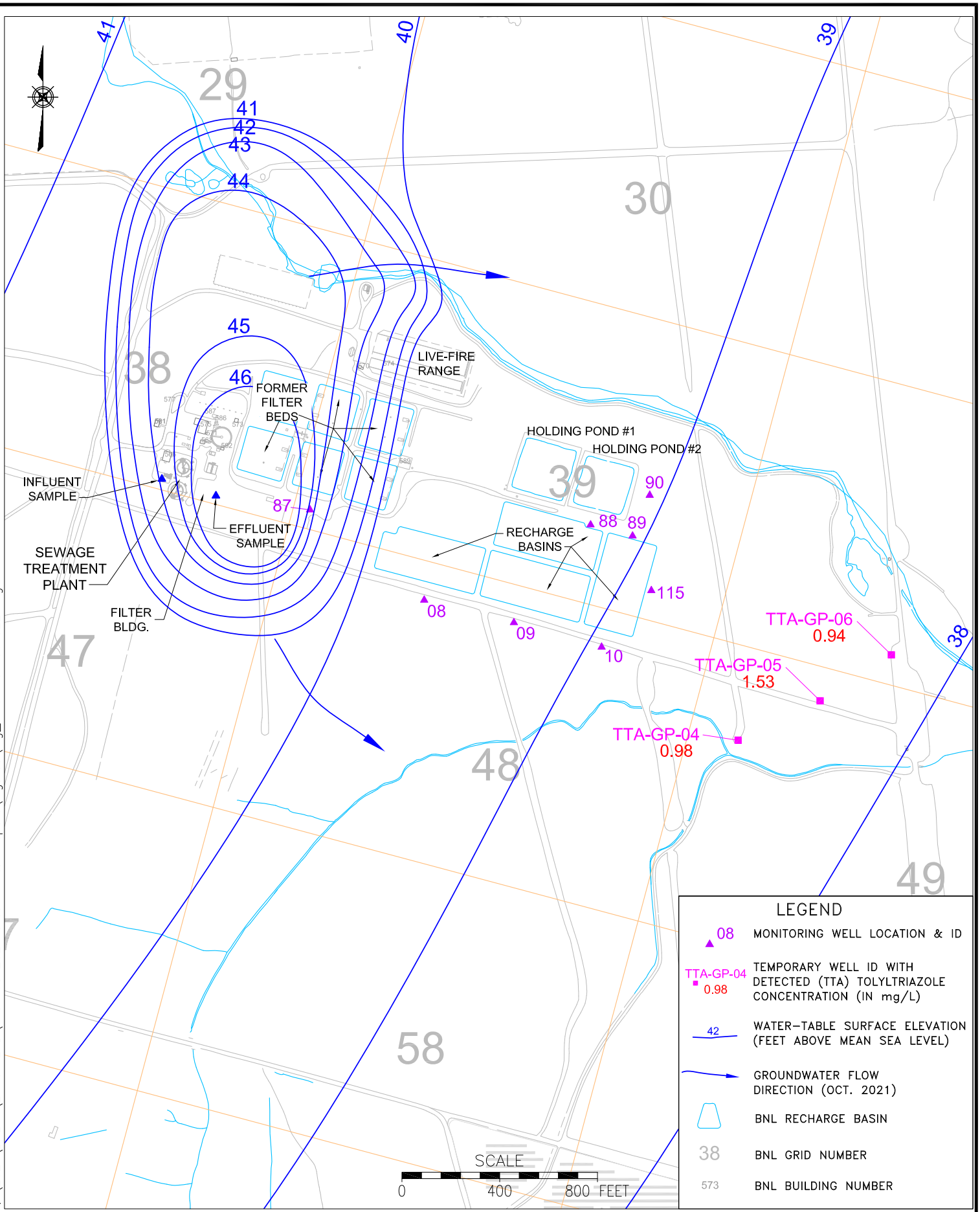
DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	DEP	–	–

FIGURE NO.: 4.3-1

Figure 4.3-2
Facility Monitoring Program
Brookhaven Medical Research Reactor
Monitoring Well Tritium Concentrations

2021 BNL Groundwater Status Report





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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

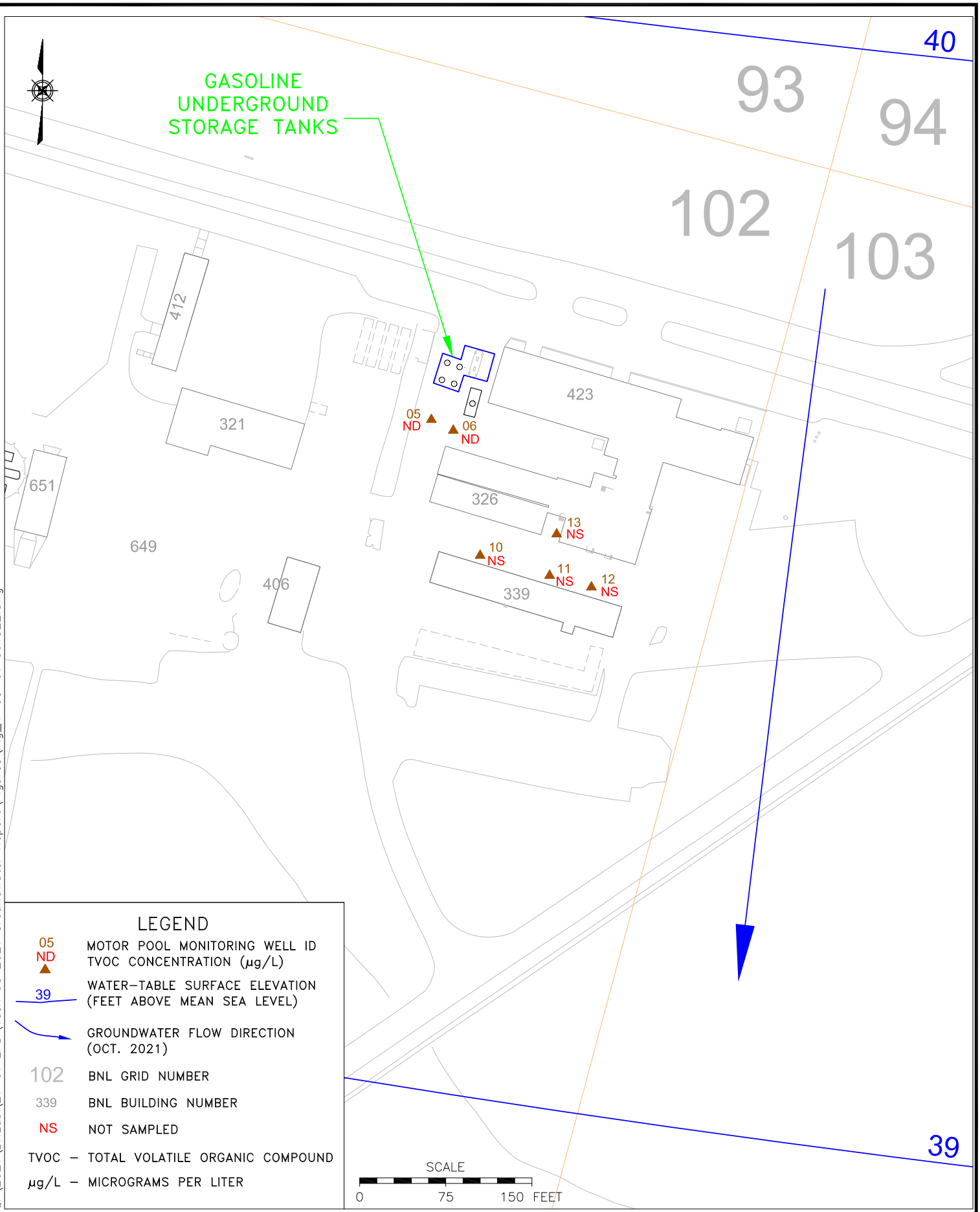
TITLE:

SEWAGE TREATMENT PLANT SYSTEM SAMPLING AND MONITORING WELL LOCATIONS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	RFH	–	–

FIGURE NO.: 4.4-1



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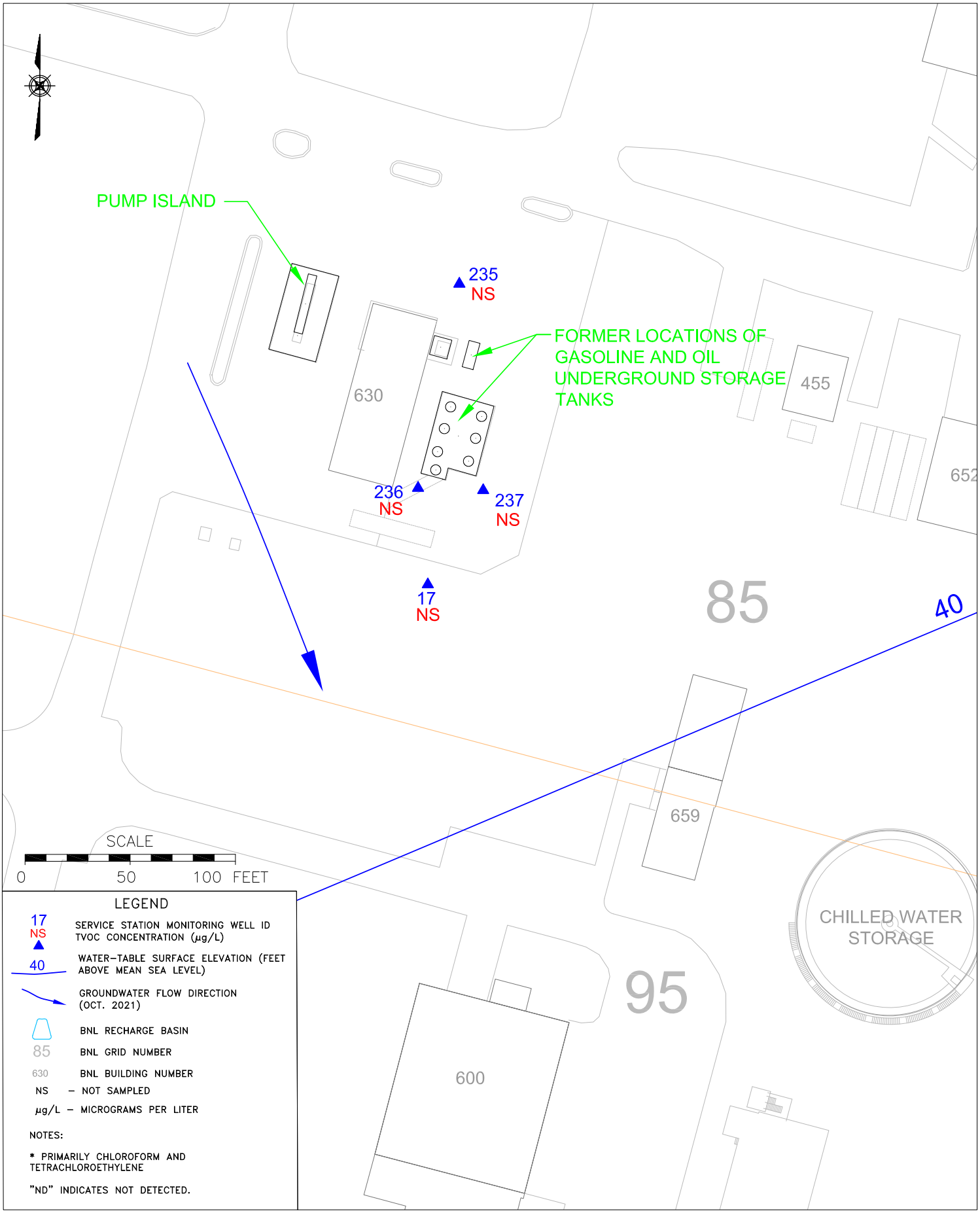
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTON DIVISION

TITLE:
FACILITY MONITORING PROGRAM,
MOTOR POOL
MONITORING WELL LOCATIONS
TVOC RESULTS 4TH QUARTER 2021
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT:HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	DEP	–	–

FIGURE NO.: 4.5-1



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

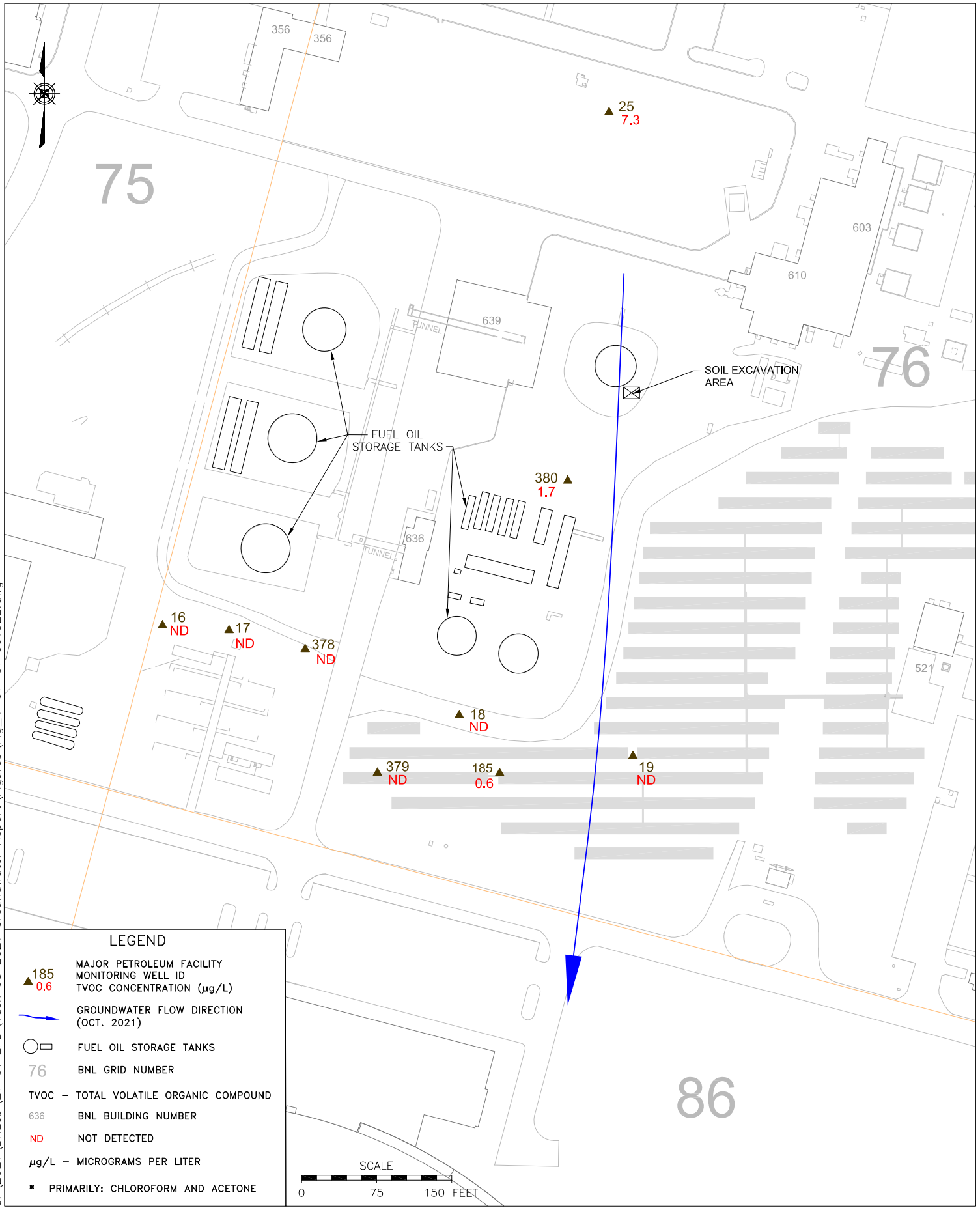
TITLE:

FACILITY MONITORING PROGRAM, SERVICE STATION

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	DEP	–	–

FIGURE NO.: 4.6-1



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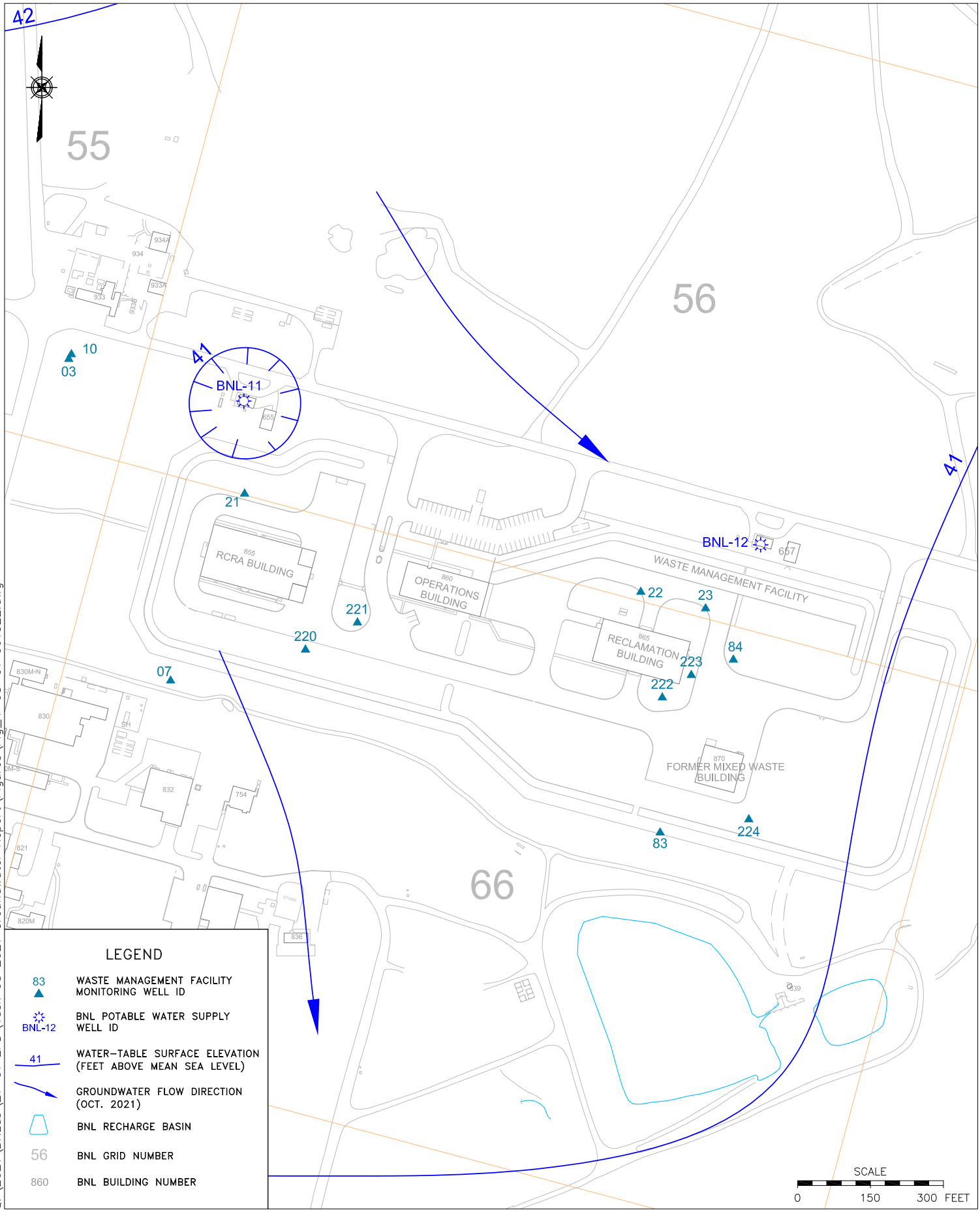
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
FACILITY MONITORING PROGRAM,
MAJOR PETROLEUM FACILITY
MONITORING WELL LOCATIONS
TVOC CONCENTRATIONS, 4th QTR 2021
2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	DEP	–	–

FIGURE NO.: 4.7–1



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

FACILITY MONITORING PROGRAM, WASTE MANAGEMENT FACILITY MONITORING WELL LOCATIONS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
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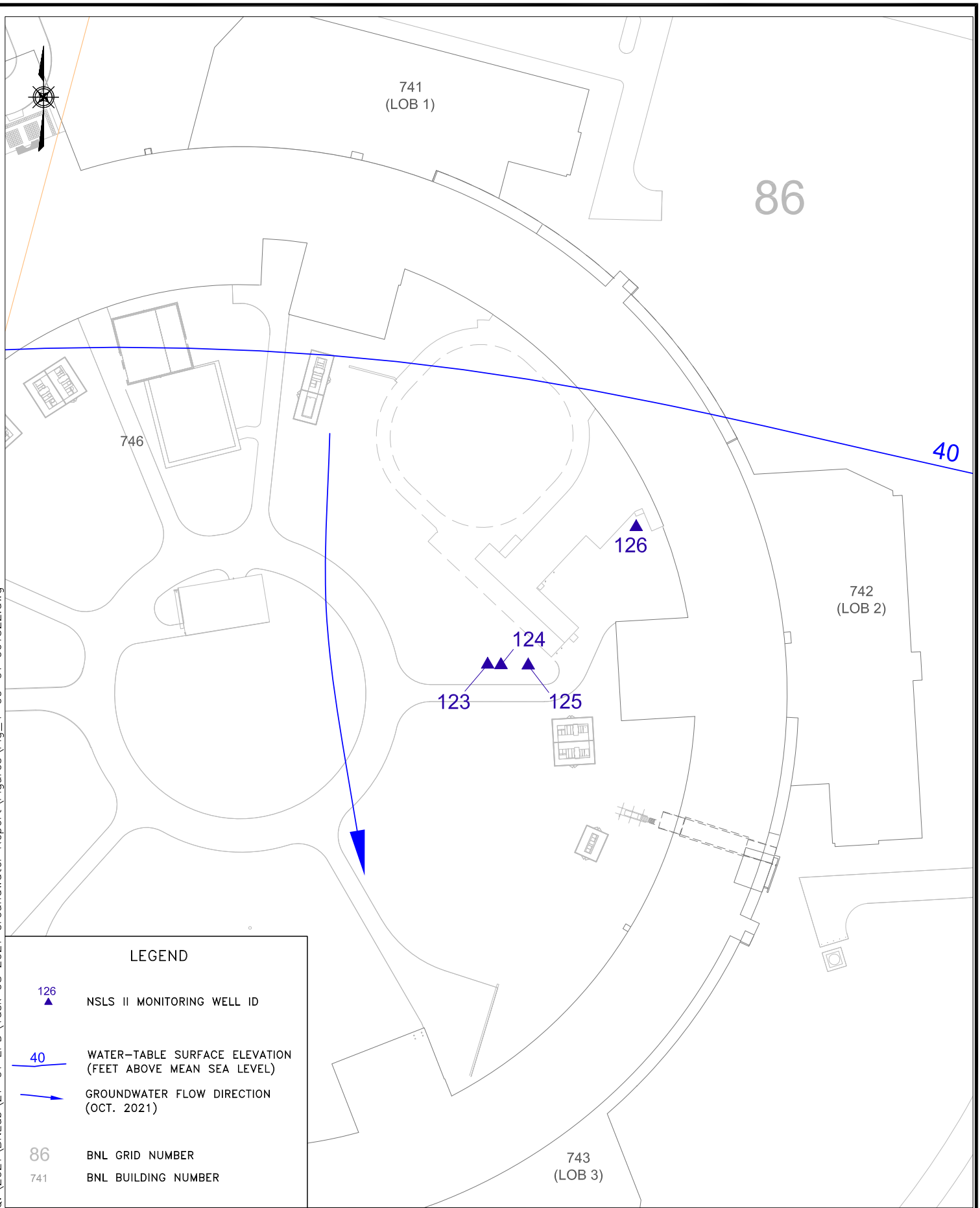
CHKD:	APPD:	REV.:	NOTES:
WRD	DEP	–	–

FIGURE NO.: 4.8-1



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
FACILITY MONITORING PROGRAM
NATIONAL SYNCHROTRON LIGHT SOURCE II
MONITORING WELL LOCATIONS

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
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CHKD:	APPD:	REV.:	NOTES:
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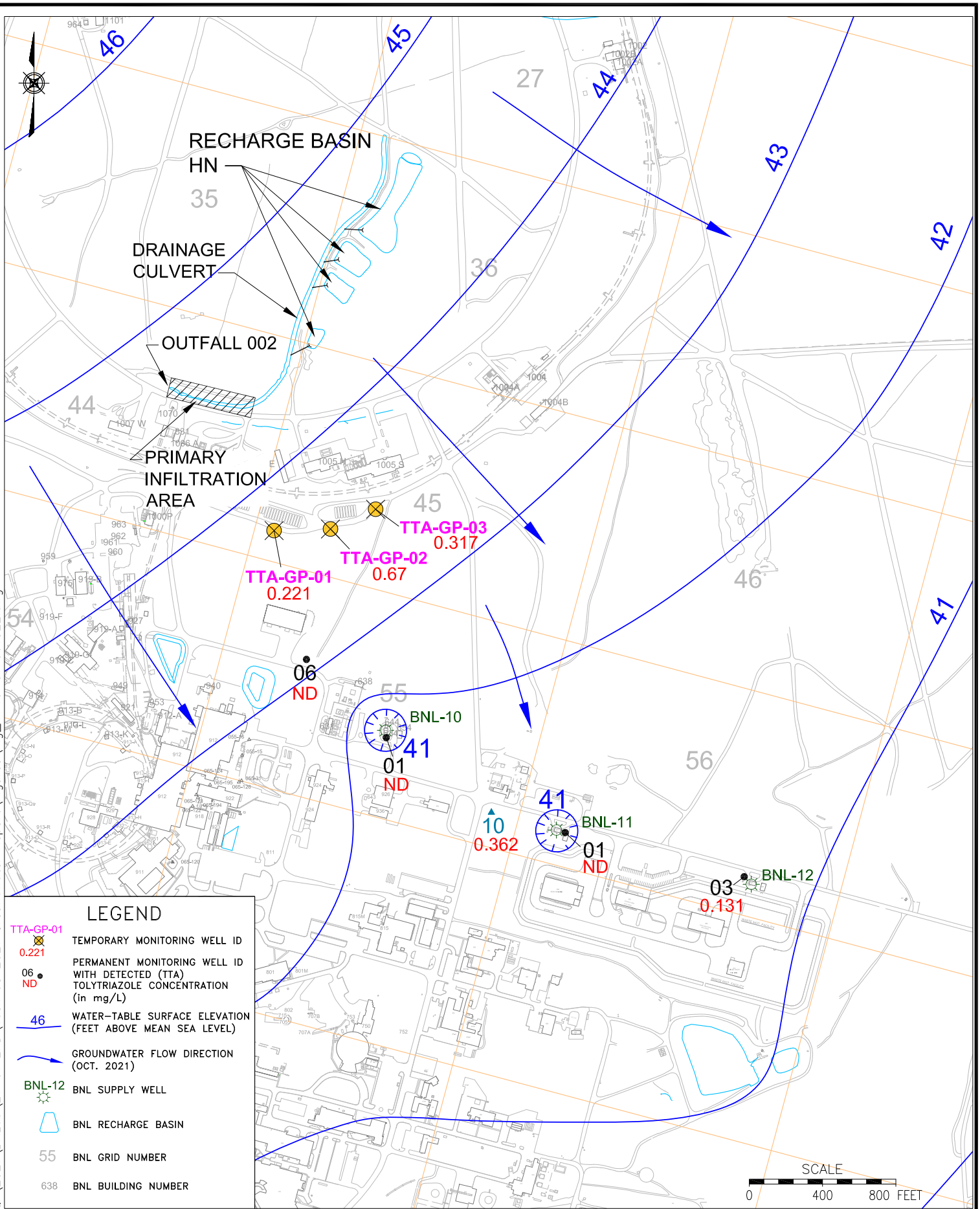
FIGURE NO.: 4.9-1



LEGEND

- TTA-GP-01 / 0.221 — TEMPORARY MONITORING WELL ID
- 06 / ND — PERMANENT MONITORING WELL ID WITH DETECTED (TTA) TOLYTRIAZOLE CONCENTRATION (in mg/L)
- 46 — WATER-TABLE SURFACE ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- GROUNDWATER FLOW DIRECTION (OCT. 2021)
- BNL-12 — BNL SUPPLY WELL
- BNL RECHARGE BASIN
- 55 — BNL GRID NUMBER
- 638 — BNL BUILDING NUMBER

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

GROUNDWATER MONITORING LOCATIONS DOWNGRADIENT OF BASIN HN (SPDES OUTFALL 002)

2021 BNL GROUNDWATER STATUS REPORT

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	06/13/22	–
CHKD:	APPD:	REV.:	NOTES:
WRD	DEP	–	–

FIGURE NO.: 4.10-1

Table 1-1
Groundwater Standards for
Inorganic Compounds

2021 BNL Groundwater Status Report

CHEMICAL CONSTITUENT	CAS #	NYS AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES (a) µg/L	FEDERAL DRINKING WATER STANDARDS (b) µg/L	
Inorganics				
Aluminum	7429-90-5	-	200	(c)
Antimony	7440-36-0	3	6	
Arsenic	7440-38-2	25	10	
Barium	7440-39-3	1000	2000	
Beryllium	7440-41-7	3	4	
Cadmium	7440-43-9	5	5	
Calcium	7440-70-2	-	-	
Chromium	7440-47-3	50	100	
Cobalt	7440-48-4	-	-	
Copper	7440-50-8	200	1300	
Cyanide	57-12-5	200	200	
Iron	7439-89-6	300	300	(c)
Lead	7439-92-1	25	15	
Magnesium	7439-95-4	35000	-	
Manganese	7439-96-5	300	50	(c)
Mercury	7439-97-6	0.7	2	
Nickel	7440-02-0	100	100	
Potassium	7440-09-7	-	-	
Selenium	7782-49-2	10	50	
Silver	7440-22-4	50	100	
Sodium	7440-23-5	20000	-	(c)
Thallium	7440-28-0	0.5	2	
Vanadium	7440-62-2	-	-	
Zinc	7440-66-6	2000	5000	(c)
Hexavalent Chromium	18540-29-9	50	-	

Notes:

- No standard available
(a) NYSDEC June 1998 Ambient Water Quality Standards and Guidance Values for Groundwater Class GA.
(b) USEPA March 2018, Drinking Water Regulations and Health Advisories. Note that the information under MCL was converted from mg/l to µg/L in order to maintain uniform units for this table.
(c) Listed standard represents a secondary MCL, which has been developed to control the aesthetic quality of drinking water only.

NYSDEC = New York State Department of Environmental Conservation
µg/L = micrograms per liter (ppb)
mg/L = milligrams per liter (ppm)
MCL = Maximum Contaminent Level
USEPA = United Stated Environmental Protection Agency

Table 1-2
Groundwater Standards for
Pesticides and PCBs

2021 BNL Groundwater Status Report

CHEMICAL CONSTITUENT	CAS #	NYS AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES µg/L (a)	FEDERAL DRINKING WATER STANDARDS (b) µg/L
PESTICIDES & PCBs			
4,4'-DDD	72-54-8	0.3	-
4,4'-DDE	72-55-9	0.2	-
4,4'-DDT	50-29-3	0.2	-
Aldrin	309-00-2	ND	-
alpha-BHC	319-84-6	0.01	-
alpha-Chlordane	5103-71-9	0.09 (c)	2
Aroclor-1016	12674-11-2	0.09 (c)	-
Aroclor-1221	11104-28-2	0.09 (c)	-
Aroclor-1232	11141-16-5	0.09 (c)	-
Aroclor-1242	53469-21-9	0.09 (c)	-
Aroclor-1248	12672-29-6	0.09 (c)	-
Aroclor-1254	11097-69-1	0.09 (c)	-
Aroclor-1260	11096-82-5	0.09 (c)	-
beta-BHC	319-85-7	0.04	-
delta-BHC	319-86-8	0.04	-
Dieldrin	60-57-1	0.004	-
Endosulfan I	959-98-8	-	-
Endosulfan II	33213-65-9	-	-
Endosulfan sulphate	1031-07-8	-	-
Endrin	72-20-8	ND	2
Endrin aldehyde	7421-93-4	5	-
Endrin ketone	53494-70-5	5	-
gamma-BHC (Lindane)	58-89-9	0.05	0.2
gamma-Chlordane	5103-74-2	-	2
Heptachlor	76-44-8	0.04	0.4
Heptachlor Epoxide	1024-57-3	0.03	0.2
Methoxychlor	72-43-5	35	40
Toxaphene	8001-35-2	0.06	-
PCB (total)	-	0.09	0.5

Notes:

- No standard available

ND Non-dectectable

(a) NYSDEC June 1998 Ambient Water Quality Standards and Guidance Values for Groundwater Class GA.

(b) USEPA March 2018, Drinking Water Regulations and Health Advisories. Note that the information under MCL was converted from mg/l to µg/L in order to maintain uniform units for this table.

(c) Standard listed applies to the sum of these substances.

PCBs = Polychlorinated Biphenyls

NYSDEC = New York State Department of Environmental Conservation

µg/L = micrograms per liter (ppb)

mg/L = milligrams per liter (ppm)

MCL = Maximum Contaminent Level

USEPA = United Stated Environmental Protection Agency

Table 1-3
Groundwater Standards for
Organic Compounds

2021 BNL Groundwater Status Report

CHEMICAL CONSTITUENT	CAS #	NYS AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES µg/L (a)	FEDERAL DRINKING WATER STANDARDS µg/L (b)
Volatile Organics			
1,1-Dichloroethane	75-34-3	5	-
1,1-Dichloroethene	75-35-4	5	7
1,1,1-Trichloroethane	71-55-6	5	200
1,1,2-Trichloroethane	79-00-5	1	5
1,1,2,2-Tetrachloroethane	79-34-5	5	-
1,2-Dibromo-3-chloropropane	96-12-8	0.04	0.2
1,2-Dibromoethane (EDB)	106-93-4	0.0006	0.05
1,2-Dichlorobenzene	95-50-1	3	600
1,2-Dichloroethane	107-06-2	0.6	5
1,2-Dichloropropane	78-87-5	1	5
1,3-Dichlorobenzene	541-73-1	3	600
1,4-Dichlorobenzene	106-46-7	3	75
2-Butanone	78-93-3	50	-
2-Hexanone	591-78-6	50	-
4-Methyl-2-pentanone	108-10-1	-	-
Acetone	67-64-1	50	-
Benzene	71-43-2	1	5
Bromochloromethane	74-97-5	5	-
Bromodichloromethane(THM)	75-27-4	50	80(h)
Bromoform(THM)	75-25-2	50	80(h)
Bromomethane	74-83-9	5	-
Carbon disulfide	75-15-0	60	-
Carbon Tetrachloride	56-23-5	5	5
Chlorobenzene	108-90-7	5	-
Chloroethane	75-00-3	5	-
Chloroform(THM)	67-66-3	7	80(h)
Chloromethane	74-87-3	5	-
cis-1,2-Dichloroethene	156-59-2	5	70
cis-1,3-Dichloropropene	10061-01-5	0.4(c)	-
Dibromochloromethane(THM)	124-48-1	50	80(h)
Dichlorodifluoromethane	75-71-8	5	-
Ethylbenzene	100-41-4	5	700
Methylene chloride	75-09-2	5	5
Methyl-tert-butyl ether (MTBE)	1634-04-4	10	-
Styrene	100-42-5	5	100
Tetrachloroethene	127-18-4	5	5
Toluene	108-88-3	5	1000
trans-1,2-Dichloroethene	156-60-5	5	100
trans-1,3-Dichloropropene	10061-02-6	0.4(c)	-
Trichloroethene	79-01-6	5	5
Vinyl chloride	75-01-4	2	2
Xylenes (total)	1330-20-7	5(d)	10000

Table 1-3
Groundwater Standards for
Organic Compounds

2021 BNL Groundwater Status Report

CHEMICAL CONSTITUENT	CAS #	NYS AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES µg/L (a)	FEDERAL DRINKING WATER STANDARDS µg/L (b)
Semivolatile Organics			
1,2,4-Trichlorobenzene	120-82-1	5	70
1,4-Dioxane	123-91-1	1 (g)	
2-Chloronaphthalene	91-58-7	10	-
2-Chlorophenol	95-57-8	1(e)	-
2-Methylnaphthalene	91-57-6	-	-
2-Methylphenol	95-48-7	1(e)	-
2-Nitroaniline	88-74-4	5	-
2-Nitrophenol	88-75-5	1(e)	-
2,2'-oxybis(1-Chloropropane)	108-60-1	5	-
2,4-Dichlorophenol	120-83-2	1(e)	-
2,4-Dimethylphenol	105-67-9	1(e)	-
2,4-Dinitrophenol	51-28-5	1(e)	-
2,4-Dinitrotoluene	121-14-2	5	-
2,4,5-Trichlorophenol	95-95-4	1(e)	-
2,4,6-Trichlorophenol	88-06-2	1(e)	-
2,6-Dinitrotoluene	606-20-2	5	-
3-Nitroaniline	99-09-2	5	-
3,3'-Dichlorobenzidine	91-94-1	5	-
4-Bromophenyl phenyl ether	101-55-3	-	-
4-Chloro-3-methylphenol	59-50-7	1(e)	-
4-Chloroaniline	106-47-8	5	-
4-Chlorophenyl phenyl ether	7005-72-3	-	-
4-Methylphenol	106-44-5	1(e)	-
4-Nitroaniline	100-01-6	5	-
4-Nitrophenol	100-02-7	1(e)	-
4,6-Dinitro-2-methylphenol	534-52-1	1(e)	-
Acenaphthene	83-32-9	20	-
Acenaphthylene	208-96-8	-	-
Anthracene	120-12-7	50	-
Benzo(a)anthracene	56-55-3	0.002	-
Benzo(a)pyrene	50-32-8	ND	0.2
Benzo(b)fluoranthene	205-99-2	0.002	-
Benzo(g,h,j)perylene	191-24-2	-	-
Benzo(k)fluoranthene	207-08-9	0.002	-
bis-(2-Chloroethoxy)methane	111-91-1	5	-
bis-(2-Chloroethyl)ether	111-44-4	1	-
bis(2-Ethylhexyl)phthalate	117-81-7	5	-
Butylbenzylphthalate	85-68-7	50	-
Carbazole	86-74-8	-	-
Chrysene	218-01-9	0.002	-
Dibenzofuran	132-64-9	-	-
Dibenz(a,h)anthracene	53-70-3	-	-
Diethylphthalate	84-66-2	50	-
Dimethylphalate	131-11-3	50	-

Table 1-3
Groundwater Standards for
Organic Compounds

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CHEMICAL CONSTITUENT	CAS #	NYS AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES µg/L (a)	FEDERAL DRINKING WATER STANDARDS µg/L (b)
Di-n-butylphthalate	84-74-2	50	-
Di-n-octylphthalate	117-84-0	50	-
Fluoranthene	206-44-0	50	-
Fluorene	86-73-7	50	-
Hexachlorobenzene	118-74-1	0.04	1
Hexachlorobutadiene	87-68-3	0.5	-
Hexachlorocyclopentadiene	77-47-4	5	50
Hexachloroethane	67-72-1	5	-
Indeno(1,2,3-cd)pyrene	193-39-5	0.002	-
Isophorone	78-59-1	50	-
Naphthalene	91-20-3	10	-
Nitrobenzene	98-95-3	0.4	-
N-Nitroso-di-n-propylamine	621-64-7	-	-
N-Nitrosodiphenylamine	86-30-6	50	-
Pentachlorophenol	87-86-5	1(e)	1
Perchlorate	14797-73-0	18	
Phenanthrene	85-01-8	50	-
Phenol	108-95-2	1(e)	-
Pyrene	129-00-0	50	-
Emerging contaminants			
Perfluorooctanoic acid (PFOA)	335-67-1	0.01 (g)	
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.01 (g)	
1,4-dioxane	123-91-1	1 (g)	

Notes:

- No standard available
ND Non-dectectable
(a) NYSDEC June 1998 Ambient Water Quality Standards and Guidance Values for Groundwater Class GA and April 2000 Addendum.
(b) USEPA March 2018, Drinking Water Regulations and Health Advisories. Note that the information under MCL was converted from mg/l to µg/L in order to maintain uniform units for this table.
(c) Refers to sum of cis and trans isomers.
(d) Refers to concentration of individual isomers.
(e) Refers to sum of all phenolic compounds.
(f) US EPA Interim Health Standard
(g) NYS MCL adopted August 26.2020
Ambient Water Quality Standards not yet established
(h) 1998 Final Rule for Disinfectants and Disinfection By-products: The total for trihalomethanes(THM) is 80ug/L

NYSDEC = New York State Department of Environmental Conservation
µg/L = micrograms per liter (ppb)
mg/L = milligrams per liter (ppm)
MCL = Maximum Contaminent Level
USEPA = United Stated Environmental Protection Agency

Table 1-4
Groundwater Standards for
Radiological Compounds

2021 BNL Groundwater Status Report

RADIONUCLIDE	CAS #	NYS Ambient Water Quality Standards pCi/L (a)	DOE Derived Concentration Standard pCi/L (b)	DOE Groundwater Screening Level pCi/L (c)	Federal 4 mrem/yr Drinking Water Calculations pCi/L	Federal Drinking Water Standards pCi/L (d)
Americium-241	14596-10-2	-	740	29.6	--	--
Bismuth-212	14913-49-6	-	430000	17200	--	--
Bismuth-214	14733-03-0	-	1000000	40000	--	--
Beryllium-7	13966-02-4		2500000	100000	6000	--
Cesium-134	13967-70-9		3900	156	20000	--
Cesium-137	10045-97-3	-	4100	164	200	--
Cobalt-57	13981-50-5	-	370000	14800	1000	--
Cobalt-58	13934	-	89000	3560	9000	--
Cobalt-60	10198-40-0	-	14000	560	100	--
Europium-152	14683-23-9		75000	3000	60	--
Europium-154	15585-10-1		68000	2720	200	--
Europium-155	14372	-	1000000	40000	600	--
Lead-210	14255-04-0	-	110	4.4	--	--
Lead-212	15092-94-1	-	7300	292	--	--
Lead-214	15067-28-4	-	590000	23600	--	--
Manganese-54	13926	-	98000	3920	300	--
Neptunium-237	13972	-	1400	56	--	--
Potassium-40	13966-00-2	-	16000	640	--	--
Protactinium-231	14244	-	260	10.4	--	--
Radium-224	13233-32-4	-	1000	40	--	--
Radium-226	13982-63-3	3	280	11.2	--	5 (g)
Radium-228	15262-20-1	5 (g)	73	2.92	--	5 (g)
Sodium-22	13966-32-0	-	16000	640	400	--
Strontium-89	14158-27-1	-	39000	1560	20	--
Strontium-90	10098-97-2	8	1700	68	--	8 (e)
Thallium-208	7440-28-00	-	-	-	--	--
Thorium-228	14274-82-9	-	830	33.2	--	--
Thorium-230	14199	-	720	28.8	--	--
Thorium-232	7410	-	620	24.8	--	--
Thorium-234	15065-10-8	-	84000	3360	--	--
Tritium (Tritiated Water)	10028-17-8	20000	2600000	104000	--	20000 (e)
Tritium (Organic Bound)			1000000	40000		
Uranium-234	13966-29-5	-	1200	48	--	30 ug/L
Uranium-235	15117-96-1	-	1300	52	--	30 ug/L
Uranium-238	7440-61-1	-	1400	56	--	30 ug/L
Zinc-65	13982-39-3		1200	48	300	--
Gross Beta	12587-47-2	1000	-		--	4 millirem per year (f)
Gross Alpha	12587-46-1	15	-		--	15

Notes:

- No standard available

(a) NYSDEC, June 1998, Ambient Water Quality Standards and Guidance Values for Groundwater Class GA.

(b) Department of Energy (DOE) Standard DOE-STD-1196-2021, July 2021, Derived Concentration Standard (DCS) is the concentration of a radionuclide in water that would result in an effective dose equivalent of 100 mrem.

(c) DOE screening levels have been derived for a dose equivalent of 4 mrem/year by multiplying the DCS by 4 percent

(d) USEPA, March 2018, Drinking Water Regulations and Health Advisories.

(e) Beta particle and photon activity less than 4 mrem/year.

(f) The generic standard of 4 mrem is applicable to all radionuclides specifically the sum of the fractions of all radionuclides shall not exceed 4 mrem.

(g) The sum of Ra-226 and Ra-228 must be below 5 pCi/L.

NYSDEC New York State Department of Environmental Conservation

USEPA United Stated Environmental Protection Agency

pCi/L pico Curies per liter

Table 1-5
BNL CERCLA Groundwater Monitoring Schedule for 2021

2021 BNL Groundwater Status Report

Well ID	Project 1	Project 2	Decision Subunit	EPA 524.2/ 8260LL VOCs	EPA 504 EDB	EPA 625 Semi-VOCs	Pesticides Method 608	PCBs Method 608	TSS/TDS	Sufates/Chloride/Alkalinity	TK Nitrogen	Total Nitrogen	Nitrates	Nitrites	Ammonia	TAL Metals	Total Chromium	Hexavalent Chromium	Cyanide	Perchlorate	EPA 900 Gross Alpha/Beta	Isotopic Cs -137	EPA 901 Gamma Spec	EPA 906 Tritium	EPA 905 Sr 90	Blind Duplicate/MS/MSD	Frequency (events/year)
087-21	OU I (South Boundary)		Background																				Xb		Xb		1b
088-13	OU I (South Boundary)		Background																				Xb		Xb		1b
088-14	OU I (South Boundary)		Background																				Xb		Xb		1b
088-20	OU I (South Boundary)		Background																				Xb		Xb		1b
088-26	OU I (South Boundary)		Plume Perimeter																				Xb		Xd		2d
098-21	OU I (South Boundary)		Plume Perimeter																				Xb		Xd		2d
098-30	OU I (South Boundary)		Plume Perimeter																				Xb		X		4
099-04	OU I (South Boundary)		Plume Perimeter																				Xb				1b
107-23	OU I (South Boundary)		Plume Perimeter																					Xb			1b
107-24	OU I (South Boundary)		Plume Perimeter																				Xb				1b
107-40	OU I (South Boundary)		Plume Core	Xb																			Xb				1b
107-41	OU I (South Boundary)		Plume Core	X																							1b
108-08	OU I (South Boundary)		Plume Perimeter																				Xb		Xb		1b
108-12	OU I (South Boundary)		Plume Perimeter																				Xb		Xb		1b
108-13	OU I (South Boundary)		Plume Perimeter																				Xb		Xb		1b
108-14	OU I (South Boundary)		Plume Perimeter																				Xb		Xb		1b
108-17	OU I (South Boundary)		Plume Perimeter																				Xb		Xb		1b
115-03	OU I (South Boundary)		Plume Perimeter																				Xb				1b
115-13	OU I (South Boundary)		Plume Core	Xb																			Xb				1b
115-14	OU I (South Boundary)		Plume Core																				Xb				1b
115-15	OU I (South Boundary)		Plume Core																				Xb				1b
115-16	OU I (South Boundary)		Plume Core	Xb																			Xb				1b
115-28	OU I (South Boundary)		Plume Core																				Xb				1b
115-29	OU I (South Boundary)		Plume Core																				Xb				1b
115-30	OU I (South Boundary)		Plume Perimeter																				Xb				1b
115-31	OU I (South Boundary)		Plume Core																				Xb				1b
115-36	OU I (South Boundary)		Plume Core																					Xb			1b
115-41	OU I (South Boundary)		Bypass Detection																				Xb				2d
116-05	OU I (South Boundary)		Plume Perimeter																				Xb		Xd		2d
116-06	OU I (South Boundary)		Plume Perimeter																				Xb		Xd		2d
107-34	OU I (South Boundary)		TBD																						X		2d
107-35	OU I (South Boundary)		TBD																						X		4
108-43	OU I (South Boundary)		TBD																						X		2d
108-44	OU I (South Boundary)		TBD																						X		2d
108-18	OU I (South Boundary)		Plume Perimeter																						Xb		1b
115-51	OU I (South Boundary)		Plume Perimeter	Xb																					Xd		2d
107-42	OU I (South Boundary)		Plume Perimeter																						Xd		2d
108-45	OU I (South Boundary)		Plume Perimeter																						Xd		2d
108-55	OU I (South Boundary)		Plume Perimeter																						Xd		2d
108-56	OU I (South Boundary)		Plume Perimeter																						Xd		2d
108-57	OU I (South Boundary)	OU1-MW01-2018	TBD																						Xd		2d
108-58	OU I (South Boundary)	OU1-MW02-2018	TBD																						Xd		2d
108-59	OU I (South Boundary)	OU1-MW03-2018	TBD																						Xd		2d
098-99	OU I (SB) OUI-MW01-2017	CLF	Downgradient	Sampled with CLF																							4
098-100	OU I (South Boundary)																								Xd		2d

Table 1-5
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Well ID	Project 1	Project 2	Decision Subunit	EPA 524.2/ 8260LL VOCs	EPA 504 EDB	EPA 625 Semi-VOCs	Pesticides Method 608	PCBs Method 608	TSS/TDS	Sufates/Chloride/Alkalinity	TK Nitrogen	Total Nitrogen	Nitrates	Nitrites	Ammonia	TAL Metals	Total Chromium	Hexavalent Chromium	Cyanide	Perchlorate	EPA 900 Gross Alpha/Beta	Isotopic Cs -137	EPA 901 Gamma Spec	EPA 906 Tritium	EPA 905 Sr 90	Blind Duplicate/MS/MSD	Frequency (events/year)
98-103	OU I (South Boundary)	SB-MW01-2020																							Xd		2d
98-104	OU I (South Boundary)	SB-MW02-2020																							Xd		2d
085-382	OU III (Bldg 96)			X																							2f
085-383	OU III (Bldg 96)			X																							2f
085-335	OU III (Bldg 96)		Plume Core	X																							4
085-347	OU III (Bldg 96)		Plume Core	X																							2f
085-348	OU III (Bldg 96)		Plume Core	X																							4
085-349	OU III (Bldg 96)		Plume Core	X																							4
085-350	OU III (Bldg 96)		Plume Core	X																							4
085-351	OU III (Bldg 96)		Plume Core	X																							4
085-352	OU III (Bldg 96)		Plume Core	X																							4
085-354	OU III (Bldg 96)		Plume Core	X																							4
095-159	OU III (Bldg 96)		Plume Core	X																							12
095-162	OU III (Bldg 96)		Plume Core	X																							4
095-163	OU III (Bldg 96)		Bypass Detection	X																							4
095-165	OU III (Bldg 96)		Bypass Detection	X																						X	4
095-166	OU III (Bldg 96)		Bypass Detection	X																							4
095-168	OU III (Bldg 96)		Bypass Detection	X																							4
095-169	OU III (Bldg 96)		Bypass Detection	X																							4
095-170	OU III (Bldg 96)		Bypass Detection	X																							4
095-172	OU III (Bldg 96)		Plume Core	X																							4
095-294	OU III (Bldg 96)		Plume Core	X																							2f
095-305	OU III (Bldg 96)		Plume Core	X																							4
095-306	OU III (Bldg 96)		Plume Core	X																							4
095-307	OU III (Bldg 96)		Plume Core	X																							2f
095-308	OU III (Bldg 96)		Plume Core	X																							2f
095-312	OU III (Bldg 96)		Plume Core	X																							4
095-313	OU III (Bldg 96)	Building 452 Freon	Plume Core	X																							2f
095-84	OU III (Bldg 96)		Plume Core	X																							4
095-85	OU III (Bldg 96)		Plume Perimeter	X																							4
095-318	OU III (Bldg 96)	B96-MW01-2010	Sentinel	X																							4
085-378	OU III (Bldg 96)	B96-MW02-2010	Background	X																							4
085-379	OU III (Bldg 96)	B96-MW04-2010	Plume Core	X																							4
085-293	OU III (Bldg 96) (formerly well ID 095-160)		Plume Core	X																							4
085-386	OU III (Bldg 96)			x																							2f
095-325	OU III (Bldg 96)			X																							4
095-92	OU III Middle Road		Sentinel	X																							2f
104-11	OU III Middle Road		Plume Perimeter	X																							2f
104-36	OU III Middle Road		Plume Perimeter	X																							2f
104-37	OU III Middle Road		Plume Core	X																							4
104-38	OU III Middle Road		Plume Perimeter	X																							2f
105-23	OU III Middle Road		Plume Core	X																							4
105-25	OU III Middle Road		Plume Core	X																							2f
105-42	OU III Middle Road		Plume Perimeter	X																							2f
105-44	OU III Middle Road	OU III (AOC 29/HFBR Tritium)	Plume Core	X																				Xa			2f

Table 1-5
BNL CERCLA Groundwater Monitoring Schedule for 2021

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Well ID	Project 1	Project 2	Decision Subunit	EPA 524.2/ 8260LL VOCs	EPA 504 EDB	EPA 625 Semi-VOCs	Pesticides Method 608	PCBs Method 608	TSS/TDS	Sufates/Chloride/Alkalinity	TK Nitrogen	Total Nitrogen	Nitrates	Nitrites	Ammonia	TAL Metals	Total Chromium	Hexavalent Chromium	Cyanide	Perchlorate	EPA 900 Gross Alpha/Beta	Isotopic Cs -137	EPA 901 Gamma Spec	EPA 906 Tritium	EPA 905 Sr 90	Blind Duplicate/MS/MSD	Frequency (events/year)
105-53	OU III Middle Road		Plume Core	X																							2f
105-66	OU III Middle Road		Plume Core	X																							4
106-56	OU III Middle Road		Plume Core	X																							2f
106-58	OU III Middle Road		Plume Core	X																							2f
106-62	OU III Middle Road	Chemical/Animal Holes Sr-90	Plume Perimeter	X																					Xf		2f
113-07	OU III Middle Road		Plume Core	X																							1a
113-08	OU III Middle Road		Plume Core	X																							2f
113-09	OU III Middle Road	Magothy	Plume Core	X																						X	2f
113-11	OU III Middle Road		Plume Core	X																							4
113-17	OU III Middle Road		Bypass Detection	X																							4
113-18	OU III Middle Road		Bypass Detection	X																							1a
113-19	OU III Middle Road	Magothy	Bypass Detection	X																							4
113-22	OU III Middle Road	Magothy	Plume Core	X																							2f
113-29	OU III Middle Road		Plume Core	X																							4
114-12	OU III Middle Road		Bypass Detection	X																							4
121-45	OU III Middle Road	OU III South Boundary	Bypass Detection	X																							4
113-30	OU III Middle Road	MR-MW01-2010	Plume Perimeter	X																							4
105-67	OU III Middle Road	MR-MW02-2010	Plume Core	X																							4
113-31	OU III Middle Road	OU3-MR-MW01-2012	Plume Perimeter	X																							4
105-68	OU III Middle Road	MRMW-01-2013	Plume Core	X																							4
121-53	OU III Middle Road	OU III (South Boundary)	Plume Core	Sample with South Boundary																							4
121-54	OU III Middle Road	OU III (South Boundary)	Plume Core	Sample with South Boundary																							4
095-323	OU III Middle Road		Plume Core	X																							4
095-322	OU III Middle Road		Plume Core	X																							4
114-06	OU III (South Boundary)		Plume Perimeter	Xa																							1a
114-07	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Core	Xa																							1a
121-06	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Perimeter	Xb																							1b
121-08	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Perimeter	Xf																							3bf
121-10	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Core	Xf																							3bf
121-11	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Core	Xf																						X	2f
121-12	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Perimeter	Xb																							1b
121-14	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Core	Xf																							2f
121-18	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Perimeter	Xb																							1b
121-20	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Core	Xa																							1a
121-21	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Perimeter	Xb																							1b
121-23	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Core	Xa																							1a
121-40	OU III (South Boundary)	OU III Magothy	Plume Perimeter	Sampled with OU III Magothy																							2f
121-43	OU III (South Boundary)		Bypass Detection	Xf																							2f
121-44	OU III (South Boundary)	OU III Magothy	Plume Perimeter	Sampled with OU III Magothy																							2f
121-45	OU III (South Boundary)	OU III Middle Road	Plume Core	Sampled with Middle Road Program																							4
122-04	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Core	Xa																							1a
122-05	OU III (South Boundary)	OU III (South Boundary) Radionuclide, Magothy	Plume Core	Xf																							2f
122-09	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Perimeter	Xa																							1a
122-10	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Perimeter	Xb																							1b
122-17	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Core	Xf																						X	2f

Table 1-5
BNL CERCLA Groundwater Monitoring Schedule for 2021

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Well ID	Project 1	Project 2	Decision Subunit	EPA 524.2/ 8260LL VOCs	EPA 504 EDB	EPA 625 Semi-VOCs	Pesticides Method 608	PCBs Method 608	TSS/TDS	Sufates/Chloride/Alkalinity	TK Nitrogen	Total Nitrogen	Nitrates	Nitrites	Ammonia	TAL Metals	Total Chromium	Hexavalent Chromium	Cyanide	Perchlorate	EPA 900 Gross Alpha/Beta	Isotopic Cs -137	EPA 901 Gamma Spec	EPA 906 Tritium	EPA 905 Sr 90	Blind Duplicate/MS/MSD	Frequency (events/year)
122-19	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Perimeter	Xa																							1a
122-20	OU III (South Boundary)	OU III (South Boundary) Radionuclide, Magothy	Plume Core	Xa																							1a
122-21	OU III (South Boundary)		Plume Core	Xa																							1a
122-22	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Core	Xa																							1a
122-31	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Perimeter	Xa																							1a
122-32	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Core	Xa																							1a
122-33	OU III (South Boundary)	OU III (South Boundary) Radionuclide	Plume Perimeter	Xa																							1a
122-34	OU III (South Boundary)		Bypass Detection	Xa																							1a
122-35	OU III (South Boundary)		Bypass Detection	Xa																							1a
122-41	OU III (South Boundary)	OU III Magothy	Plume Core	Sampled with OU III Magothy																							2f
121-49	OU III (South Boundary)	SB-MW01-2011	Plume Perimeter	X																							**4**
121-47	OU III (South Boundary)	SB-MW01-2012	Plume Core	Xf																							2f
121-48	OU III (South Boundary)	SB-MW02-2012	Plume Core	Xf																							2f
121-53	OU III (South Boundary)	OU III Middle Road	Plume Core	X																							4
121-54	OU III (South Boundary)	OU III Middle Road	Plume Core	X																							4
103-15	OU III (Western South Boundary)		Plume Core	X																							4
119-06	OU III (Western South Boundary)		Plume Core	X																							4
121-42	OU III (Western South Boundary)	OU III (South Boundary) Radionuclide	Plume Core	Xf																							2f
126-01	OU III (Western South Boundary)	OU III (South Boundary) Radionuclide	Plume Perimeter	Xa																							1a
126-11	OU III (Western South Boundary)		Plume Core	Xf																							2f
126-13	OU III (Western South Boundary)	OU III (South Boundary) Radionuclide	Plume Core	Xf																							2f
126-14	OU III (Western South Boundary)	OU III (South Boundary) Radionuclide	Plume Core	X																							4
126-15	OU III (Western South Boundary)	OU III (South Boundary) Radionuclide	Plume Core	Xf																							2f
126-16	OU III (Western South Boundary)	OU III (South Boundary) Radionuclide	Bypass Detection	X																							4
127-04	OU III (Western South Boundary)		Plume Core	Xf																							2f
127-06	OU III (Western South Boundary)		Plume Core	Xf																							2f
127-07	OU III (Western South Boundary)	OU III (South Boundary) Radionuclide	Bypass Detection	X																							4
130-02	OU III (Western South Boundary)	OU III (South Boundary) Radionuclide	Plume Perimeter	Xf																							2f
130-03	OU III (Western South Boundary)	OU III (South Boundary) Radionuclide	Plume Perimeter	Xf																						X	2f
130-04	OU III (Western South Boundary)	OU III (South Boundary) Radionuclide, Magothy	Plume Perimeter	Xa																							1a
130-08	OU III (Western South Boundary)	OU III (South Boundary) Radionuclide	Bypass Detection	X																							4
126-17	OU III (Western South Boundary)	WSB-MW01-2010	Plume Core	X																							4
119-10	OU III (Western South Boundary)	WSB-MW01-2012	Plume Core	X																							4
119-11	OU III (Western South Boundary)	WSB-MW01-2017	Plume Core	X																							4
111-15	OU III (Western South Boundary)	WSB-MW02-2017	Plume Core	X																							4
126-18	OU III (Western South Boundary)	WSB-MW03-2017	Plume Core	X																							4
126-19	OU III (Western South Boundary)	WSB-MW04-2017	Plume Core	X																							4
000-558	OU III (Western South Boundary)	WSB-MW05-2017	Plume Core	X																							4
000-559	OU III (Western South Boundary)	WSB-MW06-2017	Plume Core	X																							4
000-560	OU III (Western South Boundary)	WSB-MW07-2017	Plume Core	X																							4
103-18	OU III (Western South Boundary)	WSB-MW01-2018	Plume Core	X																							4
103-19	OU III (Western South Boundary)	WSB-MW02-2018	Plume Core	X																							4
126-20	OU III (Western South Boundary)	WSB-MW03-2018	Plume Core	X																							4
111-16	OU III (Western South Boundary)	WSB-MW04-2018	Plume Core	X																							4
119-12	OU III (Western South Boundary)	WSB-MW05-2018	Plume Core	X																							4

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Well ID	Project 1	Project 2	Decision Subunit	EPA 524.2/ 8260LL VOCs	EPA 504 EDB	EPA 625 Semi-VOCs	Pesticides Method 608	PCBs Method 608	TSS/TDS	Sufates/Chloride/Alkalinity	TK Nitrogen	Total Nitrogen	Nitrates	Nitrites	Ammonia	TAL Metals	Total Chromium	Hexavalent Chromium	Cyanide	Perchlorate	EPA 900 Gross Alpha/Beta	Isotopic Cs -137	EPA 901 Gamma Spec	EPA 906 Tritium	EPA 905 Sr 90	Blind Duplicate/MS/MSD	Frequency (events/year)
126-21	OU III (Western South Boundary)	WSB-MW06-2018	Plume Core	X																							4
126-22	OU III (Western South Boundary)	WSB-MW07-2018	Plume Core	X																							4
130-09	OU III (Western South Boundary)	WSB-MW08-2018	Plume Core	X																							4
130-10	OU III (Western South Boundary)	WSB-MW09-2018	Plume Core	X																							4
130-11	OU III (Western South Boundary)	WSB-MW10-2018	Plume Core	X																							4
000-112	OU III (Industrial Park)		Plume Core	X																							4
000-114	OU III (Industrial Park)		Plume Perimeter	X																							1a
000-245	OU III (Industrial Park)		Plume Perimeter	X																							1a
000-248	OU III (Industrial Park)		Plume Perimeter	X																							1a
000-249	OU III (Industrial Park)	OU III Magothy	Plume Core	X																							4
000-250	OU III (Industrial Park)	OU III Magothy	Plume Perimeter	X																							1a
000-252	OU III (Industrial Park)		Plume Perimeter	X																							1a
000-253	OU III (Industrial Park)		Plume Core	X																						X	4
000-255	OU III (Industrial Park)		Plume Perimeter	X																							1a
000-256	OU III (Industrial Park)		Plume Core	X																						X	4
000-259	OU III (Industrial Park)		Plume Core	X																							4
000-261	OU III (Industrial Park)		Plume Perimeter	X																							1a
000-262	OU III (Industrial Park)		Plume Core	X																							4
000-265	OU III (Industrial Park)		Plume Core	X																							4
000-267	OU III (Industrial Park)		Plume Perimeter	X																							1a
000-268	OU III (Industrial Park)		Plume Core	X																							4
000-271	OU III (Industrial Park)		Plume Core	X																							4
000-272	OU III (Industrial Park)		Plume Perimeter	X																							1a
000-273	OU III (Industrial Park)		Bypass Detection	X																							2f
000-274	OU III (Industrial Park)		Bypass Detection	X																							2f
000-275	OU III (Industrial Park)		Bypass Detection	X																							2f
000-276	OU III (Industrial Park)		Bypass Detection	X																							2f
000-277	OU III (Industrial Park)		Bypass Detection	X																							2f
000-278	OU III (Industrial Park)		Bypass Detection	X																							2f
000-279	OU III (Industrial Park)		Plume Core	X																							4
000-280	OU III (Industrial Park)		Plume Perimeter	X																							1a
000-431	OU III (Industrial Park)		Bypass Detection	X																							2f
000-432	OU III (Industrial Park)		Bypass Detection	X																							2f
000-530	OU III (Industrial Park)	IP-MW01-2012	Plume Core	X																							4
000-531	OU III (Industrial Park)	IP-MW02-2012	Plume Core	X																							4
000-529	OU III (Industrial Park)	IP-MW01-2013	Plume Core	X																							4
000-528	OU III (Industrial Park)	IP-MW02-2013	Plume Core	X																							4
000-537	OU III (Industrial Park)	Magothy	Plume Core	X																							4
000-538	OU III (Industrial Park)		Plume Core	X																							4
127-08	OU III (Industrial Park)	Magothy	Plume Core	X																							4
127-09	OU III (Industrial Park)	Magothy	Plume Core	X																							4
000-541	OU III (Industrial Park)	Magothy	Plume Core	X																							4
000-542	OU III (Industrial Park)	Magothy	Plume Perimeter	X																							4
000-543	OU III (Industrial Park)	Magothy	Plume Perimeter	X																							4
000-544	OU III (Industrial Park)	Magothy	Bypass Detection	X																							4

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000-548	OU III (Industrial Park)	Magothy, IP-MW01-2015	Bypass Detection	X																							4
000-108	OU III North Street		Plume Core	X																							2f
000-154	OU III North Street		Plume Core	X																							2f
000-212	OU III North Street		Plume Core	X																							2f
000-343	OU III North Street	OU III Magothy	Plume Core	Sampled with OU III Magothy																							2f
000-465	OU III North Street		Plume Core	X																							2f
000-472	OU III North Street		Plume Core	X																							2f
000-474	OU III North Street		Plume Core	X																							2f
800-63	OU III North Street	OU III Airport	Bypass Detection	X																							2f
000-394	OU III North Street East		Plume Perimeter	Xa	X																						4
000-138	OU III North Street East		Plume Core		X																						4
000-551	OU III North Street East	NSE-MW01-2018	TBD	Xa	X																						4
000-552	OU III North Street East	NSE-MW02-2018	TBD	Xa	X																						4
000-553	OU III North Street East	NSE-MW03-2018	TBD	Xa	X																						4
000-554	OU III North Street East	NSE-MW04-2018	TBD	Xa	X																						4
000-555	OU III North Street East	NSE-MW05-2018	TBD	Xa	X																						4
115-42	OU III North Street East		Bypass Detection		x																						2f
000-551	OU 3 NSE EDB			sampled with NSE																							
000-552	OU 3 NSE EDB			sampled with NSE																							
000-553	OU 3 NSE EDB			sampled with NSE																							
000-554	OU 3 NSE EDB			sampled with NSE																							
000-555	OU 3 NSE EDB			sampled with NSE																							
000-138	OU 3 NSE EDB			sampled with NSE																							
000-394	OU 3 NSE EDB			sampled with NSE																							
000-563	OU 3 NSE EDB	NSE-EDB-MW01-2019		Xa	X																						4
000-564	OU 3 NSE EDB	NSE-EDB-MW02-2019		Xa	X																						4
000-565	OU 3 NSE EDB	NSE-EDB-MW03-2019		Xa	X																						4
000-566	OU 3 NSE EDB	NSE-EDB-MW04-2019		Xa	X																						4
000-101	OU III (LIPA)		Plume Perimeter	X																							1a
000-102	OU III (LIPA)	Magothy	Plume Perimeter	X																							1a
000-104	OU III (LIPA)		Plume Core	X																						X	2f
000-105	OU III (LIPA)	Magothy	Plume Perimeter	X																							1a
000-130	OU III (LIPA)	Magothy	Plume Core	X	See Note																						2f
000-131	OU III (LIPA)		Bypass Detection	X																							2f
000-425	OU III (LIPA)	Magothy	Plume Core	X																							2f
000-445	OU III (LIPA)		Plume Perimeter	X																							1a
000-446	OU III (LIPA)		Plume Perimeter	X																							1a
000-447	OU III (LIPA)		Plume Core	X																							2f
000-448	OU III (LIPA)		Plume Core	X																							2f
000-449	OU III (LIPA)		Plume Core	X																							2f
000-450	OU III (LIPA)		Plume Perimeter	X																							1a
000-451	OU III (LIPA)		Bypass Detection	X																							2f
000-452	OU III (LIPA)		Bypass Detection	X																							2f
000-458	OU III (LIPA)	OU III (Magothy)	Plume Perimeter	Sample with Magothy																							1a
000-459	OU III (LIPA)	OU III (Magothy)	Plume Perimeter	Sample with Magothy																							1a

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000-460	OU III (LIPA)	OU III (Magothy)	Plume Perimeter	Sample with Magothy																							1a
000-428	OU III (Airport)	OU III (Magothy)	Plume Perimeter	Sample with Magothy																							2f
800-100	OU III (Airport)		Plume Core	X																							2f
800-101	OU III (Airport)	OU III (Magothy)	Plume Core	X																							2f
800-102	OU III (Airport)	OU III (Magothy)	Plume Core	X																							2f
800-103	OU III (Airport)		Plume Core	X																							2f
800-104	OU III (Airport)		Plume Perimeter	X																							2f
800-105	OU III (Airport)	OU III (Magothy)	Plume Perimeter	X																							2f
800-106	OU III (Airport)		Plume Core	X																							2f
800-108	OU III (Airport)		Bypass Detection	X																							4
800-126	OU III (Airport)		Bypass Detection	X																							4
800-127	OU III (Airport)		Bypass Detection	X																							4
800-128	OU III (Airport)		Bypass Detection	X																							4
800-129	OU III (Airport)		Plume Perimeter	X																							2f
800-130	OU III (Airport)		Plume Perimeter	X																							2f
800-131	OU III (Airport)		Bypass Detection	X																							4
800-133	OU III (Airport)		Bypass Detection	X																							4
800-43	OU III (Airport)		Plume Core	X																							2f
800-44	OU III (Airport)		Plume Core	X																							2f
800-50	OU III (Airport)		Plume Perimeter	X																							2f
800-59	OU III (Airport)		Plume Core	X																							2f
800-60	OU III (Airport)		Sentinel	X																							4
800-63	OU III (Airport)		Plume Core	X																							2f
800-90	OU III (Airport)	OU III (Magothy)	Plume Core	Sample with Magothy																							2f
800-92	OU III (Airport)		Plume Core	X																							2f
800-94	OU III (Airport)		Plume Core	X																							2f
800-95	OU III (Airport)		Plume Core	X																						X	2f
800-96	OU III (Airport)		Plume Perimeter	X																							2f
800-97	OU III (Airport)		Plume Core	X																							2f
800-98	OU III (Airport)		Plume Core	X																							2f
800-99	OU III (Airport)	OU III (Magothy)	Plume Core	X																						X	2f
800-138	OU III (Airport)		Plume Core	X																						X	2f
000-102	OU III (Magothy)	OU III (LIPA)		Sampled under OU III (LIPA)																							1a
000-105	OU III (Magothy)	OU III (LIPA)		Sampled under OU III (LIPA)																							1a
000-130	OU III (Magothy)	OU III LIPA	Magothy	X																							2f
000-249	OU III (Magothy)	OU III (Industrial Park)	Magothy	Sampled under OU III Industrial Park																							4
000-250	OU III (Magothy)	OU III (Industrial Park)	Magothy	Sampled under OU III Industrial Park																							1a
000-343	OU III (Magothy)	OU III North Street		X																							2f
000-425	OU III (Magothy)	OU III LIPA		X																							2f
000-428	OU III (Magothy)	OU III (Airport)		X																							4
000-458	OU III (Magothy)	OU III LIPA		X																							1a
000-459	OU III (Magothy)	OU III LIPA		X																							1a
000-460	OU III (Magothy)	OU III LIPA		X																							1a
109-12	OU III (Magothy)			X																							4
109-13	OU III (Magothy)			X																							4

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113-09	OU III (Magothy)	OU III Middle Road		Sampled under OU III Middle Road																							2f
113-19	OU III (Magothy)	OU III Middle Road		Sampled under OU III Middle Road																							4
113-22	OU III (Magothy)	OU III Middle Road		Sampled under OU III Middle Road																							2f
121-40	OU III (Magothy)	OU III (South Boundary)		X																							2f
121-44	OU III (Magothy)	OU III (South Boundary)		X																							2f
122-05	OU III (Magothy)	OU III (South Boundary)		Sampled under OU III (South Boundary)																							3bf
122-20	OU III (Magothy)	OU III (South Boundary)		Sampled under OU III (South Boundary)																							2ab
122-41	OU III (Magothy)	OU III (South Boundary)		X																							2f
130-04	OU III (Magothy)	OU III (Western South Boundary)		Sampled under OU III (Western South Boundary)																							2ab
800-101	OU III (Magothy)	OU III (Airport)		Sampled under OU III Airport																							2f
800-102	OU III (Magothy)	OU III (Airport)		Sampled under OU III Airport																							2f
800-105	OU III (Magothy)	OU III (Airport)		Sampled under OU III Airport																							2f
800-90	OU III (Magothy)	OU III Airport		X																							2f
800-99	OU III (Magothy)	OU III (Airport)		Sampled under OU III Airport																							2f
109-03	OU III (central)	Suffolk County Health Services		X																			X	X	X	X	4*
109-04	OU III (central)	Suffolk County Health Services		X																			X	X	X		4*
065-03	OU III (BGRR/WCF Sr-90)		Plume Perimeter	X																							1a
065-04	OU III (BGRR/WCF Sr-90)		Plume Perimeter	X																							1a
065-06	OU III (BGRR/WCF Sr-90)		Background	X																					X		1a
065-160	OU III (BGRR/WCF Sr-90)		Plume Perimeter																						X		1a
065-162	OU III (BGRR/WCF Sr-90)		Outer Plume Perimeter																						X		1a
065-163	OU III (BGRR/WCF Sr-90)		Background																						X		1a
065-164	OU III (BGRR/WCF Sr-90)		Plume Core																						X	X	1a
065-169	OU III (BGRR/WCF Sr-90)		Plume Perimeter																			X			X		1a
065-170	OU III (BGRR/WCF Sr-90)		Plume Perimeter																			X			X		1a
065-174	OU III (BGRR/WCF Sr-90)		Plume Core																						X		1a
065-175	OU III (BGRR/WCF Sr-90)		Plume Core																						X	X	2f
065-176	OU III (BGRR/WCF Sr-90)		Background																						X		1a
065-178	OU III (BGRR/WCF Sr-90)		Plume Perimeter																						X		1a
065-360	OU III (BGRR/WCF Sr-90)		Plume Perimeter																						X		1a
065-361	OU III (BGRR/WCF Sr-90)		Plume Core																						X		1a
065-362	OU III (BGRR/WCF Sr-90)		Plume Core																						X		1a
065-363	OU III (BGRR/WCF Sr-90)		Plume Perimeter																						X		1a
065-364	OU III (BGRR/WCF Sr-90)		Plume Core																						X		1a
065-365	OU III (BGRR/WCF Sr-90)		Plume Perimeter																						X		1a
065-405	OU III (BGRR/WCF Sr-90)	065-366 replacement	Plume Perimeter																						X		4
065-367	OU III (BGRR/WCF Sr-90)		Plume Perimeter																						X		1a
065-37	OU III (BGRR/WCF Sr-90)	OU III (AOC 29/HFBR Tritium)	Plume Perimeter																			X		x	x		2f
065-38	OU III (BGRR/WCF Sr-90)		Plume Perimeter																						X		2f
065-384	OU III (BGRR/WCF Sr-90)		Sentinel																					X			2f
065-385	OU III (BGRR/WCF Sr-90)		Sentinel																					X			2f
065-39	OU III (BGRR/WCF Sr-90)		Plume Core																						X		2f
075-189	OU III (BGRR/WCF Sr-90)		Plume Perimeter																						X		1a
075-193	OU III (BGRR/WCF Sr-90)		Plume Core																						X		1a
075-194	OU III (BGRR/WCF Sr-90)		Plume Perimeter																						X		1a

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075-201	OU III (BGRR/WCF Sr-90)		Plume Core																						X		1a
075-210	OU III (BGRR/WCF Sr-90)		Plume Perimeter																						Xf		2f
075-39	OU III (BGRR/WCF Sr-90)		Plume Perimeter																						X		1a
075-40	OU III (BGRR/WCF Sr-90)	OU III (AOC 29/HFBR Tritium)	Plume Perimeter	Sampled under OU III (AOC 29/HFBR Tritium) Program.																							1a
075-41	OU III (BGRR/WCF Sr-90)		Plume Perimeter																						X		1a
075-46	OU III (BGRR/WCF Sr-90)		Plume Perimeter																						X		1a
075-47	OU III (BGRR/WCF Sr-90)		Sentinel																						X		2f
075-48	OU III (BGRR/WCF Sr-90)		Sentinel																						X		2f
075-664	OU III (BGRR/WCF Sr-90)		Plume Core																						X		12
075-665	OU III (BGRR/WCF Sr-90)		Plume Perimeter																						X		1a
075-666	OU III (BGRR/WCF Sr-90)		Plume Core																						X		1a
075-669	OU III (BGRR/WCF Sr-90)		Plume Core																						X		1a
075-670	OU III (BGRR/WCF Sr-90)		Sentinel																						X		2f
075-671	OU III (BGRR/WCF Sr-90)		Sentinel																						X		2f
075-672	OU III (BGRR/WCF Sr-90)		Plume Perimeter																						X		1a
075-673	OU III (BGRR/WCF Sr-90)		Plume Core																						X		1a
075-674	OU III (BGRR/WCF Sr-90)		Plume Core																						X		1a
075-675	OU III (BGRR/WCF Sr-90)		Plume Core																						X		1a
075-681	OU III (BGRR/WCF Sr-90)		Sentinel																						X		1a
075-682	OU III (BGRR/WCF Sr-90)		Plume Core																						X		2f
075-683	OU III (BGRR/WCF Sr-90)		Plume Core																						X		1a
075-684	OU III (BGRR/WCF Sr-90)		Sentinel																						X		2f
075-85	OU III (BGRR/WCF Sr-90)		Plume Core																						X		1a
075-86	OU III (BGRR/WCF Sr-90)		Plume Perimeter																						X		1a
075-87	OU III (BGRR/WCF Sr-90)		Sentinel																						X		2f
075-705	OU III (BGRR/WCF Sr-90)	BGRR-2010-B	Plume Core																						X		2f
075-706	OU III (BGRR/WCF Sr-90)	BGRR-2010-C	Plume Perimeter																						X		2f
075-707	OU III (BGRR/WCF Sr-90)	BGRR-2010-D	Plume Core																						X		2f
065-401	OU III (BGRR/WCF Sr-90)	BGRR-MW-01-2011	Plume Perimeter																						X		2f
075-699	OU III (BGRR/WCF Sr-90)	BGRR-MW-02-2011	Plume Core																						X		2f
075-700	OU III (BGRR/WCF Sr-90)	BGRR-MW-03-2011	Plume Perimeter																						X		2f
065-402	OU III (BGRR/WCF Sr-90)	BGRR-MW-04-2011	Background																						X		2f
075-701	OU III (BGRR/WCF Sr-90)	BGRR-MW-05-2011	Plume Core																						X		12
065-404	OU III (BGRR/WCF Sr-90)	BGRR-MWA-2011	Plume Core																						X		2f
085-398	OU III (BGRR/WCF Sr-90)	BGRR-MW01-2012	Sentinel																						X		2f
085-399	OU III (BGRR/WCF Sr-90)	BGRR-MW02-2012	Sentinel																						X		2f
085-402	OU III (BGRR/WCF Sr-90)	BGRR-MW03-2012, 085-400	Sentinel																						X		2f
065-325	OU III (BGRR/WCF Sr-90)		Plume Core																						X		4
085-403	OU III (BGRR/WCF Sr-90)	BGRR-MW01-2015	Sentinel																						X		2f
106-100	Chemical/Animal Holes Sr-90		Plume Core																						X		1b
106-101	Chemical/Animal Holes Sr-90		Plume Core																						X		1b
106-102	Chemical/Animal Holes Sr-90		Plume Core																						X		1b
106-103	Chemical/Animal Holes Sr-90		Plume Core																						X		1b
106-104	Chemical/Animal Holes Sr-90		Plume Core																						X		1b
106-105	Chemical/Animal Holes Sr-90		Plume Core																						X		1b

Table 1-5
BNL CERCLA Groundwater Monitoring Schedule for 2021

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Well ID	Project 1	Project 2	Decision Subunit	EPA 524.2/ 8260LL VOCs	EPA 504 EDB	EPA 625 Semi-VOCs	Pesticides Method 608	PCBs Method 608	TSS/TDS	Sufates/Chloride/Alkalinity	TK Nitrogen	Total Nitrogen	Nitrates	Nitrites	Ammonia	TAL Metals	Total Chromium	Hexavalent Chromium	Cyanide	Perchlorate	EPA 900 Gross Alpha/Beta	Isotopic Cs -137	EPA 901 Gamma Spec	EPA 906 Tritium	EPA 905 Sr 90	Blind Duplicate/MS/MSD	Frequency (events/year)
106-119	Chemical/Animal Holes Sr-90		Plume Core																						X		1b
106-120	Chemical/Animal Holes Sr-90		Bypass Detection																						X		1b
106-121	Chemical/Animal Holes Sr-90		Bypass Detection																						X		1b
106-122	Chemical/Animal Holes Sr-90		Bypass Detection																						X		1b
106-125	Chemical/Animal Holes Sr-90		Plume Core																						X		1b
106-13	Chemical/Animal Holes Sr-90		Plume Perimeter																						X		1b
106-14	Chemical/Animal Holes Sr-90		Plume Perimeter																						X		1b
106-16	Chemical/Animal Holes Sr-90		Plume Core																						X		1b
106-46	Chemical/Animal Holes Sr-90		Plume Perimeter																						X		1b
106-47	Chemical/Animal Holes Sr-90		Plume Perimeter																						X	X	1b
106-48	Chemical/Animal Holes Sr-90		Plume Perimeter																						X		1b
106-49	Chemical/Animal Holes Sr-90		Plume Core																						X	X	1b
106-50	Chemical/Animal Holes Sr-90		Plume Core																						X		1b
106-94	Chemical/Animal Holes Sr-90		Plume Core																						X		1b
106-95	Chemical/Animal Holes Sr-90		Plume Core																						X		1b
106-96	Chemical/Animal Holes Sr-90		Plume Core																						X		1b
106-98	Chemical/Animal Holes Sr-90		Plume Core																						X		1b
106-99	Chemical/Animal Holes Sr-90		Plume Core																						X		1b
106-135	Chemical/Animal Holes Sr-90	CH-MW01-2012	Plume Core																						X		1b
097-313	Chemical/Animal Holes Sr-90	CAH-MW01-2015	Plume Core																						X		2d
097-314	Chemical/Animal Holes Sr-90	CAH-MW02-2015	Plume Core																						X		2d
097-315	Chemical/Animal Holes Sr-90	CAH-MW03-2015	Plume Core																						X		2d
106-136	Chemical/Animal Holes Sr-90	CAH-MW04-2015	Plume Core																						X		1b
075-11	HFBR		Plume Perimeter																					X			4
075-288	HFBR		Plume Perimeter																					X			4
075-40	HFBR	BGRR-Sr-90	Plume Perimeter																					X			4
075-802	HFBR	HFBR-MW01-2018	Plume Core																					X			4
075-803	HFBR	HFBR-MW02-2018	Plume Core																					X			4
075-804	HFBR	HFBR-MW03-2018	Plume Core																					X		X	4
075-805	HFBR	HFBR-MW04-2018	Plume Core																					X			4
075-806	HFBR	HFBR-MW05-2018	Plume Core																					X			4
075-807	HFBR	HFBR-MW06-2018	Plume Core																					X			4
075-808	HFBR	HFBR-MW07-2018	Plume Core																					X			4
066-189	OU IV (AOC 6 Sr-90)		Background																						X		1b
076-07	OU IV (AOC 6 Sr-90)		Plume Perimeter																						X		1b
076-13	OU IV (AOC 6 Sr-90)		Plume Core																						X	X	2d
076-168	OU IV (AOC 6 Sr-90)		Plume Perimeter																						X		2d
076-169	OU IV (AOC 6 Sr-90)		Plume Core																						X	X	2d
076-181	OU IV (AOC 6 Sr-90)		Plume Perimeter																						X		1b
076-182	OU IV (AOC 6 Sr-90)		Sentinel																						X		1b
076-184	OU IV (AOC 6 Sr-90)		Plume Perimeter																						X		2d
076-22	OU IV (AOC 6 Sr-90)		Plume Perimeter																						X		1b
076-24	OU IV (AOC 6 Sr-90)		Plume Perimeter																						X		2d
076-25	OU IV (AOC 6 Sr-90)		Plume Perimeter																						X		2d
076-262	OU IV (AOC 6 Sr-90)		Plume Perimeter																						X		1b

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Well ID	Project 1	Project 2	Decision Subunit	EPA 524.2/ 8260LL VOCs	EPA 504 EDB	EPA 625 Semi-VOCs	Pesticides Method 608	PCBs Method 608	TSS/TDS	Sufates/Chloride/Alkalinity	TK Nitrogen	Total Nitrogen	Nitrates	Nitrites	Ammonia	TAL Metals	Total Chromium	Hexavalent Chromium	Cyanide	Perchlorate	EPA 900 Gross Alpha/Beta	Isotopic Cs -137	EPA 901 Gamma Spec	EPA 906 Tritium	EPA 905 Sr 90	Blind Duplicate/MS/MSD	Frequency (events/year)
076-28	OU IV (AOC 6 Sr-90)		Plume Perimeter																						Xd		2d
076-317	OU IV (AOC 6 Sr-90)		Plume Perimeter																						X		1b
076-373	OU IV (AOC 6 Sr-90)		Plume Perimeter																						X		1b
076-415	OU IV (AOC 6 Sr-90)	650-MW01-2010	Plume Perimeter																						X		2d
076-416	OU IV (AOC 6 Sr-90)	650-MW02-2010	Plume Perimeter																						X		2d
076-06	OU IV (AOC 6 Sr-90)																								X		2d
076-20	OU IV (AOC 6 Sr-90)																								X		1b
076-04	OU IV (AOC 6 Sr-90)																								X		1b
076-418	OU IV (AOC 6 Sr-90)	B650-MW-01-2020																							X		2d
076-419	OU IV (AOC 6 Sr-90)	B650-MW-02-2020																							X		2d
076-420	OU IV (AOC 6 Sr-90)	B650-MW-03-2020																							X		2d
076-421	OU IV (AOC 6 Sr-90)	B650-MW-04-2020																							X		2d
000-173	OU VI EDB		Plume Core		X																					X	1a
000-175	OU VI EDB		Plume Core		X																						1a
000-178	OU VI EDB		Plume Core		X																						2f
000-209	OU VI EDB		Plume Core		X																						1a
000-283	OU VI EDB		Plume Core		X																						2f
000-284	OU VI EDB		Plume Core		X																						2f
000-498	OU VI EDB		Plume Perimeter		X																						2f
000-499	OU VI EDB		Plume Perimeter		X																						2f
000-500*	OU VI EDB		Plume Core		X																						4
000-501	OU VI EDB		Plume Perimeter		X																						2f
000-507	OU VI EDB		Plume Core		X																						2f
000-508	OU VI EDB		Bypass Detection		X																						4
000-519	OU VI EDB		Bypass Detection		X																						4
000-520	OU VI EDB	EDB-MW-01-2011	Plume Core		X																						2f
000-524	OU VI EDB	EDB-MW-01-2012	Plume Perimeter		X																						2f
000-527	OU VI EDB	EDB-MW01-2013	Bypass Detection		X																						4
000-549	OU VI EDB	EDB-MW01-2019			X																						4
000-550	OU VI EDB	EDB-MW02-2019			X																						4
000-567	OU VI EDB	OUVIEDB-MW01-2020			X																						4
000-568	OU VI EDB	OUVIEDB-MW02-2020			X																						4
017-01	Site Background		Background	X																							1b
017-03	Site Background		Background	X																							1b
017-04	Site Background		Background	X																							1b
018-01	Site Background		Background	X																							1b
018-02	Site Background		Background	X																							1b
018-04	Site Background		Background	X																							1b
018-05	Site Background		Background	X																							1b
034-02	Site Background		Background	X																							1b
034-03	Site Background		Background	X																							1b
087-09	CLF		Background	Xf					Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf			Xf								2f
087-11	CLF		Downgradient	Xf					Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf			Xf								2f
087-23	CLF		Downgradient	Xf					Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf			Xf				Xa	Xa	Xa		2f
087-24	CLF		Downgradient	Xa					Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf			Xf								2f

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BNL CERCLA Groundwater Monitoring Schedule for 2021

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Well ID	Project 1	Project 2	Decision Subunit	EPA 524.2/ 8260LL VOCs	EPA 504 EDB	EPA 625 Semi-VOCs	Pesticides Method 608	PCBs Method 608	TSS/TDS	Sufates/Chloride/Alkalinity	TK Nitrogen	Total Nitrogen	Nitrates	Nitrites	Ammonia	TAL Metals	Total Chromium	Hexavalent Chromium	Cyanide	Perchlorate	EPA 900 Gross Alpha/Beta	Isotopic Cs -137	EPA 901 Gamma Spec	EPA 906 Tritium	EPA 905 Sr 90	Blind Duplicate/MS/MSD	Frequency (events/year)
087-26	CLF		Downgradient	Xf					Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf			Xf								2f
087-27	CLF		Downgradient	Xf					Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf			Xf				Xa	Xa	Xa		2f
088-109	CLF		Downgradient	X					Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf			Xf				Xa	Xa	Xa	X	4
088-110	CLF		Downgradient	Xf					Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf			Xf								2f
088-21	CLF		Downgradient	Xf					Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf			Xf				Xa	Xa	Xa		2f
088-22	CLF		Downgradient	Xa					Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa			Xa								1a
088-23	CLF		Downgradient	Xa					Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa			Xa								1a
098-99	CLF OUI-MW01-2017	OU I (South Boundary)	Downgradient	X																							4

NOTES:
a: Collect in 4th Quarter only.
b: Collect in 3rd Quarter Only.
d: Collect in 1st and 3rd Quarters
f: Collect in 2nd and 4th Quarters.
g: Sample during 4th quarter in in even numbered years. Next sampling in CY2018.
* sample the wells the first week of February, May, August, and November from now on due to County request

Table 1-6
Summary of Environmental Surveillance Samples and Analytical Methods

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Well ID	Area	Sub Area	Decision Subunit	EPA 524.2 VOCs	EPA 625 Semi-VOCs	EPA 608 Pest/PCBs	Sulfate/Chloride/Nitrate	Metals	EPA 900 Gross Alpha/Beta	EPA 901 Gamma Spec	EPA 906 Tritium	EPA 905 Sr-90	Floating Product	Frequency (events/year)
054-61	BLIP		Upgradient								X			(a)
064-46	BLIP		Upgradient								X			1
064-47	BLIP		Downgradient								X			2
064-48	BLIP		Downgradient								X			2
064-49	BLIP		Downgradient								X			0
064-50	BLIP		Downgradient								X			0
064-67	BLIP		Downgradient								X			2
054-08	AGS	NSRL	Downgradient								X			1
054-191	AGS	NSRL	Downgradient								X			1
064-51	AGS	Booster Beam Stop	Downgradient								X			1
064-52	AGS	Booster Beam Stop	Downgradient								X			1
064-03	AGS	B-914	Downgradient								X			1
064-53	AGS	B-914	Downgradient								X			1
064-54	AGS	B-914	Downgradient								X			1
054-62	AGS	Bkgd. J-10 Beam Stop	Upgradient								X			1
054-63	AGS	J-10 Beam Stop	Downgradient								X			1
054-64	AGS	J-10 Beam Stop	Downgradient								X			1
054-65	AGS	g-2 Beam Stop/Plume Sou	Upgradient								X			1
054-66	AGS	g-2 Beam Stop	Downgradient								X			1
054-67	AGS	g-2 Beam Stop	Downgradient								X			1
054-68	AGS	g-2 Beam Stop	Downgradient								X			1
054-124	AGS	g-2 Beam Stop	Downgradient								X			1
054-125	AGS	g-2 Beam Stop	Downgradient								X			1
054-127	AGS	Fm. U-Line Target	Upgradient								X			1
054-128	AGS	Fm. U-Line Target	Downgradient								X			1
054-129	AGS	Fm. U-Line Target	Downgradient								X			1
054-130	AGS	Fm. U-Line Target	Downgradient								X			1
054-168	AGS	Fm. U-Line Stop	Downgradient								X			1
054-169	AGS	Fm. U-Line Stop	Downgradient								X			1
054-69	AGS	B-912	Upgradient								X			1
055-14	AGS	B-912	Upgradient								X			1
065-120	AGS	B-912	Downgradient								X			1
065-125	AGS	B-912	Downgradient								X			1

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065-126	AGS	B-912	Downgradient								X			1
065-195	AGS	B-912	Downgradient								X			1
055-31	AGS	B-912	Downgradient								X			1
055-15	AGS	B-912	Downgradient								X			1
055-16	AGS	B-912	Downgradient								X			1
065-192	AGS	B-912	Downgradient								X			1
055-29	AGS	B-912	Downgradient								X			1
055-30	AGS	B-912	Downgradient								X			1
055-32	AGS	B-912	Downgradient								X			1
065-121	AGS	B912/g-2 Tritium Plume	Downgradient								X			1
065-122	AGS	B912/g-2 Tritium Plume	Downgradient								X			1
065-193	AGS	B-912/g-2 Tritium Plume	Downgradient								X			1
065-123	AGS	B-912/g-2 Tritium Plume	Downgradient								X			1
065-124	AGS	B-912/g-2 Tritium Plume	Downgradient								X			1
065-194	AGS	B-912/g-2 Tritium Plume	Downgradient								X			1
065-321	AGS	B-912/g-2 Tritium Plume	Downgradient								X			1
065-322	AGS	B-912/g-2 Tritium Plume	Downgradient								X			1
065-323	AGS	B-912/g-2 Tritium Plume	Downgradient								X			1
065-324	AGS	B-912/g-2 Tritium Plume	Downgradient								X			1
064-55	AGS	E-20 Catcher	Downgradient								X			1
064-56	AGS	E-20 Catcher	Downgradient								X			1
064-80	AGS	E-20 Catcher	Downgradient								X			1
054-07	AGS/g-2	g-2 Tritium Plume Source	Downgradient								X			2
054-184	AGS/g-2	g-2 Tritium Plume Source	Downgradient								X			2
054-185	AGS/g-2	g-2 Tritium Plume Source	Downgradient								X			2
064-95	AGS/g-2	g-2 Tritium Plume Source	Downgradient								X			2
054-126	AGS/g-2	g-2 Tritium Plume Source	Downgradient								X			2
025-01	RHIC	B/Y Beam Stop Area	Upgradient								X			2
025-03	RHIC	B/Y Beam Stop Area	Downgradient								X			2
025-04	RHIC	B/Y Beam Stop Area	Downgradient								X			2
025-05	RHIC	B/Y Beam Stop Area	Downgradient								X			2
025-06	RHIC	B/Y Beam Stop Area	Downgradient								X			2
025-07	RHIC	B/Y Beam Stop Area	Downgradient								X			2

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025-08	RHIC	B/Y Beam Stop Area	Downgradient								X			2
034-05	RHIC	B/Y Collimator Area	Downgradient								X			2
034-06	RHIC	B/Y Collimator Area	Downgradient								X			2
043-01	RHIC	B/Y Collimator Area	Downgradient								X			2
043-02	RHIC	B/Y Collimator Area	Downgradient								X			2
044-13	RHIC	B/Y Collimator Area	Downgradient								X			2
044-14	RHIC	B/Y Collimator Area	Downgradient								X			2
044-29	RHIC	W-Line Stop	Downgradient								X			2
084-12	BMRR		Downgradient											0(d)
084-13	BMRR		Downgradient											0(d)
084-27	BMRR		Downgradient											0(d)
084-28	BMRR		Upgradient											0(d)
102-05	Motor Pool	Gasoline USTs	Downgradient	X									X	1
102-06	Motor Pool	Gasoline USTs	Downgradient	X									X	1
102-08	Motor Pool	B-326	Upgradient											0(a)
102-10	Motor Pool	B-326/USTs	Downgradient											0
102-11	Motor Pool	B-326	Downgradient											0
102-12	Motor Pool	B-326	Downgradient											0
102-13	Motor Pool	B-326	Downgradient											0
055-03	WMF	Bkgd.	Upgradient	X			X(b)	X(b)	X	X	X			2
055-10	WMF	Bkgd.	Upgradient	X			X(b)	X(b)	X	X	X			2
056-21	WMF	RCRA Bldg.	Downgradient	X			X(b)	X(b)	X	X	X			2(e)
056-22	WMF	Rad. Bldg.	Downgradient	X			X(b)	X(b)	X	X	X			2(e)
056-23	WMF	Rad. Bldg.	Downgradient											(e)
066-07	WMF	Bkgd	Upgradient											(e)
066-83	WMF	Mixed Waste Bldg.	Downgradient											(e)
066-84	WMF	Rad. Bldg.	Downgradient											(e)
066-220	WMF	RCRA Bldg.	Downgradient	X			X(b)	X(b)	X	X	X			2
066-221	WMF	RCRA Bldg.	Downgradient	X			X(b)	X(b)	X	X	X			2
066-222	WMF	Rad. Bldg.	Downgradient	X			X(b)	X(b)	X	X	X			2
066-223	WMF	Rad. Bldg.	Downgradient	X			X(b)	X(b)	X	X	X			2
066-224	WMF	Mixed Waste Bldg.	Downgradient											0(f)

Table 1-6
Summary of Environmental Surveillance Samples and Analytical Methods

2021 BNL Groundwater Status Report

Well ID	Area	Sub Area	Decision Subunit	EPA 524.2 VOCs	EPA 625 Semi-VOCs	EPA 608 Pest/PCBs	Sulfate/Chloride/Nitrate	Metals	EPA 900 Gross Alpha/Beta	EPA 901 Gamma Spec	EPA 906 Tritium	EPA 905 Sr-90	Floating Product	Frequency (events/year)
076-16	MPF	Tank Area	Downgradient	X	X								X(c)	2
076-17	MPF	Tank Area	Downgradient	X	X								X(c)	2
076-18	MPF	Tank Area	Downgradient	X	X						X(g)		X(c)	2
076-19	MPF	Tank Area	Downgradient	X	X						X(g)		X(c)	2
076-25	MPF	Tank Area	Upgradient	X	X								X(c)	2
076-378	MPF	Tank Area	Downgradient	X	X								X(c)	2
076-379	MPF	Tank Area	Downgradient	X	X								X(c)	2
076-380	MPF	Tank Area	Downgradient	X	X								X(c)	2
039-87	STP	Recharge Basins - Upgrad	Downgradient					X						1
039-88	STP	Holding Ponds/Recharge B	Downgradient					X						1
039-89	STP	Holding Ponds/Recharge B	Downgradient					X						1
039-90	STP	Holding Ponds	Downgradient											0
039-115	STP	Recharge Basins	Downgradient					X						1
048-08	STP	Recharge Basins	Downgradient					X						1
048-09	STP	Recharge Basins	Downgradient					X						1
048-10	STP	Recharge Basins	Downgradient					X						1
076-18	NSLS-II	Linac	Upgradient								X			1(h)
076-19	NSLS-II	Linac	Upgradient								X			1(h)
086-123	NSLS-II	Linac	Downgradient								X			1
086-124	NSLS-II	Linac	Downgradient								X			1
086-125	NSLS-II	Linac	Downgradient								X			1
086-126	NSLS-II	Linac	Downgradient								X			1

Notes:
AGS = Alternating Gradient Synchrotron
BLIP = Brookhaven Linear Isotope Producer

(a) Upgradient well, not routinely monitored.

(b) Anions and metals analyzed annually.

(c) MPF wells tested monthly for floating petroleum.

(d) BMRR wells sampled every 2 years; 2020, 2022, 2024, etc.

(e) Well sampled only if groundwater flow directions are to the north.

(f) Well will not be routinely monitored following closure of Mixed Waste Building.

(g) Well sampled for tritium during planned MPF monitoring schedule (NSLS-II Backgroud).

Table 1-7
Summary of Monitoring Wells and Piezometers

2021 BNL Groundwater Status Report

Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
000-37	Water Levels	18-28	33	42.3	SG
000-38	Water Levels	29-39	41	56.4	SG
000-40	Water Levels	24-34	36	66.5	SG
000-97	OU III Off-site, Water Levels	284-304	310	101.3	MAG
000-98	OU III Off-site, Water Levels	190-210	215	100.1	DG
000-99	OU III Off-site, Water Levels	83-93	98	100.1	SG
000-100	Water Levels	79-89	94	100.9	SG
000-101	OU III LIPA, Water Levels	185-205	210	101.4	DG
000-102	OU III LIPA, Magothy, Water Levels	305-325	330	101.2	MAG
000-103	Water Levels	82-92	97	106.5	SG
000-104	OU III LIPA, Water Levels	195-215	220	106.2	DG
000-105	OU III LIPA, Magothy, Water Levels	275-295	300	105.5	MAG
000-106	Water Levels	90-100	105	115.2	SG
000-107	OU III Off-site, Water Levels	195-215	220	116.0	DG
000-108	OU III North Street, Water Levels	215-225	225	69.0	DG
000-109	Water Levels	50-60	65	68.7	SG
000-110	OU VI EDB, Water Levels	97-107	112	52.2	SD
000-111	Water Levels	35-45	50	55.3	SG
000-112	OU III Industrial Park, Water Levels	175-185	190	72.1	DG
000-113	Water Levels	69-79	84	72.1*	SG
000-114	OU III Industrial Park, Water Levels	130-140	145	72.5	MG
000-115	Water Levels	74-84	89	94.2	SD
000-117	Water Levels	55-65	70	86.1	SD
000-118	Water Levels	150-160	165	78.4	DG
000-119	Water Levels	110-120	125	78.4	DG
000-120	Water Levels	45-55	60	78.4	SG
000-121	Water Levels	51-61	66	87.6	SD
000-122	OU V, Water Levels	240-260	265	43.0	DG
000-123	OU V, Water Levels	150-170	175	43.0	MG
000-124	OU III North Street East, Water Levels	115-125	130	63.0	SD
000-130	OU III LIPA, Magothy, Water Levels	275-285	295	87.4	MAG
000-131	OU III LIPA, Water Levels	220-230	235	100.8	DG
000-137	OU III North Street East, Water Levels	98-118	123	60.9	SG
000-138	OU III North Street East, Water Levels	158-178	183	61.2	DG
000-141	OU V, Water Levels	37-57	62	48.1	SG
000-142	OU V, Water Levels	145-165	170	48.4	DG
000-143	OU V, Water Levels	240-260	265	48.7	MAG
000-144	OU V, Water Levels	25-45	50	41.0	SG
000-145	OU V, Water Levels	130-150	155	41.1	DG
000-146	OU V, Water Levels	239-259	264	41.3	MAG
000-147	OU V, Water Levels	34-54	59	43.0	SG
000-148	Water Levels	84-89	89	65.0	SG
000-150	Water Levels	28-32	32	77.6	SG
000-152	Water Levels	32-36	36	56.5	SG
000-153	OU III North Street, Water Levels	190-210	215	94.4	DG
000-154	OU III North Street, Water Levels	193-203	208	97.4	DG
000-173	OU VI EDB, Water Levels	106-116	121	54.8	DG
000-174	OU VI EDB, Water Levels	56-66	71	57.1	DG

Table 1-7
Summary of Monitoring Wells and Piezometers

2021 BNL Groundwater Status Report

Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
000-175	OU VI EDB, Water Levels	100-110	115	50.4	DG
000-176	OU VI EDB, Water Levels	55-65	70	49.7	DG
000-177	OU VI EDB, Water Levels	106-116	121	60.1	DG
000-178	OU VI EDB, Water Levels	128-138	143	58.0	DG
000-179	OU VI EDB, Water Levels	117-127	132	56.1	DG
000-180	OU VI EDB, Water Levels	140-155	160	51.8	DG
000-201	OU VI EDB, Water Levels	93-103	108	50.3	DG
000-209	OU VI EDB, Water Levels	94-104	109	50.7	DG
000-211	OU III Industrial Park East, North Street, Water Levels	212-232	232	73.4	DG
000-212	OU III North Street, Water Levels	200-210	215	74.0	DG
000-213	OU III North Street, Water Levels	185-205	210	86.1	DG
000-215	OU III North Street East, Water Levels	260-270	275	64.0	DG
000-245	OU III Industrial Park, Water Levels	202-222	227	80.7	DG
000-246	OU III Industrial Park, Water Levels	133-143	145	82.2	MG
000-247	OU III Industrial Park	178-183	184	82.2	DG
000-248	OU III Industrial Park, Water Levels	230-235	238	82.2	DG
000-249	OU III Industrial Park	259-269	270	82.5	MAG
000-249	OU III Magothy, Water Levels	259-269	270	82.5	MAG
000-250	OU III Industrial Park, Magothy, Water Levels	293-303	304	82.9	MAG
000-251	OU III Industrial Park	133-143	144	81.9	MG
000-252	OU III Industrial Park	169-174	175	81.9	MG
000-253	OU III Industrial Park, Water Levels	223-228	229	81.9	DG
000-254	OU III Industrial Park	128-138	139	79.9	MG
000-255	OU III Industrial Park	165-170	171	79.9	MG
000-256	OU III Industrial Park, Water Levels	220-225	226	79.9	DG
000-257	OU III Industrial Park	109-119	120	73.9	MG
000-258	OU III Industrial Park	145-150	151	73.9	MG
000-259	OU III (Industrial Park), Water Levels	200-205	206	73.9	DG
000-260	OU III Industrial Park	95-105	106	71.4	SG
000-261	OU III Industrial Park	130-135	136	71.4	MG
000-262	OU III Industrial Park, Water Levels	180-185	186	71.4	DG
000-263	OU III Industrial Park	118-128	129	83.4	MG
000-264	OU III Industrial Park, Water Levels	155-160	161	83.4	MG
000-265	OU III Industrial Park, Water Levels	210-215	216	83.4	DG
000-266	OU III Industrial Park, Water Levels	119-129	130	84.9	MG
000-267	OU III Industrial Park	158-163	164	84.9	MG
000-268	OU III Industrial Park	213-218	219	84.9	DG
000-269	OU III Industrial Park, Water Levels	116-126	127	83.7	MG
000-270	OU III Industrial Park	152-157	158	83.9	MG
000-271	OU III Industrial Park, Water Levels	213-218	219	83.7	DG
000-272	OU III Industrial Park, Water Levels	181-201	206	80.1	DG
000-273	OU III Industrial Park, Water Levels	175-195	196	86.8	DG
000-274	OU III Industrial Park, Water Levels	232-252	253	88.4	MAG
000-275	OU III Industrial Park	124-144	145	85.2	MG
000-276	OU III Industrial Park	154-174	175	85.3	MG
000-277	OU III Industrial Park	137-157	158	81.8	MG
000-278	OU III Industrial Park,Water Levels	184-204	205	82.5	DG
000-279	OU III Industrial Park	183-203	208	72.7	DG

Table 1-7
Summary of Monitoring Wells and Piezometers

2021 BNL Groundwater Status Report

Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
000-283	OU VI EDB, Water Levels	102-112	117	52.6	DG
000-284	OU VI EDB, Water Levels	102-112	117	53.0	DG
000-285	OU VI EDB, Water Levels	145-155	160	103.6	DG
000-311	Water Levels	135-145	146	83.5	MG
000-343	OU III Magothy, Water Levels	320-340	345	61.0	MAG
000-394	OU I South Boundary	168-188	193	65.7	DG
000-425	OU III LIPA, Magothy, Water Levels	305-325	325	109.2	MAG
000-426	OU III Magothy,Water Levels	290-310	315	77.8	MAG
000-427	OU III Magothy, Water Levels	265-285	290	75.7	MAG
000-428	OU III Magothy, Water Levels	293-303	308	99.3	MAG
000-429	OU III Magothy, Water Levels	290-310	315	75.7	MAG
000-431	OU III Industrial Park, Water Levels	250-270	275	99.9	DG
000-432	OU III Industrial Park, Water Levels	220-240	245	85.2	DG
000-433	OU III Industrial Park East (EW-1)	235-255	258	--	MAG
000-436	OU III Industrial Park East (EW-2)	295-315	318	--	MAG
000-445	OU III LIPA, Water Levels	209-229	232	108.8	DG
000-446	OU III LIPA	202-222	225	115.4	DG
000-447	OU III LIPA, Water Levels	209-229	232	102.9	DG
000-448	OU III LIPA	202-222	225	105.4	DG
000-449	OU III LIPA	183-203	208	112.8	DG
000-450	OU III LIPA, Water Levels	198-218	221	114.1	MAG
000-451	OU III LIPA	188-198	201	101.2	DG
000-452	OU III LIPA, Water Levels	212-222	225	105.7	MAG
000-453	OU III Airport (EW-1L)	217-237	240	105.9	DG
000-455	OU III Airport (EW-2L)	224-244	247	108.6	DG
000-457	OU III Airport (EW-3L)	216-236	239	112.2	DG
000-458	OU III Magothy, Water Levels	291-311	316	103.0	MAG
000-459	OU III Magothy, Water Levels	294-314	319	107.1	MAG
000-460	OU III LIPA, Magothy, Water Levels	290-310	315	108.8	MAG
000-461	OU III Airport (EW-4L)	304-324	327	111.8	MAG
000-463	OU III North Street	163-173	178	102.1	DG
000-464	OU III North Street	183-203	208	101.5	DG
000-465	OU III North Street	185-195	200	104.6	DG
000-466	OU III North Street	180-190	195	92.3	DG
000-467	OU III North Street	202-212	217	89.7	DG
000-468	OU III North Street	162-182	185	96.3	DG
000-469	OU III North Street	197-217	222	96.4	DG
000-470	OU III North Street	170-180	185	97.9	DG
000-471	OU III North Street (NS-1)	165-205	208	101.4	DG
000-472	OU III North Street	206-216	221	96.8	DG
000-473	OU III North Street (NS-2)	190-220	223	94.1	DG
000-474	OU III North Street	195-205	210	84.0	DG
000-475	OU III North Street	187-207	212	78.9	DG
000-476	OU III North Street	195-215	220	104.5	DG
000-477	OU III North Street East	165-175	180	95.0	DG
000-478	OU III North Street East, Water Levels	167-177	182	101.1	DG
000-479	OU III North Street East	165-175	180	98.2	DG
000-480	OU III North Street East, Water Levels	167-177	182	103.0	DG

Table 1-7
Summary of Monitoring Wells and Piezometers

2021 BNL Groundwater Status Report

Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
000-481	OU III North Street East	169-179	184	94.2	DG
000-482	OU III North Street East	157-167	172	84.6	DG
000-483	OU III North Street East, Water Levels	159-169	174	86.1	DG
000-484	OU III North Street East	165-175	180	92.3	DG
000-485	OU III North Street East	160-170	175	88.0	DG
000-486	OU III North Street East, Water Levels	160-170	175	88.4	DG
000-487	OU III North Street East (NSE-1)	161-191	194	90.4	DG
000-488	OU III North Street East (NSE-2)	152-182	185	80.6	DG
000-489	OU III Industrial Park East	215-235	240	78.1	MAG
000-490	OU III Industrial Park East	245-265	270	77.7	MAG
000-491	OU III Industrial Park East	215-235	240	66.8	MAG
000-492	OU III Industrial Park East	245-265	270	66.5	MAG
000-493	OU III Industrial Park East	240-260	265	75.6	MAG
000-494	OU III Industrial Park East	300-320	325	76-08	MAG
000-495	OU III Industrial Park East	235-255	260	82.5	MAG
000-497	OU VI EDB	100-120	125	81.9	MG
000-498	OU VI EDB, Water Levels	125-145	150	81.9	DG
000-499	OU VI EDB	100-120	125	67.6	DG
000-500	OU VI EDB, Water Levels	125-145	150	67.6	DG
000-501	OU VI EDB, Water Levels	115-135	140	74.7	DG
000-503	OU VI EDB (EW-1)	115-135	138	70.4	DG
000-504	OU VI EDB (EW-2)	115-135	138	69.9	DG
000-507	OU VI EDB, Water Levels	115-135	140	75.9	DG
000-508	OU VI EDB, Water Levels	110-130	135	71.6	DG
000-513	OU III Industrial Park East	235-255	260	68.1	DG
000-514	OU III Industrial Park East	225-245	250	72.7	DG
000-519	OU VI EDB	120-140	145	71.4	DG
000-520	OU VI EDB	135-145	150	66.4	DG
000-524	OU VI EDB	135-145	150	68.3	DG
000-525	OU III North Street East	155-165	170	69.8	DG
000-526	OU III Industrial Park East	330-350	355	113.0	MAG
000-527	OU VI EDB	140-150	155	71.2	DG
000-528	OU III Industrial Park	215-225	230	73.0	DG
000-529	OU III Industrial Park	210-220	225	71.4	DG
000-530	OU III Industrial Park	205-215	220	75.0	DG
000-531	OU III Industrial Park	200-210	215	76.2	DG
000-532	OU III Industrial Park (IP-EW-8)	230-250	253	75.0	MAG
000-533	OU III Industrial Park (IP-EW-9)	220-240	243	72.2	MAG
000-537	OU III Industrial Park	240-250	255	72.6	MAG
000-538	OU III Industrial Park	210-220	225	72.7	MAG
000-539	OU III Industrial Park	235-245	250	70.9	MAG
000-540	OU III Industrial Park	220-230	235	70.8	MAG
000-541	OU III Industrial Park	230-240	245	70.5	MAG
000-542	OU III Industrial Park	230-240	245	74.2	MAG
000-543	OU III Industrial Park	225-235	240	72.7	MAG
000-544	OU III Industrial Park	220-240	245	76.7	MAG
000-548	OU III Industrial Park	230-240	245	76.7	MAG
000-549	OUVI EDB	140-150	155	58.9	DG

Table 1-7
Summary of Monitoring Wells and Piezometers

2021 BNL Groundwater Status Report

Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
000-550	OUVI EDB	125-135	140	64.2	DG
000-551	OU III North Street East	170-180	185	64.4	DG
000-552	OU III North Street East	150-160	165	64.7	DG
000-553	OU III North Street East	170-180	185	64.1	DG
000-554	OU III North Street East	190-200	205	82.4	DG
000-555	OU III North Street East	195-205	210	86.8	DG
000-558	OU III Western South Boundary	160-170	175	89.9	DG
000-559	OU III Western South Boundary	210-220	225	90.1	DG
000-560	OU III Western South Boundary	154-164	169	84.0	DG
000-561	OU III North Street East EW-03	196-215	218	83.8	DG
000-562	OU III North Street East EW-04	182-202	205	70.3	DG
000-563	OU III North Street East	192-202	207	82.6	DG
000-564	OU III North Street East	183-193	198	72.2	DG
000-565	OU III North Street East	200-220	225	90.6	DG
000-566	OU III North Street East	200-220	225	90.6	DG
000-567	OU III North Street East	140-150	155	64.6	DG
000-568	OU III North Street East	155-165	170	64.5	DG
000-570	OU VI EDB	155-165	170	61.0	DG
000-571	OU VI EDB	170-180	185	69.9	DG
000-572	OU VI EDB	195-205	210	67.1	DG
007-02	Water Levels	252-257	262	62.0	MAG
007-03	Water Levels	--	23	55.3	SG
007-04	Water Levels	15-35	40	60.2	SG
007-05	Water Levels	200-205	210	60.3	DG
013-01	Water Levels	23-43	48	68.3	SD
017-01	Site Background, Water Levels	15-25	30	63.1	SG
017-02	Water Levels	85-95	100	63.5	SG
017-03	Site Background, Water Levels	115-125	130	63.7	DG
017-04	Site Background, Water Levels	162-167	172	64.4	MAG
018-01	Site Background, Water Levels	5-35	40	53.3	SG
018-02	Site Background, Water Levels	65-85	90	53.0	SG
018-04	Site Background, Water Levels	140-150	155	53.4	DG
018-05	Site Background, Water Levels	270-280	285	53.9	MAG
020-01	Water Levels	5-15	20	50.4	SG
021-01	Water Levels	18-28	33	60.5	SG
022-01	Water Levels	13-33	38	57.7	SG
025-02	Water Levels	29-39	39	75.5	SG
025-03	RHIC, Water Levels	38-53	58	93.0	SG
025-04	RHIC, Water Levels	38-53	58	92.6	SG
025-05	RHIC, Water Levels	4-19	24	55.9	SG
025-06	RHIC, Water Levels	5-20	25	56.1	SG
025-07	RHIC, Water Levels	6-21	26	58.3	SG
025-08	RHIC, Water Levels	5-20	24.8	57.2	SG
026-02	Water Levels	4-14	19	52.6	SG
027-01	Water Levels	13-23	28	58.4	SG
029-01	Water Levels	5-10	10	47.9	SG
030-01	Water Levels	24-27	27	51.7	SG
034-01	Water Levels	12-22	27	57.7	SG

Table 1-7
Summary of Monitoring Wells and Piezometers

2021 BNL Groundwater Status Report

Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
034-02	Site Background, Water Levels	130-140	145	57.6	DG
034-03	Site Background, Water Levels	170-180	185	57.8	DG
034-04	Water Levels	249-254	259.9	57.5	MAG
034-05	RHIC, Water Levels	35-50	55	89.8	SG
034-06	RHIC	34-49	54	88.5	SG
034-06	Water Levels	34-49	54	88.5	SG
036-02	Water Levels	14-24	29	58.9	SG
037-01	Water Levels	20-40	45	63.6	SG
037-02	OU V, Water Levels	31-41	46	72.6	SG
037-03	OU V, Water Levels	90-100	105	73.6	SG
037-04	OU V, Water Levels	178-188	193	74.1	DG
038-01	Water Levels	5-25	30	54.1	SG
038-02	STP, Water Levels	13-23	28	57.7	SG
038-03	STP, Water Levels	6-18	21	59.6	SG
038-04	Water Levels	19-29	32	66.9	SG
038-05	Water Levels	38-43	48	59.0	SG
038-06	Water Levels	39-44	49	59.3	SG
039-05	Water Levels	4-24	29	46.4	SG
039-06	Water Levels	5-10	10	47.4	SG
039-07	STP, Water Levels	15-25	30	56.6	SG
039-08	STP, Water Levels	17-27	32	58.7	SG
039-09	Water Levels	10-20	25	49.5	SG
039-10	Water Levels	188-193	198	49.0	DG
039-86	STP, Water Levels	15-25	30	57.2	SG
039-87	STP, Water Levels	14-24	29	61.0	SG
039-88	STP	16-31	36	48.1	SG
039-89	STP, Water Levels	15-30	35	49.3	SG
039-90	STP	15-30	35	47.1	SG
039-91	Water Levels	10-20	25	47.1	SG
039-92	Water Levels	10-20	25	47.7	SG
039-93	Water Levels	41-56	61	47.0	SG
039-115	STP	10-25	30	52.4	SG
040-01	Water Levels	12-15	15	44.1	SG
040-02	Water Levels	12-17	17	43.7	SG
040-03	Water Levels	9-14	14	44.2	SG
040-04	Water Levels	15-20	20	47.3	SG
040-05	Water Levels	13-18	18	48.4	SG
040-07	Water Levels	15-20	20	45.4	SG
040-08	Water Levels	10-25	30	42.6	SG
041-01	OU V, Water Levels	9-19	24	46.4	SG
041-02	OU V, Water Levels	90-100	105	46.4	MG
041-03	OU V, Water Levels	210-220	225	46.6	DG
042-01	Water Levels	25-35	41	74.5	SG
043-01	RHIC, Water Levels	34-49	54	87.3	SG
043-02	RHIC	59-69	74	87.2	SG
044-01	Water Levels	18-28	32	65.5	SG
044-13	RHIC, Water Levels	31-46	51	82.5	SG
044-14	RHIC	54-64	69	82.5	SG

Table 1-7
Summary of Monitoring Wells and Piezometers

2021 BNL Groundwater Status Report

Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
044-29	RHIC	27-43	48	79.9	SG
046-01	Water Levels	46-56	61	89.4	SG
046-02	Water Levels	41-56	61	85.9	SG
046-03	Water Levels	39-54	59	83.9	SG
047-01	Water Levels	21-26	26	61.3	SG
047-02	Water Levels	14-19	19	57.8	SG
047-03	Water Levels	31-51	56	75.3	SG
047-04	Water Levels	35-45	45	60.4	SG
048-01	Water Levels	19-22	22	54.5	SG
048-02	Water Levels	13-23	28	52.9	SG
048-08	STP	10-25	30	54.8	SG
048-09	STP	10-25	30	52.6	SG
048-10	STP	10-25	30	48.8	SG
048-11	Water Levels	15-20	20	48.1	SG
049-02	Water Levels	15-20	20	49.7	SG
049-04	Water Levels	9-19	24	47.3	SG
049-05	OU V	90-100	105	46.8	MG
049-06	OU V, Water Levels	175-185	190	45.4	DG
050-01	OU V, Water Levels	205-225	230	45.0	DG
050-02	OU V, Water Levels	140-160	160	45.0	MG
053-03	Water Levels	26-36	37	71.0	SG
053-05	Water Levels	32-42	47	73.3	SG
054-02	Water Levels	28-33	33	62.2	SG
054-03	Water Levels	28-31	31	64.2	SG
054-06	Water Levels	20-30	30	63.4	SG
054-07	AGS, Water Levels	69-79	79	70.9	SG
054-08	AGS	27-47	52	70.5	SG
054-09	Water Levels	23-33	38	67.4	SG
054-10	Water Levels	32-42	47	74.1	SG
054-124	AGS, Water Levels	25-40	45	73.2	SG
054-125	AGS	25-40	45	68.0	SG
054-126	AGS	25-40	45	67.9	SG
054-127	AGS, Water Levels	22-37	42	70.6	SG
054-128	AGS, Water Levels	22-37	42	69.9	SG
054-129	AGS	21-36	41	69.9	SG
054-130	AGS, Water Levels	22-37	42	69.7	SG
054-14	Water Levels	38-48	53	74.0	SG
054-16	Water Levels	149-159	164	72.5	DG
054-168	AGS	17-33	38	69.3	SG
054-169	AGS	17-33	38	69.6	SG
054-184	AGS	35-45	46	75.6	SG
054-185	AGS	29-39	40	71.3	SG
054-191	AGS	21-36	61	70.7	SG
054-61	BLIP	18-33	38	68.9	SG
054-62	AGS, Water Levels	18-33	38	69.8	SG
054-63	AGS	42-57	62	93.8	SG
054-64	AGS, Water Levels	42-57	62	92.8	SG
054-65	AGS, Water Levels	18-33	38	69.6	SG

Table 1-7
Summary of Monitoring Wells and Piezometers

2021 BNL Groundwater Status Report

Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
054-66	AGS, Water Levels	18-33	38	70.0	SG
054-67	AGS, Water Levels	18-33	38	68.1	SG
054-68	AGS, Water Levels	17-32	37	68.2	SG
054-69	AGS, Water Levels	17-32	37	67.8	SG
055-01	Water Levels	--	139	89.1	SG
055-03	WMF, Water Levels	45-55	60	86.8	SG
055-04	Water Levels	44-54	59	87.8	SG
055-05	Water Levels	40-50	55	82.3	SG
055-06	Water Levels	162-172	177	79.9	DG
055-10	WMF	89-99	104	86.6	MG
055-14	AGS	17-32	37	67.9	SG
055-15	AGS, Water Levels	18-33	38	68.0	SG
055-16	AGS, Water Levels	18-33	38	68.0	SG
055-29	AGS	47-57	62	69.2	SG
055-30	AGS, Water Levels	20-35	40	68.8	SG
055-31	AGS, Water Levels	45-55	60	100.5	SG
055-32	AGS	40-55	60	68.0	SG
056-01	Water Levels	--	118	90.0	DG
056-02	Water Levels	--	90	90.1	SG
056-03	Water Levels	--	122	85.5	DG
056-04	Water Levels	40-50	55	80.3	SG
056-05	Water Levels	45-55	60	85.8	SG
056-06	Water Levels	44-54	59	85.9	SG
056-07	Water Levels	214-229	234	80.2	MAG
056-21	WMF, Water Levels	41-61	66	86.3	SG
056-22	WMF Water Levels	41-61	66	87.4	SG
056-23	WMF	41-61	66	86.3	SG
057-01	Water Levels	--	23	51.2	SG
058-01	Water Levels	5-25	30	48.7	SG
058-02	OU VI EDB	60-70	75.25	49.3	--
058-03	Water Levels	120-130	135	49.6	DG
060-01	Water Levels	5-15	20	42.6	SG
061-03	OU V, Water Levels	6-16	21	42.7	SG
061-04	OU V, Water Levels	90-100	105	42.3	MG
061-05	OU V, Water Levels	195-205	210	43.3	DG
061-07	Water Levels	--	--	38.1	SG
063-01	Water Levels	21-41	46	65.0	SG
063-02	Water Levels	27-47	52	69.8	SG
063-04	Water Levels	29-39	44	68.8	SG
063-05	Water Levels	22-32	37	63.1	SG
063-06	Water Levels	33-43	48	74.5	SG
063-07	Water Levels	29-39	44	71.7	SG
063-09	Site Background, Water Levels	207-212	217	69.1	MAG
064-01	Water Levels	39-59	64	83.5	SG
064-02	Water Levels	42-62	67	85.1	SG
064-03	AGS, OU III Central, Water Levels	38-58	63	80.8	SG
064-46	BLIP, Water Levels	47-62	67	98.7	SG
064-47	BLIP	48-63	68	100.4	SG

Table 1-7
Summary of Monitoring Wells and Piezometers

2021 BNL Groundwater Status Report

Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
064-48	BLIP	48-63	68	100.2	SG
064-49	BLIP, Water Levels	34-49	53	84.2	SG
064-50	BLIP	33-48	53	83.0	SG
064-51	AGS, Water Levels	39-54	58	92.7	SG
064-53	AGS, Water Levels	32-47	52	83.6	SG
064-54	AGS	33-48	53	84.2	SG
064-55	AGS, Water Levels	23-38	43	73.4	SG
064-56	AGS	22-37	42	73.6	SG
064-67	BLIP, Water Levels	51-66	71	100.2	SG
064-80	AGS	22-37	42	73.4	SG
064-95	AGS	39-48	49	70(a)	SG
065-01	OU III AOC 29/HFBR Tritium, Water Levels	42-62	67	87.9	SG
065-02	AGS, OU III Central	55-65	70	83.3	SG
065-03	OU III BGRR/WCF Sr-90	55-65	70	83.4	SG
065-04	OU III BGRR/WCF Sr-90	55-65	70	84.2	SG
065-05	OU III Central, Water Levels	55-65	70	84.8	SG
065-06	OU III BGRR/WCF Sr-90	55-65	70	84.8	SG
065-11	OU III BGRR/WCF Sr-90	51-56	56	83.8	SG
065-120	AGS, Water Levels	22-37	42	73.2	SG
065-121	AGS, Water Levels	19-34	39	70.6	SG
065-122	AGS, Water Levels	19-34	39	69.2	SG
065-123	AGS	18-33	38	68.7	SG
065-124	AGS, Water Levels	18-33	38	68.6	SG
065-125	AGS	18-33	38	68.5	SG
065-126	AGS	18-33	38	69.3	SG
065-160	OU III (BGRR/WCF Sr-90)	35-45	50	84.5	SG
065-161	OU III BGRR/WCF Sr-90, Water Levels	90-100	105	84.5	MG
065-162	OU III BGRR/WCF Sr-90, Water Levels	41-51	56	87.8	SG
065-163	OU III BGRR/WCF Sr-90, Water Levels	70-80	85	96.9	SG
065-164	OU III BGRR/WCF Sr-90, Water Levels	70-80	85	100.8	SG
065-165	OU III BGRR/WCF Sr-90, Water Levels	110-120	125	99.4	MG
065-166	OU III BGRR/WCF Sr-90, Water Levels	70-80	85	109.5	SG
065-167	OU III BGRR/WCF Sr-90, Water Levels	70-80	85	109.6	SG
065-168	OU III BGRR/WCF Sr-90	80-90	95	112.7	MG
065-169	OU III BGRR/WCF Sr-90, Water Levels	80-90	95	109.4	SG
065-170	OU III BGRR/WCF Sr-90	80-90	95	116.7	MG
065-171	OU III BGRR/WCF Sr-90, Water Levels	130-140	145	117.0	MG
065-172	OU III BGRR/WCF Sr-90, Water Levels	85-95	100	121.2	SG
065-173	AGS	35-45	50	83.6	SG
065-173	OU III BGRR/WCF Sr-90, Water Levels	35-45	50	83.6	SG
065-174	OU III BGRR/WCF Sr-90	35-45	50	83.4	SG
065-175	OU III BGRR/WCF Sr-90, Water Levels	35-45	50	83.8	SG
065-176	OU III BGRR/WCF Sr-90, Water Levels	35-45	50	84.0	SG
065-177	OU III BGRR/WCF Sr-90, Water Levels	35-45	50	85.4	SG
065-178	OU III BGRR/WCF Sr-90, Water Levels	75-85	90	94.0	SG
065-18	OU III BGRR/WCF Sr-90, Water Levels	50-60	65	84.5	SG
065-19	OU III BGRR/WCF Sr-90	90-100	105	85.9	MG
065-192	AGS	50-60	65	73.0	SG

Table 1-7
Summary of Monitoring Wells and Piezometers

2021 BNL Groundwater Status Report

Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
065-193	AGS	50-60	65	70.7	SG
065-194	AGS	45-55	60	67.9	SG
065-195	AGS	45-55	60	68.5	SG
065-20	OU III BGRR/WCF Sr-90, Water Levels	170-180	185	84.8	DG
065-321	AGS	27-37	38	68.3	SG
065-322	AGS	27-37	38	68.1	SG
065-323	AGS	25-35	36	68.2	SG
065-324	AGS	23-33	34	69.0	SG
065-325	801	66-81	66	110.0	SG
065-360	OU III BGRR/WCF Sr-90	40-50	55	85.9	SG
065-361	OU III BGRR/WCF Sr-90	50-60	65	85.9	SG
065-362	OU III BGRR/WCF Sr-90	40-50	55	86.2	SG
065-363	OU III BGRR/WCF Sr-90	55-65	70	96.3	SG
065-364	OU III BGRR/WCF Sr-90	65-75	80	96.5	SG
065-365	OU III BGRR/WCF Sr-90	75-85	90	98.4	SG
065-366	OU III BGRR/WCF Sr-90	75-85	90	109.0	SG
065-367	OU III BGRR/WCF Sr-90	90-100	105	108.9	MG
065-368	OU III BGRR/WCF Sr-90 SR-1	33-53	56	80.1	SG
065-369	OU III BGRR/WCF Sr-90 SR-2	33-53	56	80.4	SG
065-37	OU III AOC 29/HFBR Tritium	68-78	83	115.5	SG
065-37	OU III BGRR/WCF Sr-90	68-78	83	115.5	SG
065-38	OU III AOC 29/HFBR Tritium	58-68	73	103.7	SG
065-38	OU III BGRR/WCF Sr-90, Water Levels	58-68	73	103.7	SG
065-384	OU III BGRR/WCF Sr-90	50-70	75	--	SG
065-385	OU III BGRR/WCF Sr-90	50-70	75	--	SG
065-39	OU III AOC 29/HFBR Tritium	82-92	97	104.0	SG
065-39	OU III BGRR/WCF Sr-90	82-92	97	104.1	SG
065-401	OU III BGRR/WCF Sr-90	57-77	82	--	SG
065-402	OU III BGRR/WCF Sr-90	37-57	62	--	SG
065-403	OU III BGRR/WCF Sr-90 SR-6	85-105	108	123.7	SG
065-404	OU III BGRR/WCF Sr-90	57-77	82	117.8	SG
065-405	OU III BGRR/WCF Sr-90	75-85	90	109.1	SG
065-41	OU III AOC 29/HFBR Tritium, Water Levels	47-57	62	93.6	SG
065-42	OU III AOC 29/HFBR Tritium, Water Levels	47-57	62	92.8	SG
066-01	Water Levels	45-50	50	79.6	SG
066-07	WMF, Water Levels	65-85	90	87.5	SG
066-08	OU III Central, Water Levels	35-55	60	86.8	SG
066-09	OU III Central	75-95	100	86.9	SG
066-13	Water Levels	36-41	41	79.3	SG
066-14	Water Levels	36-41	41	77.0	SG
066-16	Water Levels	25-45	50	72.3	SG
066-17	OU IV AOC 6 Sr-90	34-54	59	79.6	SG
066-189	OU IV AOC 6 Sr-90, Water Levels	26-46	51	73.3	SG
066-190	OU IV AOC 6 Sr-90, Water Levels	27-47	52	74.6	SG
066-29	Water Levels	165-175	180	71.8	DG
066-83	WMF, Water Levels	41-61	66	84.7	SG
066-84	WMF, Water Levels	58.5-75	80	87.2	SG
066-85	Water Levels	34-44	44	80.8	SG

Table 1-7
Summary of Monitoring Wells and Piezometers

2021 BNL Groundwater Status Report

Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
067-01	Water Levels	14-24	29	54.6	SG
069-10	Water Levels	15-25	30	53.2	SG
070-01	Water Levels	15-35	40	57.2	SG
072-01	Water Levels	37-57	62	80.5	SG
072-03	Water Levels	35-45	50	68.6	SG
072-04	Water Levels	163-173	178	68.3	SG
073-01	Water Levels	32-52	57	75.8	SG
075-01	OU III (central)	40-60	65	86.0	SG
075-01	Water Levels	40-60	65	86.0	SG
075-02	OU III Central	40-60	65	82.0	SG
075-09	OU III BGRR/WCF Sr-90	60-70	75	77.0	SG
075-10	OU III BGRR/WCF Sr-90, Water Levels	120-130	130	76.8	DG
075-11	OU III AOC 29/HFBR Tritium, Water Levels	56-66	71	93.3	SG
075-188	OU III BGRR/WCF Sr-90, Water Levels	85-95	100	80.0	SG
075-189	OU III BGRR/WCF Sr-90	67-72	77	91.6	SG
075-190	OU III BGRR/WCF Sr-90, Water Levels	40-50	55	80.2	SG
075-191	OU III BGRR/WCF Sr-90	85-95	100	80.2	SG
075-192	OU III BGRR/WCF Sr-90, Water Levels	140-150	155	80.3	MG
075-193	OU III BGRR/WCF Sr-90, Water Levels	80-90	95	81.4	SG
075-194	OU III BGRR/WCF Sr-90, Water Levels	140-150	155	81.4	MG
075-195	OU III BGRR/WCF Sr-90, Water Levels	70-80	85	76.1	SG
075-196	OU III BGRR/WCF Sr-90, Water Levels	85-95	100	76.2	SG
075-197	OU III BGRR/WCF Sr-90, Water Levels	120-130	135	76.1	MG
075-198	OU III BGRR/WCF Sr-90, Water Levels	70-80	85	74.8	SG
075-199	OU III BGRR/WCF Sr-90, Water Levels	85-95	100	74.7	SG
075-200	OU III BGRR/WCF Sr-90, Water Levels	120-130	135	74.8	MG
075-201	OU III BGRR/WCF Sr-90, Water Levels	120-130	135	111.0	SG
075-202	OU III BGRR/WCF Sr-90, Water Levels	63-73	78	77.0	SG
075-203	OU III BGRR/WCF Sr-90, Water Levels	70-80	85	78.2	SG
075-210	OU III AOC 29/HFBR Tritium	53-63	68	85.7	SG
075-286	OU III AOC 29/HFBR Tritium, Water Levels	48-52	53	85.8	SG
075-287	OU III AOC 29/HFBR Tritium, Water Levels	56-60	61	85.8	SG
075-288	OU III AOC 29/HFBR Tritium, Water Levels	52-56	57	87.6	SG
075-291	OU III AOC 29/HFBR Tritium, Water Levels	52-56	57	82.6	SG
075-296	OU III AOC 29/HFBR Tritium, Water Levels	62-66	67	79.2	SG
075-297	OU III AOC 29/HFBR Tritium, Water Levels	62-66	67	78.9	SG
075-298	OU III AOC 29/HFBR Tritium, Water Levels	56-60	61	78.4	SG
075-299	OU III AOC 29/HFBR Tritium, Water Levels	56-60	61	78.1	SG
075-39	OU III BGRR/WCF Sr-90, AOC29/HFBR, Water Levels	47-57	62	93.0	SG
075-40	OU III BGRR/WCF Sr-90, AOC 29/HFBR, Water Levels	120-125	130	92.6	MG
075-41	OU III BGRR/WCF Sr-90, AOC29/HFBR, Water Levels	193-198	198	92.6	DG
075-413	OU III AOC 29/HFBR Tritium, Water Levels	56-60	61	81.1	SG
075-414	OU III AOC 29/HFBR Tritium, Water Levels	60-64	65	79.4	SG
075-415	OU III AOC 29/HFBR Tritium, Water Levels	62-66	67	77.5	SG
075-416	OU III AOC 29/HFBR Tritium, Water Levels	60-64	65	77.6	SG
075-417	OU III AOC 29/HFBR Tritium, Water Levels	60-64	65	78.0	SG
075-418	OU III AOC 29/HFBR Tritium, Water Levels	56-60	61	78.1	SG
075-419	OU III AOC 29/HFBR Tritium, Water Levels	56-60	61	77.9	SG

Table 1-7
Summary of Monitoring Wells and Piezometers

2021 BNL Groundwater Status Report

Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
075-46	OU III BGRR/WCF Sr-90, Water Levels	33-43	48	79.5	SG
075-47	OU III BGRR/WCF Sr-90, Water Levels	31-41	46	81.0	SG
075-48	OU III BGRR/WCF Sr-90	63-73	78	78.8	SG
075-49	Water Levels	40-50	56	84.6	SG
075-50	Water Levels	30-40	46	75.9	SG
075-51	Water Levels	33-43	48	79.2	SG
075-558	OU III AOC 29/HFBR Tritium	56-60	61	88.1	SG
075-558	Water Levels	56-60	61	88.1	SG
075-663	OU III BGRR/WCF Sr-90	113-123	128	123.6	MG
075-664	OU III BGRR/WCF Sr-90	65-75	80	103.1	SG
075-665	OU III BGRR/WCF Sr-90	77-87	93	102.7	SG
075-666	OU III BGRR/WCF Sr-90	46-56	61	80.2	SG
075-667	OU III BGRR/WCF Sr-90	61-71	76	79.8	SG
075-668	OU III BGRR/WCF Sr-90	76-86	91	80.0	SG
075-669	OU III BGRR/WCF Sr-90	55-65	70	78.0	SG
075-670	OU III BGRR/WCF Sr-90	89-99	104	73.0	SG
075-671	OU III BGRR/WCF Sr-90	104-114	119	72.9	MG
075-672	OU III BGRR/WCF Sr-90	107-117	122	79.8	MG
075-673	OU III BGRR/WCF Sr-90	--	--	80.5	--
075-674	OU III BGRR/WCF Sr-90	70-80	85	81.1	SG
075-675	OU III BGRR/WCF Sr-90	90-100	105	81.2	SG
075-676	OU III BGRR/WCF Sr-90 (SR-3)	51-71	74	97.4	SG
075-677	OU III BGRR/WCF Sr-90 (SR-4)	35-75	78	75.3	SG
075-678	OU III BGRR/WCF Sr-90 (SR-5)	35-75	78	74.2	SG
075-680	OU III BGRR/WCF Sr-90	90-100	105	124.2	SG
075-681	OU III BGRR/WCF Sr-90	54-64	69	83.0	SG
075-682	OU III BGRR/WCF Sr-90	76-86	91	89.8	SG
075-683	OU III BGRR/WCF Sr-90	76-86	91	78.8	SG
075-684	OU III BGRR/WCF Sr-90	74-84	89	78.7	SG
075-699	OU III BGRR/WCF Sr-90	65-85	90	122.7	SG
075-700	OU III BGRR/WCF Sr-90	50-70	75	106.6	SG
075-701	OU III BGRR/WCF Sr-90	48-68	73	103.7	SG
075-702	OU III BGRR/WCF Sr-90 (SR-7)	82-102	105	95.2	SG
075-703	OU III BGRR/WCF Sr-90 (SR-8)	77-97	100	92.1	SG
075-704	OU III BGRR/WCF Sr-90 (SR-9)	67-87	90	91.6	SG
075-705	OU III BGRR/WCF Sr-90	85-95	100	--	SG
075-706	OU III BGRR/WCF Sr-90	90-100	105	--	SG
075-707	OU III BGRR/WCF Sr-90	70-80	85	--	SG
075-85	OU III BGRR/WCF Sr-90	65-70	75	--	SG
075-86	OU III BGRR/WCF Sr-90, Water Levels	105-110	115	77.9	MG
075-87	OU III BGRR/WCF Sr-90	105-110	115	78.6	MG
075-802	OU III HFBR	42-62	67	93.4	SG
075-803	OU III HFBR	42-62	67	94.5	SG
075-804	OU III HFBR	42-62	67	94.5	SG
075-805	OU III HFBR	42-62	67	94.4	SG
075-806	OU III HFBR	42-62	67	93.8	SG
075-807	OU III HFBR	42-62	67	93.0	SG
075-808	OU III HFBR	42-62	67	91.791.7	SG

Table 1-7
Summary of Monitoring Wells and Piezometers

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Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
076-04	OU IV AOC 5 AS/SVE, Water Levels	30-50	50	75.9	SG
076-05	OU IV AOC 6 Sr-90	30-50	50	73.6	SG
076-06	OU IV AOC 5 AS/SVE, Water Levels	30-50	50	78.5	SG
076-07	OU IV AOC 6 Sr-90, Water Levels	55-65	70	76.3	SG
076-09	OU IV AOC 6 Sr-90	55-65	70	74.5	SG
076-10	OU IV AOC 6 Sr-90, Water Levels	30-50	50	78.4	SG
076-122	Water Levels	5-45	47	73.3	SG
076-13	OU IV AOC 6 Sr-90, Water Levels	31-51	56	79.0	SG
076-16	MPF, Water Levels	27-47	53	79.4	SG
076-167	OU IV AOC 6 Sr-90, Water Levels	37-57	62	79.8	SG
076-168	OU IV AOC 6 Sr-90	36-56	61	78.6	SG
076-169	OU IV AOC 6 Sr-90	36-56	62	79.2	SG
076-17	MPF	27-47	53	78.4	SG
076-171	Water Levels	100-120	125	80.2	SD
076-172	OU III AOC 29/HFBR Tritium, Water Levels	110-130	135	87.9	DG
076-173	OU III AOC 29/HFBR Tritium, Water Levels	34-54	59	83.3	SG
076-174	OU III AOC 29/HFBR Tritium, Water Levels	102-122	127	83.2	MG
076-175	OU III AOC 29/HFBR Tritium, Water Levels	142-162	167	82.9	DG
076-176	Water Levels	50-60	60	69.0	SG
076-18	MPF, Water Levels	23-43	48	74.0	SG
076-181	OU IV AOC 6 Sr-90	60-70	74.75	75.1	SG
076-182	OU IV AOC 6 Sr-90	80-90	94.8	75.0	SG
076-183	OU IV AOC 6 Sr-90, Water Levels	4.5-44.5	49.5	77.2	SG
076-184	OU IV AOC 6 Sr-90	60-70	75.5	77.0	SG
076-185	OU IV AOC 5 AS/SVE, Water Levels	4.5-44.5	49.6	74.1	SG
076-19	MPF, Water Levels	23-43	48	74.5	SG
076-20	OU IV AOC 6 Sr-90, Water Levels	24-44	49	76.4	SG
076-22	OU IV AOC 6 Sr-90, Water Levels	52-62	67	78.5	SG
076-24	OU IV AOC 6 Sr-90, Water Levels	30-50	55	75.6	SG
076-25	MFF, OU IV AOC 6 Sr-90, Water Levels	32-52	57	78.6	SG
076-258	Water Levels	47-48	48	79.6	SG
076-26	OU IV AOC 6 Sr-90	34-54	59	82.1	SG
076-262	OU IV AOC 6 Sr-90, Water Levels	70-80	85	76.0	SG
076-263	OU IV (AOC 6 Sr-90	70-80	85	73.3	SG
076-264	OU IV AOC 6 Sr-90, Water Levels	55-65	70	71.1	SG
076-265	OU IV AOC 6 Sr-90	70-80	85	78.6	SG
076-27	OU IV AOC 6 Sr-90, Water Levels	34-54	59	78.7	SG
076-28	OU IV Central, AOC 6 Sr-90, Water Levels	35-55	60	80.2	SG
076-29	Water Levels	19-39	44	69.0	SG
076-314	OU III Central, OUIV AOC 6 Sr-90, Water Levels	32-52	57	79.8	SG
076-317	OU III Central, OUIV AOC 6 Sr-90, Water Levels	31-51	56	78.8	SG
076-373	OU III Central, OUIV AOC 6 Sr-90, Water Levels	34-54	59	81(a)	SG
076-378	MPF, Water Levels	27-42	47	76.2	SG
076-379	MPF	28-43	48	75.7	SG
076-380	MPF, Water Levels	27-42	47	73.6	SG
076-415	OU IV AOC 6 Sr-90	50-60	65	--	SG
076-416	OU IV AOC 6 Sr-90	50-60	65	--	SG
076-417	OU IV AOC 6 Sr-90	50-60	65	--	SG

Table 1-7
Summary of Monitoring Wells and Piezometers

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Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
076-418	OU IV AOC 6 Sr-90	47-57	62	76.0	SG
076-419	OU IV AOC 6 Sr-90	45-55	60	74.2	SG
076-420	OU IV AOC 6 Sr-90	32-52	57	78.7	SG
076-421	OU IV AOC 6 Sr-90	32-52	57	78.0	SG
077-02	Water Levels	26-46	51	74.4	SG
077-03	Water Levels	9-29	34	56.9	SG
077-10	OU III AOC 29/HFBR Tritium, Water Levels	94-114	119	75.1	SD
077-11	OU III AOC 29/HFBR Tritium, Water Levels	110-130	135	93.1	SD
078-01	Water Levels	15-25	30	46.9	SG
079-17	Water Levels	15-25	25	47.0	SG
080-02	Water Levels	35-55	60	49.0	SG
080-03	Water Levels	76-96	101	50.0	DG
080-04	Water Levels	12-32	37	54.4	SG
080-11	Water Levels	20-30	35	52.8	SG
082-01	Water Levels	40-50	55	82.3	SG
083-01	OU III Central, Water Levels	70-100	105	87.7	SG
083-02	OU III Central, Water Levels	120-150	155	91.9	MG
083-03	Water Levels	72-92	92	86.4	SG
083-05	Water Levels	65-75	80	107.8	SG
083-06	Water Levels	44-54	59	86.3	SG
084-01	Water Levels	65-85	90	105.7	SG
084-02	Water Levels	54-64	69	93.6	SG
084-03	Water Levels	100-110	114	94.3	MG
084-04	OU III Central	145-155	160	94.1	DG
084-05	OU III Central, Water Levels	179-189	194	94.2	DG
084-12	BMRR, Water Levels	55-70	75	101.2	SG
084-13	BMRR	53-68	73	101.6	SG
084-27	BMRR	50-65	70	100.0	SG
084-28	BMRR, Water Levels	48-63	68	99.2	SG
084-36	Water Levels	39-54	59	84.0	SG
084-37	Water Levels	39-54	59	84.2	SG
085-01	OU III AOC 29/HFBR Tritium, Water Levels	60-90	95	73.9	MG
085-02	OU III AOC 29/HFBR Tritium	130-160	165	73.9	DG
085-07	OU III Carbon tet, Water Levels	140-145	150	81.6	DG
085-13	OU III Carbon tet, Water Levels	250-255	260	81.6	MAG
085-16	OU III Carbon tet, Gas Station, Water Levels	34-54	59	80.8	SG
085-17	OU III Carbon tet, Gas Station, Water Levels	34-54	59	80.6	SG
085-39	Water Levels	26-36	42	71.1	SG
085-41	Water Levels	187-192	192	72.1	DG
085-43	Water Levels	21-31	36	66.5	SG
085-65	Water Levels	85-90	95	78.1	MG
085-66	Water Levels	120-125	130	78.1	MG
085-67	Water Levels	85-90	95	68(a)	SG
085-68	Water Levels	120-125	130	68(a)	MG
085-69	Water Levels	35-40	45	68(a)	SG
085-70	Water Levels	135-140	145	69.3	DG
085-72	Water Levels	135-140	145	68.2	DG
085-73	Water Levels	35-40	45	68(a)	SG

Table 1-7
Summary of Monitoring Wells and Piezometers

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Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
085-74	Water Levels	95-100	105	67(a)	MG
085-75	Water Levels	190-195	200	68(a)	DG
085-76	Water Levels	35-40	45	66(a)	SG
085-77	OU III AOC 29/HFBR Tritium, Water Levels	95-100	105	66(a)	MG
085-78	OU III AOC 29/HFBR Tritium, Water Levels	187-192	197	66(a)	DG
085-97	OU III Bldg 96, Water Levels	15-35	40	64.7	SG
085-98	OU III Carbon tet, Water Levels	39-49	54	81.3	SG
085-160	OU III Carbon tet, Water Levels	34-54	59	81.1	SG
085-161	OU III Carbon tet, Water Levels	33-53	58	81.5	SG
085-162	OU III Carbon tet, Water Levels	29-49	54	82.0	SG
085-163	OU III Carbon tet, Water Levels	29-49	54	81.8	SG
085-170	OU III AOC 29/HFBR Tritium	90-100	105	72.4	MG
085-171	OU III AOC 29/HFBR Tritium	125-135	140	72.4	MG
085-235	Gas Station, Water Levels	35-50	55	80.4	SG
085-236	OU III Carbon tet, Gas Station, Water Levels	35-50	55	80.8	SG
085-237	OU III Carbon tet, Gas Station, Water Levels	35-50	55	80.3	SG
085-238	OU III Carbon tet, Water Levels	25-45	50	71.9	SG
085-285	OU III AOC 29/HFBR Tritium, Water Levels	64-68	69	72.4	SG
085-286	OU III AOC 29/HFBR Tritium, Water Levels	64-68	69	72.6	SG
085-287	OU III AOC 29/HFBR Tritium, Water Levels	64-68	69	72.9	SG
085-288	OU III AOC 29/HFBR Tritium, Water Levels	64-68	69	72.9	SG
085-289	OU III AOC 29/HFBR Tritium, Water Levels	64-68	69	73.1	SG
085-290	OU III AOC 29/HFBR Tritium, Water Levels	61-71	72	74.0	SG
085-291	OU III AOC 29/HFBR Tritium, Water Levels	132-142	143	65.7	DG
085-292	Water Levels	132-142	143	67.8	DG
085-293	OU III Bldg 96, Water Levels	45-55	60	62.9	SG
085-335	OU III Bldg 96	30-40	45	62.8	SG
085-347	OU III Bldg 96	20-25	25	61.2	SG
085-348	OU III Bldg 96	32-37	37	61.1	SG
085-349	OU III Bldg 96	20-25	25	62.4	SG
085-350	OU III Bldg 96	32-37	37	62.4	SG
085-351	OU III Bldg 96	20-25	25	62.9	SG
085-352	OU III Bldg 96	32-37	37	62.8	SG
085-353	OU III Bldg 96	20-25	25	62.3	SG
085-354	OU III Bldg 96	20-25	25	62.7	SG
085-378	OU III Bldg 96	10-30	35	--	SG
085-379	OU III Bldg 96	7-27	32	61.4	SG
085-380	OU III Bldg 452	22-42	47	73.3	SG
085-381	OU III Bldg 452	22-42	47	72.9	SG
085-382	OU III Bldg 452	30-45	50	67.7	SG
085-383	OU III Bldg 452	30-45	50	66.8	SG
085-384	OU III Bldg 452	30-45	50	65.7	SG
085-385	OU III Bldg 452	40-55	60	66.6	SG
085-386	OU III Bldg 96	40-55	60	65.2	SG
085-387	OU III Bldg 452	47-62	67	59.9	SG
085-388	OU III Bldg 452	50-65	70	62.7	SG
085-389	OU III Bldg 452 (EW-18)	55-65	68	68.6	SG
085-398	OU III BGRR/WCF Sr-90	120-140	145	73.9	DG

Table 1-7
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Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
085-399	OU III BGRR/WCF Sr-90	55-75	80	71.9	SG
085-400	OU III BGRR/WCF Sr-90	90-110	115	71.1	SG
085-402	OU III BGRR/WCF Sr-90	90-110	115	71.1	SG
085-403	OU III BGRR/WCF Sr-90	110-130	135	68.9	MG
086-05	OU III North Street, Water Levels	80-90	95	75.6	MG
086-06	Water Levels	120-140	145	75.8	DG
086-123	NSLS II	27-42	47	72.1	SG
086-124	NSLS II	42-52	57	72.1	SG
086-125	NSLS II	27-47	47	72.4	SG
086-126	NSLS II	29-44	49	74.4	SG
086-42	FLF, Water Levels	65-75	80	76.9	SG
086-43	OU III North Street, Water Levels	115-125	130	77.0	DG
086-68	Water Levels	250-255	260	73.1	MAG
086-70	OU III North Street	65-75	80	75.6	SG
086-72	FLF, Water Levels	42-57	62	25.6	SG
087-09	CLF, Water Levels	24-34	34	66.9	SG
087-11	CLF, Water Levels	11-21	21	52.8	SG
087-21	OU I South Boundary, Water Levels	125-135	140	67.8	DG
087-22	FLF, Water Levels	43-53	58	85.1	SG
087-23	CLF, Water Levels	25-40	45	70.3	SG
087-24	CLF	70-80	85	70.2	SG
087-25	Water Levels	148-158	163	70.6	DG
087-26	CLF	70-80	85	50.7	SG
087-27	CLF, Water Levels	5-20	25	50.8	SG
087-28	Water Levels	130-140	145	50.6	DG
088-03	Water Levels	10-20	20	49.9	SG
088-108	Water Levels	226-231	236	47.9	MAG
088-109	CLF, Water Levels	6-21	26	50.0	SG
088-110	CLF, Water Levels	10-25	30	50.0	SG
088-13	OU I South Boundary, Water Levels	8-18	23	48.7	SG
088-14	OU I South Boundary	75-85	90	47.4	SG
088-20	OU I South Boundary, Water Levels	120-130	135	48.4	DG
088-21	CLF, Water Levels	5-20	25	45.4	SG
088-22	CLF	70-80	85	45.4	SG
088-23	CLF, Water Levels	120-130	135	45.3	DG
088-26	OU I South Boundary	13-23	28	50.7	SG
088-27	Water Levels	33-43	48	50.6	SG
089-13	OU VI EDB, Water Levels	15-25	30	43.8	SG
089-14	OU VI EDB, Water Levels	45-55	60	47.6	SG
090-02	Water Levels	16-26	31	51.1	SG
090-03	Water Levels	138-143	148	51.0	SG
090-10	Water Levels	--	--	47.2	SG
092-01	Water Levels	39-49	54	82.7	SG
092-02	Water Levels	46-56	61	89.0	SG
093-02	Water Levels	70-80	80	89.0	SG
093-04	Water Levels	44-54	59	88.0	SG
093-05	Water Levels	39-49	54	79.1	SG
093-06	Water Levels	250-255	260	108.7	MAG

Table 1-7
Summary of Monitoring Wells and Piezometers

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Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
094-01	Water Levels	60-70	70	95.7	SG
094-11	Water Levels	26-36	36	72.0	SG
094-12	Water Levels	45-55	55	88.6	SG
094-13	Water Levels	51-61	61	98.4	SG
094-14	Water Levels	64-74	74	100.9	SG
095-04	Water Levels	36-56	61	84.4	SG
095-28	Water Levels	5-15	20	47.1	SG
095-29	Water Levels	30-40	45	73.4	SG
095-42	OU III Carbon tet, Water Levels	100-105	110	64.5	SG
095-43	OU III Carbon tet	108-113	118	71.8	MG
095-45	OU III Carbon tet	108-113	118	70.4	MG
095-47	OU III Carbon tet, Water Levels	195-200	205	71.7	DG
095-52	Water Levels	35-40	45	72.1	SG
095-53	OU III AOC 29/HFBR Tritium, Carbon tet, Water Levels	87-92	97	51(a)	MG
095-54	OU IIIAOC 29/HFBR Tritium, Water Levels	119-124	129	49.1	MG
095-55	OU III AOC 29/HFBR Tritium	135-140	145	62(a)	MG
095-84	OU III Bldg 96	15-35	40	62.9	SG
095-85	OU III Bldg 96	90-100	105	62.8	MG
095-87	Water Levels	135-140	145	71.6	SG
095-88	OU III Carbon tet, Water Levels	155-160	165	71.6	DG
095-89	OU III Carbon tet, Water Levels	155-160	165	76.0	DG
095-90	OU III Carbon tet, AOC 29/HFBR, Water Levels	98-108	113	48.1	SG
095-91	Water Levels	156-166	171	57.2	DG
095-92	OU III Carbon tet	116-126	131	67.1	MG
095-93	OU III AOC 29/HFBR Tritium, Water Levels	170-180	185	71.4	DG
095-139	OU III AOC 29/HFBR Tritium	90-100	105	63.7	MG
095-140	OU III AOC 29/HFBR Tritium	125-135	140	63.9	DG
095-159	OU III Bldg 96, Water Levels	45-55	60	62.2	SG
095-161	OU III Bldg 96, Water Levels	45-55	60	62.5	SG
095-162	OU III Bldg 96	45-55	60	62.4	SG
095-163	OU III Bldg 96	45-55	60	59.4	SG
095-164	OU III Bldg 96, Water Levels	24-34	39	60.0	SG
095-165	OU III Bldg 96	43-53	58	58.2	SG
095-166	OU III Bldg 96	45-55	60	59.7	SG
095-167	OU III Bldg 96	44-54	59	60.3	SG
095-168	OU III Bldg 96	44-54	59	60.3	SG
095-169	OU III Bldg 96	44-54	59	60.4	SG
095-170	OU III Bldg 96, Water Levels	45-55	60	60.6	SG
095-171	OU III Bldg 96, Water Levels	44-54	59	60.9	SG
095-172	OU III Bldg 96, Water Levels	45-55	60	61.1	SG
095-183	OU III Carbon tet, Water Levels	29-49	54	74.7	SG
095-185	OU III Carbon tet, Water Levels	32-62	67	83.9	SG
095-186	OU III Carbon tet	30-60	65	81.6	--
095-272	OU III AOC 29/HFBR Tritium, Water Levels	155-165	166	61.9	DG
095-273	OU III AOC 29/HFBR Tritium	130-140	141	61.7	--
095-274	OU III AOC 29/HFBR Tritium, Water Levels	155-165	166	62.1	DG
095-275	OU III AOC 29/HFBR Tritium	125-135	136	61.0	--
095-276	OU III AOC 29/HFBR Tritium, Water Levels	165-175	176	61.0	DG

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Summary of Monitoring Wells and Piezometers

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Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
095-277	OU III Carbon tet	47-57	62	72.4	SG
095-279	OU III Carbon tet	70-80	85	65.4	SG
095-280	OU III Carbon tet	85-95	100	56.7	SG
095-294	OU III Bldg 96	25-35	40	58.9	SG
095-295	OU III Bldg 96	45-55	60	67.3	SG
095-296	OU III Bldg 96	60-70	75	64.0	SG
095-296	OU III Carbon tet	60-70	75	64.0	SG
095-300	OU III Carbon tet	70-80	85	62.0	SG
095-301	OU III Carbon tet	70-80	85	69.3	SG
095-305	OU III Bldg 96	20-25	25	60.8	SG
095-306	OU III Bldg 96	32-37	37	60.9	SG
095-307	OU III Bldg 96	30-35	35	59.0	SG
095-308	OU III Bldg 96	35-40	40	58.9	SG
095-312	OU III Bldg 96	45-55	60	61.8	SG
095-313	OU III Bldg 96/452	45-60	65	58.3	SG
095-314	OU III Bldg 452	60-80	85	58.1	SG
095-315	OU III Bldg 452	60-80	85	62.6	SG
095-318	OU III Bldg 96	60-70	80	51.7	MG
095-322	OU III Middle Road	175-185	190	48.2	DG
095-323	OU III Middle Road	200-210	214	69.8	DG
095-325	OU III Bldg 96	40-50	55	60.3	SG
095-326	OU III BGRR/WCF Sr-90	110-130	135	63.9	MG
096-02	Water Levels	45-55	57	71.2	SG
096-115	OU III AOC 29/HFBR Tritium	85-95	100	66.6	SG
096-116	OU III AOC 29/HFBR Tritium	85-95	100	65.1	SG
096-117	OU III AOC 29/HFBR Tritium	85-95	100	64.8	SG
096-118	OU III AOC 29/HFBR Tritium	84-94	99	63.6	SG
096-119	OU III AOC 29/HFBR Tritium (EW-16)	80-120	123	65.6	SG
096-52	Water Levels	24-34	39	68.1	SG
096-55	OU III AOC 29/HFBR Tritium	131-136	141	73(a)	MG
096-82	OU III AOC 29/HFBR Tritium	100-110	115	62.0	SG
096-83	OU III AOC 29/HFBR Tritium	22-32	37	68.3	SG
096-84	OU III AOC 29/HFBR Tritium	128-138	143	68.4	MG
096-88	OU III AOC 29/HFBR Tritium, Water Levels	135-145	146	61.5	DG
097-01	Water Levels	42-52	54	79.3	SG
097-08	Water Levels	37-42	42	72.0	SG
097-14	Water Levels	61-81	86	57.0	SG
097-17	FLF, Water Levels	29-39	44	69.2	SG
097-276	Water Levels	28-43	48	80.9	SG
097-277	FLF	40-55	60	81.0	SG
097-64	FLF	29-44	49	69.2	SG
097-313	Chemical/Animal Holes Sr-90	20-40	45	69.2	SG
097-314	Chemical/Animal Holes Sr-90	20-40	45	69.0	SG
097-315	Chemical/Animal Holes Sr-90	20-40	45	21.4	SG
098-01	Water Levels	18-48	50	45.9	SG
098-09	Water Levels	18-48	50	46.3	SG
098-19	Water Levels	40-50	50	53.5	SG
098-21	OU I South Boundary, Water Levels	24-34	36	54.9	SG

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Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
098-22	OU I (South Boundary), Water Levels	33-43	45	53.7	SG
098-30	OU I South Boundary, Water Levels	33-43	45	57.5	SG
098-33	OU I South Boundary	60-80	85	57.6	SG
098-36	Water Levels	20-25	25	54.7	SG
098-40	Water Levels	23-28	33	56.5	SG
098-41	Water Levels	18-23	28	55.3	SG
098-42	Water Levels	13-18	23	50.4	SG
098-58	OU I South Boundary	90-100	105	52.7	MG
098-59	OU I South Boundary, Water Levels	130-140	145	52.8	DG
098-61	OU I South Boundary, Water Levels	120-130	135	54.3	DG
098-63	Water Levels	135-145	150	53.5	DG
098-64	Water Levels	90-100	105	55.2	MG
098-99	Current Landfill	39-49	54	47.8	SG
098-100	OU I South Boundary	5-20	25	50.1	SG
098-103	OU I South Boundary	10-30	35	53.3	SG
098-104	OU I South Boundary	10-30	35	53.2	SG
099-01	Water Levels	19-24	24	48.8	SG
099-04	OU I South Boundary, Water Levels	110-130	135	57.8	DG
099-05	Water Levels	35-55	60	45.8	SG
099-06	OU VI EDB	75-95	100	45.9	SG
099-07	Water Levels	20-25	30	52.7	SG
099-10	OU VI EDB	75-85	90	50.4	SG
099-11	OU VI EDB, Water Levels	110-120	125	50.3	DG
100-03	Water Levels	31-51	56	44.8	SG
100-04	Water Levels	155-160	160	45.8	MAG
100-10	Water Levels	15-25	30	47.9	SG
100-12	OU VI EDB, Water Levels	95-105	110	47.8	DG
100-13	OU VI EDB	64-74	79	48.8	SG
100-14	OU VI EDB	105-115	120	48.7	MG
101-01	Water Levels	45-65	70	88.2	SG
101-09	Water Levels	75-85	90	101.2	SG
101-10	Water Levels	60-70	75	84.3	SG
102-05	Motor Pool	47-67	72	93.9	SG
102-06	Motor Pool	46-66	71	94.2	SG
102-08	Motor Pool, Water Levels	45-60	65	93.1	SG
102-10	Motor Pool	44-59	64	93.3	SG
102-11	Motor Pool	44-59	64	93.6	SG
102-12	Motor Pool, Water Levels	44-59	64	93.8	SG
102-13	Motor Pool	45-60	65	94.1	SG
102-25	Water Levels	52-62	67	77.6	SG
103-01	Water Levels	--	49	81.4	SG
103-02	Water Levels	45-50	50	89.8	SG
103-10	Water Levels	36-46	46	99.5	SG
103-15	OU III Western South Boundary	195-205	208	83.7	DG
103-18	OU III Western South Boundary	165-175	180	101.1	DG
103-19	OU III Western South Boundary	165-175	180	83.7	DG
104-01	Water Levels	45-65	70	64.1	SG
104-11	OU III Carbon tet, Water Levels	185-195	200	64.4	DG

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Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
104-25	Water Levels	125-130	135	72.8	SD
104-36	OU III Carbon tet	126-146	151	55.6	DG
104-37	OU III Middle Road	204-214	219	67.6	DG
104-38	OU III Middle Road	195-215	218	66.4	DG
105-02	Water Levels	80-85	85	69.4	SG
105-05	OU III Central, Water Levels	20-30	35	58.6	SG
105-06	OU III Central	70-80	85	58.8	SG
105-21	Water Levels	37-47	52	67.6	SG
105-22	OU III AOC 29/HFBR Tritium	100-110	115	67.2	MG
105-23	OU III Carbon tet, Middle Road, AOC 29/HFBR, Water Levels	175-185	190	67.3	DG
105-24	Water Levels	180-190	195	59.1	DG
105-25	OU III Middle Road, Water Levels	145-150	155	69.7	DG
105-26	Water Levels	145-150	155	69.3	DG
105-27	Water Levels	28-38	43	69.3	SG
105-28	Water Levels	24-34	39	66.0	DG
105-29	OU III AOC 29/HFBR Tritium	170-190	195	65.9	DG
105-39	OU III AOC 29/HFBR Tritium (EW-10)	130-150	153	70.0	DG
105-40	OU III AOC 29/HFBR Tritium (EW-9)	130-150	153	70.0	DG
105-41	OU III AOC 29/HFBR Tritium (EW-11)	130-150	153	70.3	DG
105-42	OU III Carbon tet	145-150	155	67.3	DG
105-43	OU III AOC 29/HFBR Tritium, Water Levels	145-150	155	67(a)	DG
105-44	OU III Middle Road, AOC 29/HFBR, Water Levels	150-155	160	66(a)	DG
105-52	OU III Middle Road, Water Levels	100-110	112	74(a)	MG
105-53	OU III Middle Road, Water Levels	170-180	182	73(a)	DG
105-54	OU III Middle Road, Water Levels	110-120	122	55(a)	MG
105-65	OU III AOC 29/HFBR Tritium	90-100	105	68.8	MG
105-66	OU III Middle Road	179-189	194	67.6	DG
105-67	OU III Middle Road	180-190	195	69(a)	DG
105-68	OU III Middle Road	200-210	215	60.8	DG
106-02	FLF, Water Levels	55-65	70	66.8	SG
106-04	Chemical/Animal Holes Sr-90, Water Levels	55-65	70	68.1	SG
106-13	Chemical/Animal Holes Sr-90	29-39	44	70.3	SG
106-14	Chemical/Animal Holes Sr-90	30-40	45	71.2	SG
106-15	Chemical/Animal Holes Sr-90	55-65	70	71.2	SG
106-16	Chemical/Animal Holes Sr-90, Water Levels	30-40	45	70.5	SG
106-17	Chemical/Animal Holes Sr-90, Water Levels	30-40	45	69.2	SG
106-19	Water Levels	250-255	260	66.9	MAG
106-20	Chemical/Animal Holes Sr-90, Water Levels	85-95	100	66.6	MG
106-21	Chemical/Animal Holes Sr-90, Water Levels	55-65	70	66.6	SG
106-22	Chemical/Animal Holes Sr-90, Water Levels	85-95	100	62.9	DG
106-23	Chemical/Animal Holes Sr-90, Water Levels	55-65	70	62.9	SG
106-24	Chemical/Animal Holes Sr-90	80-90	95	51.0	SG
106-25	Chemical/Animal Holes Sr-90, Water Levels	50-60	65	51.2	SG
106-30	FLF, Water Levels	29-44	49	20.7	SG
106-43	Chemical/Animal Holes Sr-90	43-53	58	64.9	SG
106-44	Chemical/Animal Holes Sr-90	44-54	59	64.8	SG
106-45	Chemical/Animal Holes Sr-90	44-55	60	64.8	SG
106-46	Chemical/Animal Holes Sr-90	29-39	44	66.0	SG

Table 1-7
Summary of Monitoring Wells and Piezometers

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Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
106-47	Chemical/Animal Holes Sr-90	29-39	44	65.9	SG
106-48	Chemical/Animal Holes Sr-90	31-41	46	66.5	SG
106-49	Chemical/Animal Holes Sr-90	32-42	47	67.4	SG
106-50	Chemical/Animal Holes Sr-90	32-42	47	67.9	SG
106-53	OU III Middle Road, Water Levels	200-210	215	68.3	DG
106-54	OU III Middle Road	200-210	215	67.4	DG
106-55	OU III Middle Road	170-180	185	66.1	DG
106-56	OU III Middle Road	160-170	175	66.2	DG
106-58	OU III Middle Road	200-210	215	65.9	DG
106-62	OU III Middle Road, Chemical/Animal Holes Sr-90	67-77	82	62.4	SG
106-63	Chemical/Animal Holes Sr-90	65-75	80	60.3	SG
106-64	Chemical/Animal Holes Sr-90	30-40	45	64.7	SG
106-66	OU III Middle Road RW-6	188-218	218	64(a)	DG
106-92	Chemical/Animal Holes Sr-90 (EW-1)	23-38	40	64.1	SG
106-94	Chemical/Animal Holes Sr-90	27-42	42	70.8	SG
106-95	Chemical/Animal Holes Sr-90	27-42	42	70.6	SG
106-96	Chemical/Animal Holes Sr-90	27-42	42	70.0	SG
106-97	Chemical/Animal Holes Sr-90	27-42	42	70.1	SG
106-98	Chemical/Animal Holes Sr-90	22-37	37	65.9	SG
106-99	Chemical/Animal Holes Sr-90	23-38	38	65.8	SG
106-100	Chemical/Animal Holes Sr-90	23-38	39	65.3	SG
106-101	Chemical/Animal Holes Sr-90	26-41	42	67.0	SG
106-102	Chemical/Animal Holes Sr-90	25-40	41	67.0	SG
106-103	Chemical/Animal Holes Sr-90	21-36	37	65.0	SG
106-104	Chemical/Animal Holes Sr-90	21-36	37	64.8	SG
106-105	Chemical/Animal Holes Sr-90, Water Levels	21-36	37	64.6	SG
106-119	Chemical/Animal Holes Sr-90	35-45	50	64.4	SG
106-120	Chemical/Animal Holes Sr-90	35-45	50	59.1	SG
106-121	Chemical/Animal Holes Sr-90	35-45	50	59.1	SG
106-122	Chemical/Animal Holes Sr-90	35-45	50	59.4	SG
106-123	Chemical/Animal Holes Sr-90 (EW-2)	35-45	48	67.6	SG
106-124	Chemical/Animal Holes Sr-90 (EW-3)	35-45	48	62.6	SG
106-125	Chemical/Animal Holes Sr-90	35-45	50	68.2	SG
106-135	Chemical/Animal Holes Sr-90	30-40	45	66.0	SG
106-136	Chemical/Animal Holes Sr-90	25-45	50	66.9	SG
107-07	Water Levels	93-113	118	65.8	DG
107-10	OU I South Boundary, Water Levels	110-130	135	60.8	DG
107-11	Water Levels	95-115	120	67.4	DG
107-12	Water Levels	50-70	75	67.4	SG
107-14	Water Levels	60-80	85	67.4	SG
107-23	OU I South Boundary	115-125	130	47.2	MG
107-24	OU I South Boundary	73-83	88	48.3	SG
107-25	OU I South Boundary, Water Levels	113-123	128	48.7	DG
107-26	OU I South Boundary, Water Levels	135-145	150	55.0	DG
107-34	OU I South Boundary, Water Levels	50-60	65	66.8	SG
107-35	OU I South Boundary, Water Levels	60-70	75	66.9	SG
107-40	OU I South Boundary	--	--	66.9	--
107-41	OU I South Boundary	128-138	143	68.0	MG

Table 1-7
Summary of Monitoring Wells and Piezometers

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Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
107-42	OU I South Boundary	63-73	78	67(a)	SG
108-01	Water Levels	52-72	72	57.4	SG
108-05	Water Levels	50-70	70	61.0	SG
108-08	OU I South Boundary, Water Levels	51-71	71	62.9	SG
108-12	OU I South Boundary	58-78	78	65.8	SG
108-13	OU I South Boundary, Water Levels	45-65	70	65.9	SG
108-14	OU I South Boundary	85-105	110	65.6	MG
108-15	Water Levels	26-31	36	58.1	SG
108-16	Water Levels	25-30	35	58.2	SG
108-17	OU I South Boundary	65-85	90	63.9	SG
108-18	OU I South Boundary, Water Levels	95-115	120	64.0	DG
108-30	Water Levels	95-105	110	61.2	DG
108-31	Water Levels	124-134	139	65.4	DG
108-43	OU I South Boundary, Water Levels	60-70	75	66.0	SG
108-44	OU I South Boundary, Water Levels	50-60	65	66.0	SG
108-45	OU I South Boundary	63-73	78	67(a)	SG
108-55	OU I South Boundary	54-64	69	59.4	SG
108-56	OU I South Boundary	54-64	69	59.5	SG
108-57	OU I South Boundary	65-75	80	64.9	MG
108-58	OU I South Boundary	65-75	80	64.2	MG
108-59	OU I South Boundary	90-100	105	64.2	MG
109-03	Wm. Floyd Well Field/Water Levels	120-140	145	115.8	MG
109-04	Wm. Floyd Well Field/Water Levels	205-220	225	115.7	DG
109-12	OU III Magothy, Water Levels	255-275	280	115.6	MAG
109-13	OU III Magothy, Water Levels	228-248	253	115.7	MAG
109-29	Water Levels	99-109	114	122.6	SG
110-26	Water Levels	66-76	81	88.6	SG
110-27	Water Levels	70-80	85	93.3	SG
111-01	Water Levels	35-45	50	75.2	SG
111-15	OU III Western South Boundary	170-180	185	75(a)	DG
111-16	OU III Western South Boundary	168-178	183	67(a)	DG
111-17	OU III Western South Boundary (WSB-3)	168-188	191	73.4	DG
113-06	OU III Middle Road, Water Levels	44-54	59	73.2	SG
113-07	OU III Middle Road	94-104	109	73.2	MG
113-08	OU III Middle Road, Water Levels	137-147	147	73.5	MG
113-09	OU III Middle Road, Water Levels	217-227	232	73.3	DG
113-10	Water Levels	90-100	105	71.2	DG
113-11	OU III Middle Road, Water Levels	196-206	211	70.9	DG
113-16	OU III Middle Road, Water Levels	100-120	125	72(a)	MG
113-17	OU III Middle Road, Water Levels	167-187	192	72(a)	DG
113-18	OU III Middle Road	142-162	167	71(a)	DG
113-19	OU III Middle Road, Water Levels	220-240	245	71(a)	DG
113-20	OU III Middle Road	158-178	183	63(a)	DG
113-21	OU III Middle Road, Water Levels	180-190	192	71(a)	DG
113-22	OU III Middle Road, Water Levels	235-245	247	72(a)	DG
113-23	OU III Middle Road (RW-1)	90-130	140	72(a)	MG
113-24	OU III Middle Road (RW-2)	170-200	200	70(a)	DG
113-25	OU III Middle Road (RW-3)	228-268	268	68(a)	MAG

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Summary of Monitoring Wells and Piezometers

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Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
113-26	OU III Middle Road (RW-4)	150-180	180	51(a)	DG
113-27	OU III Middle Road (RW-5)	150-180	180	58(a)	DG
113-29	OU III Middle Road	180-200	205	63.2	DG
113-30	OU III Middle Road	185-195	200	73(a)	DG
113-31	OU III Middle Road	185-195	200	58.5	DG
114-01	Chemical/Animal Holes Sr-90	70-80	85	62.1	SG
114-02	Water Levels	26-36	41	61.9	SG
114-06	OU III South Boundary	180-190	195	52.2	DG
114-07	OU III South Boundary, Water Levels	200-210	215	52.2	DG
114-12	OU III Middle Road, Water Levels	145-165	170	60(a)	DG
115-01	Water Levels	40-60	65	52.8	SG
115-03	OU I South Boundary, Water Levels	110-130	136	52.7	DG
115-04	Water Levels	65-85	90	61.2	SG
115-05	Water Levels	95-115	120	60.9	DG
115-13	OU I South Boundary, Water Levels	140-150	155	61.6	DG
115-14	OU I South Boundary, Water Levels	180-190	195	59.4	DG
115-15	OU I South Boundary, Water Levels	180-190	195	55.0	DG
115-16	OU I South Boundary, Water Levels	125-135	140	55.1	SG
115-27	OU I South Boundary (EW-1)	150-190	193	59.7	DG
115-28	OU I South Boundary, Water Levels	202-212	217	59.7	DG
115-29	OU I South Boundary, Water Levels	200-210	215	55.8	DG
115-30	OU I South Boundary, Water Levels	158-168	173	53.7	DG
115-31	OU I South Boundary, Water Levels	167-177	182	61.6	DG
115-32	OU III North Street, Water Levels	80-90	95	65.5	SG
115-33	OU III North Street, Water Levels	179-189	194	65.6	DG
115-34	OU III North Street	110-120	125	65.2	MG
115-35	OU III North Street, Water Levels	150-160	165	64.8	DG
115-36	OU I South Boundary, Water Levels	129-134	139	52.9	DG
115-41	OU I South Boundary, Water Levels	98-118	123	53.3	SG
115-42	OU I South Boundary, Water Levels	158-178	183	53.2	DG
115-43	OU I South Boundary (EW-2)	104-124	129	60.0	DG
115-50	OU III Magothy, Water Levels	256-276	281	52.4	MAG
115-51	OU I South Boundary	125-145	150	62(a)	MG
116-05	OU I South Boundary	100-110	115	65.3	DG
116-06	OU I South Boundary, Water Levels	130-140	145	65.6	DG
116-14	Water Levels	65-75	75	69.0	SG
117-01	Wm. Floyd Well Field/Water Levels	75-85	90	113.8	SG
117-02	Wm. Floyd Well Field/Water Levels	74-84	89	109.9	SG
117-04	Wm. Floyd Well Field/Water Levels	130-140	145	110.5	MG
117-05	Wm. Floyd Well Field/Water Levels	130-140	145	109.6	MG
117-06	Wm. Floyd Well Field/Water Levels	130-140	145	109.4	MG
117-07	Water Levels	83-93	98	101.9	SG
118-01	Water Levels	70-90	95	81.9	SG
118-02	Water Levels	110-130	135	81.5	DG
118-04	Water Levels	88-98	103	109.6	SG
119-01	Water Levels	44-54	59	79.8	SG
119-03	OU III Western South Boundary, Water Levels	40-50	55	80.5	SG
119-06	OU III Western South Boundary	125-135	140	80.9	DG

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Summary of Monitoring Wells and Piezometers

2021 BNL Groundwater Status Report

Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
119-10	OU III Western South Boundary	195-205	210	77.5	DG
119-11	OU III Western South Boundary	175-185	190	78(a)	DG
119-12	OU III Western South Boundary	174-184	189	81(a)	DG
119-13	OU III Western South Boundary (WSB-4)	170-190	193	80.0	DG
121-06	OU III South Boundary, Water Levels	40-50	55	67.6	SG
121-07	OU III South Boundary	89-99	104	67.8	MG
121-08	OU III South Boundary, Water Levels	180-190	195	68.0	DG
121-09	OU III South Boundary	90-100	105	73.6	MG
121-10	OU III South Boundary, Water Levels	160-170	175	73.5	DG
121-11	OU III South Boundary, Water Levels	200-210	215	72.5	DG
121-12	OU III South Boundary, Water Levels	45-55	60	71.7	SG
121-13	OU III South Boundary	120-130	135	71.8	MG
121-14	OU III South Boundary, Water Levels	190-200	205	71.6	DG
121-15	OU III South Boundary (EW-5)	160-200	203	68.8	DG
121-16	OU III South Boundary (EW-4)	160-200	205	71.8	DG
121-17	OU III South Boundary (EW-3)	150-190	193	70.9	DG
121-18	OU III South Boundary, Water Levels	60-80	85	72.0	SG
121-19	OU III South Boundary	90-110	115	72.3	MG
121-20	OU III South Boundary, Water Levels	180-200	205	72.1	DG
121-21	OU III South Boundary, Water Levels	60-80	85	68.1	SG
121-22	OU III South Boundary	120-140	145	68.3	MG
121-23	OU III South Boundary, Water Levels	180-200	205	67.8	DG
121-40	OU III Magothy, Water Levels	281-301	306	72.5	MAG
121-42	OU III Western South Boundary, Water Levels	150-160	165	67.4	DG
121-43	OU III South Boundary, Water Levels	185-205	210	68.3	DG
121-44	OU III Magothy, Water Levels	260-280	285	71.8	MAG
121-45	OU III Middle Road, South Boundary	189-209	214	66.9	DG
121-47	OU III South Boundary	224-234	239	71.0	DG
121-48	OU III South Boundary	223-233	238	68.2	DG
121-49	OU III South Boundary	210-220	225	73.6	DG
121-53	OU III Middle Road	224-234	239	76.7	DG
121-54	OU III Middle Road	215-225	230	72.6	DG
122-01	Water Levels	46-66	71	59.2	SG
122-02	OU III South Boundary	85-105	110	59.4	DG
122-04	OU III South Boundary, Water Levels	200-205	210	58.5	DG
122-05	OU III South Boundary, Water Levels	269-274	279	61.8	MAG
122-09	OU III South Boundary	110-120	125	51.1	MG
122-10	OU III South Boundary, Water Levels	149-159	164	50.8	DG
122-12	OU III South Boundary (EW-8)	190-250	253	--	DG/MAG
122-13	OU III (South Boundary (EW-7)	170-210	213	--	DG
122-14	OU III South Boundary (EW-6)	160-200	203	--	DG
122-15	OU III South Boundary, Water Levels	50-70	75	54.0	SG
122-16	OU III South Boundary	140-160	165	53.5	DG
122-17	OU III South Boundary, Water Levels	200-220	225	53.4	DG
122-18	OU III South Boundary, Water Levels	130-150	155	61.9	SG
122-19	OU III South Boundary	190-210	215	61.8	DG
122-20	OU III South Boundary, Water Levels	250-270	275	61.9	DG
122-21	OU III South Boundary	180-190	195	58.6	DG

Table 1-7
Summary of Monitoring Wells and Piezometers

2021 BNL Groundwater Status Report

Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
122-22	OU III South Boundary, Water Levels	200-210	215	58.9	DG
122-24(b)	OU III Industrial Park East, Water Levels	250-265	266.5	65.0	DG
122-25(b)	OU III Industrial Park East	220-235	240	65.2	DG
122-30	OU III South Boundary (EW-12)	180-220	220	52.5	DG
122-31	OU III South Boundary	150-160	165	53.3	DG
122-32	OU III South Boundary, Water Levels	200-210	215	54.1	DG
122-33	OU III South Boundary, Water Levels	165-195	200	56.1	DG
122-34	OU III South Boundary, Water Levels	190-210	215	61.8	DG
122-35	OU III South Boundary, Water Levels	190-210	215	59.7	DG
122-41	OU III Magothy, Water Levels	315-335	340	52.3	MAG
124-01	Water Levels	63-73	78	97.0	SG
124-02	OU III Western South Boundary, Water Levels	190-200	205	97.3	DG
124-04	Water Levels	80-90	85	114.5	SG
125-01	OU III Western South Boundary, Water Levels	40-50	55	82.0	SG
125-02	Water Levels	40-50	55	80.3	SG
126-01	OU III Western South Boundary, Water Levels	60-80	85	80.8	SG
126-11	OU III Western South Boundary, Water Levels	150-160	165	80.1	DG
126-12	OU III Western South Boundary (WSB-1)	140-160	165	79.5	DG
126-13	OU III Western South Boundary, Water Levels	150-160	165	80.7	DG
126-14	OU III Western South Boundary, Water Levels	150-160	165	81.4	DG
126-15	OU III Western South Boundary, Water Levels	150-160	165	66.2	DG
126-16	OU III Western South Boundary, Water Levels	130-140	145	76.0	DG
126-17	OU III Western South Boundary	135-145	150	83.4	DG
126-18	OU III Western South Boundary	160-170	175	83.4	DG
126-19	OU III Western South Boundary	190-200	205	84(a)	DG
126-20	OU III Western South Boundary	135-145	150	81(a)	DG
126-21	OU III Western South Boundary	199-209	214	80(a)	DG
126-22	OU III Western South Boundary	203-213	218	82(a)	DG
127-04	OU III Western South Boundary, Water Levels	150-160	165	69.5	DG
127-05	OU III Western South Boundary (WSB-2)	150-170	175	70.0	DG
127-06	OU III Western South Boundary, Water Levels	150-160	165	70.4	DG
127-07	OU III Western South Boundary, Water Levels	146-156	161	74.0	DG
130-02	OU III Western South Boundary	105-125	130	80.3	MG
130-03	OU III Western South Boundary, Water Levels	160-165	170	80.1	DG
130-04	OU III Western South Boundary, Water Levels	285-290	295	80.8	MAG
130-06	Water Levels	--	66	79.9	SG
130-08	OU III Western South Boundary, Water Levels	145-155	160	72.7	DG
130-09	OU III Western South Boundary	135-145	150	77(a)	DG
130-10	OU III Western South Boundary	150-160	165	77(a)	DG
130-11	OU III Western South Boundary	195-205	210	77(a)	DG
130-12	OU III Western South Boundary (WSB-5)	160-190	193	73(a)	DG
130-13	OU III Western South Boundary WSB-6	196-216	219	72.7	DG
300-06	Water Levels	50-60	65	84(a)	SG
600-02	Water Levels	91-101	103	41.8	DG
600-15	OU V, Water Levels	240-260	265	48(a)	DG
600-16	OU V, Water Levels	160-180	185	48(a)	MG
600-18	OU V, Water Levels	35-55	60	48.1	SG
600-19	OU V, Water Levels	50-70	75	43.6	SG

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Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
600-20	OU V, Water Levels	150-170	175	43.6	SG
600-21	OU V, Water Levels	240-260	265	43.7	MAG
600-22	OU V, Water Levels	60-80	85	50.0	SG
600-23	OU V, Water Levels	150-170	175	50.0	DG
600-24	OU V, Water Levels	228-248	253	50.0	MAG
600-25	OU V, Water Levels	52-72	77	44.0	SG
600-26	OU V, Water Levels	150-170	175	44.0	DG
600-27	OU V, Water Levels	240-260	265	43.7	MAG
600-28	Water Levels	--	45	50.0	SG
800-100	OU III Airport, Water Levels	204-224	227	83.5	DG
800-101	OU III Airport, Water Levels	270-290	293	83.6	MAG
800-102	OU III Airport	294-314	317	83.5	MAG
800-103	OU III Airport	215-235	238	86.0	MAG
800-104	OU III Airport, Water Levels	160-180	183	82.5	DG
800-105	OU III Airport, Water Levels	222-242	245	82.5	MAG
800-106	OU III Airport	207-227	230	90.7	DG
800-107	Water Levels	194-214	217	77.6	DG
800-108	OU III Airport, Water Levels	206-226	229	76.6	MAG
800-109	OU III LIPA (RTW-1A)	55-95/188-208	211	80.1	DG
800-110	OU III LIPA (RTW-2A)	55-95/188-208	211	79.2	DG
800-111	OU III LIPA (RTW-3A)	55-95/210-230	235	80.1	MAG
800-112	OU III LIPA (RTW-4A)	60-100/268-288	291	83.8	MAG
800-113	OU III LIPA (RTW-5A)	65-105/220-240	243	87.1	MAG
800-115	OU III North Street	210-220	225	92.4	MAG
800-126	OU III Airport	165-185	190	74.3	DG
800-127	OU III Airport	165-185	190	75.5	DG
800-128	OU III Airport	170-190	195	77.4	DG
800-129	OU III Airport	170-190	195	78.8	DG
800-130	OU III Airport	175-195	200	78.8	DG
800-131	OU III Airport	184-204	209	78.0	DG
800-132	OU III LIPA (RTW-6A)	165-185	188	78.8	DG
800-133	OU III Airport	215-235	240	79.3	DG/MAG
800-138	OU III Airport	245-255	260	90.4	MAG
800-14	Water Levels	83-93	95	95.5	SG
800-16	Water Levels	331-336	339	95(a)	MAG
800-21	OU III Off-site, Water Levels	202-222	227	35.6	MAG
800-22	OU III Off-site, Water Levels	105-125	130	35.5	DG
800-23	OU III Off-site, Water Levels	35.5-45.5	50.5	35.6	SD
800-24	Water Levels	230-240	245	44.1	MAG
800-25	Water Levels	165-175	180	44.7	DG
800-26	Water Levels	35-45	50	42.2	SG
800-27	Water Levels	170-180	185	56.7	DG
800-28	Water Levels	262-272	277	56.4	MAG
800-29	Water Levels	50-60	65	56.2	SG
800-30	Water Levels	20-30	35	24.7	SG
800-39	Water Levels	61.5-71.5	76.5	80.9	SG
800-40	OU III Off-site, Water Levels	166-186	191	81.2	DG
800-41	OU III Off-site, Water Levels	203-223	228	80.9	MAG

Table 1-7
Summary of Monitoring Wells and Piezometers

2021 BNL Groundwater Status Report

Well ID	Project(s)	Screen Interval (Feet BLS)	Total Depth (Feet BLS)	Land Surface Elevation (Feet Above MLS)	Aquifer
800-42	Water Levels	60-70	75	79.5	SG
800-43	OU III Airport, Water Levels	147-167	172	79.5	MG
800-44	OU III Airport, Water Levels	202-222	227	79.3	DG
800-50	OU III Airport, Water Levels	195-215	220	87.3	MAG
800-51	OU III Off-site, Water Levels	70-80	85	84.8	SG
800-52	OU III Off-site, Water Levels	140-160	165	85.2	DG
800-53	OU III Off-site, Water Levels	190-210	215	85.4	MG
800-54	OU III North Street East, Water Levels	145-165	170	83.3	DG
800-55	Water Levels	25-28	28	26.0	SG
800-56	Water Levels	--	8	18.0	SG
800-59	OU III Airport, Water Levels	198-218	223	90.1	DG
800-60	OU III Airport, Water Levels	200-220	225	91.3	DG
800-63	OU III Airport, North Street, Water Levels	196-216	221	96.3	DG
800-90	OU III Airport	250-260	265	95.4	MAG
800-90	OU III Magothy, Water Levels	250-260	265	95.4	MAG
800-92	OU III Airport, Water Levels	195-205	210	95.4	MAG
800-94	OU III Airport, Water Levels	175-195	198	85.2	DG
800-95	OU III Airport	177-197	200	85.1	DG
800-96	OU III Airport, Water Levels	179-199	202	78.7	DG
800-97	OU III Airport	189-209	212	79.4	DG
800-98	OU III Airport, Water Levels	174-194	197	91.4	DG
800-99	OU III Airport, Water Levels	236-256	261	91.3	MAG

a: Estimated land surface elevation

b: Abandoned in late 2020

SG Shallow Glacial

SD Shallow-Deep Glacial

MG Mid Glacial

DG Deep Glacial

MAG Magothy

UG Upper Glacial

Table 2-1
2021 Water Pumpage Report for Potable Supply Wells

2021 BNL Groundwater Status Report

Potable Water Supply Wells Groundwater Withdrawal (1,000 gallons per month)						
BNL Well No.	4	6	7	10	11	12
LI Well Permit	W-1656	W-2210	W-2210	W-3156	W-3156	W-3389
Well No	S-17836	S-22151	S-22150	S-66944	S-72038	S-85965
Building No.	614	618	619	634	635	637
Screen Interval						
elevation (ft. msl)	-5 to -57	-8 to -60	-19 to -70	-6 to -55	-3 to -52	-7 to -52
depth (feet)	95 to 147	98 to 150	99 to 150	91 to 140	93 to 142	92 to 137
Capacity (kgal/month)*	52,000	52,000	52,000	52,000	52,000	52,000
Capacity (gpm)	1,200	1,200	1,200	1,200	1,200	1,200
January	0	0	2,551	853	14,337	0
February	0	0	1,163	834	15,660	0
March	0	0	2,229	1,467	29,608	0
April	0	0	3,258	455	18,551	0
May	0	0	2,001	3,161	23,781	0
June	0	0	1,111	6,849	27,553	0
July	0	0	1,476	18,900	16,413	0
August	0	0	1,227	13,678	14,325	0
September	0	0	1,306	12,352	15,730	0
October	0	0	1,409	13,844	14,213	0
November	0	0	0	11,646	15,609	0
December	0	0	0	16,014	16,703	0
Annual average (K gallons per month)	0	0	1,481	8,405	18,555	0

Notes:

Source: BNL Facility and Operations Directorate.

ft. msl = Elevation in feet referenced to mean sea level.

kgal/month = 1,000 gallons per month

* approximate

gpm = gallons per minute

Table 2-2
2021 Remediation Well Pumpage Report

2021 BNL Groundwater Status Report

	Operable Unit 1			HFBR-Tritium Remediation Project				
	Groundwater Withdrawal (1,000 gallons per month)							
BNL Well No.	115-27	115-43	RA V	105-040	105-039	105-041	096-119	Tritium
Extraction Well	EW-1	EW-2		EW-9	EW-10	EW-11	EW-16	Remediation
Screen Int.								
elevation (ft. msl)	-90 to -130	-40 to -80		-61 to -81	-60 to -80	-60 to -80	-14 to -54	
depth (feet)	150 to 190	100 to 140	Monthly	130 to 150	130 to 150	130 to 150	80 to 120	Monthly
			Total					Total
January	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
February	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
March	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
April	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
June	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
July	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
August	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
September	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
October	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
November	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
December	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual Average (K gal/month)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

HFBR = High Flux Beam Reactor

Elevations rounded to nearest foot

Table 2-2
2021 Remediation Well Pumpage Report

Operable Unit III - Pump and Treat MIDDLE ROAD SYSTEM - Groundwater Withdrawal (1,000 gallons per month)								
BNL Well No. Extraction Well Screen Int. elevation (ft. msl) depth (feet)	113-23 RW-1 -17 to -57 90 to 130	113-24 RW-2 -99 to -129 170 to 200	113-25 RW-3 -159 to -199 228 to 268	113-26 RW-4 -98 to -128 150 to 180	113-27 RW-5 -91 to -121 150 to 180	106-66 RW-6 -124 to -154 188 to 218	113-33 RW-7 202 to 222	MIDDLE ROAD Monthly Total
January	0.00	5,007.54	5,041.06	0.00	0.00	0.00	3,202.81	13,251.41
February	0.00	4,913.84	5,082.36	0.00	0.00	0.00	4,732.99	14,729.19
March	0.00	4,833.38	5,067.72	0.00	0.00	0.00	4,354.88	14,255.98
April	0.00	5,456.15	5,637.16	0.00	0.00	0.00	4,523.26	15,616.57
May	0.00	5,248.81	5,812.19	0.00	0.00	0.00	4,865.41	15,926.41
June	0.00	5,477.18	5,897.19	0.00	0.00	0.00	5,122.13	16,496.50
July	0.00	3,485.57	3,794.56	0.00	0.00	0.00	3,164.28	10,444.41
August	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
September	0.00	3,897.47	3,966.68	0.00	0.00	0.00	3,491.73	11,355.88
October	0.00	5,392.02	5,937.05	0.00	0.00	0.00	5,433.06	16,762.13
November	0.00	5,475.92	5,675.62	0.00	0.00	0.00	5,165.67	16,317.21
December	0.00	6,701.26	6,944.00	0.00	0.00	0.00	6,377.77	20,023.03
Annual Average (K gal/month)	0.00	4,650.73	4,898.90	0.00	0.00	0.00	4,194.39	13,744.02

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

Table 2-2
2021 Remediation Well Pumpage Report

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat SOUTH BOUNDARY SYSTEM - Groundwater Withdrawal (1,000 gallons per month)								
BNL Well No. Extraction Well Screen Int. elevation (ft. msl) depth (feet)	121-17 EW-3 -79 to -119 150 to 190	121-16 EW-4 -88 to -108 -118 to -128 160 to 180 190 to 200	121-15 EW-5 -91 to -131 160 to 200	122-14 EW-6 -105 to -145 160 to 200	122-13 EW-7 -115 to -155 170 to 210	122-12 EW-8 -131 to -151 -171 to -191 190 to 210 230 to 250	121-46 EW-17 207 to 237	SOUTH BOUNDARY Monthly Total
January	0.00	6,433.00	0.00	0.00	0.00	0.00	4,969.06	11,402.06
February	0.00	0.00	0.00	0.00	0.00	0.00	5,948.06	5,948.06
March	0.00	4,268.06	0.00	0.00	0.00	0.00	5,135.86	9,403.92
April	0.00	0.00	0.00	0.00	0.00	0.00	5,852.75	5,852.75
May	0.00	6,077.78	0.00	0.00	0.00	0.00	5,435.25	11,513.03
June	0.00	0.00	0.00	0.00	0.00	0.00	5,719.42	5,719.42
July	0.00	3,750.11	0.00	0.00	0.00	0.00	3,365.66	7,115.77
August	0.00	0.00	0.00	0.00	0.00	0.00	6,480.00	6,480.00
September	0.00	4,882.00	0.00	0.00	0.00	0.00	5,727.96	10,609.96
October	0.00	0.00	0.00	0.00	0.00	0.00	6,459.30	6,459.30
November	0.00	0.00	0.00	0.00	0.00	0.00	4,793.53	4,793.53
December	0.00	0.00	0.00	0.00	0.00	0.00	6,814.76	6,814.76
Annual Average (K gal/month)	0.00	2,144.81	0.00	0.00	0.00	0.00	5,555.65	7,700.46

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

Table 2-2
2021 Remediation Well Pumpage Report

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat OFFSITE INDUSTRIAL PARK SYSTEM - Groundwater Withdrawal (1,000 gallons per month)										
BNL Well No.	000-231	000-233	000-235	000-237	000-239	000-241	000-243	000-532	000-533	OFFSITE
Extraction Well	UVB-1	UVB-2	UVB-3	UVB-4	UVB-5	UVB-6	UVB-7	IP-EW-8	IP-EW-9	INDUSTRIAL
Screen Int.										PARK
Influent										
elevation	-137 to -157	-115.5 to -135.5	-123 to -143	-98 to -118	-109 to -129	-110 to -130	-123 to -143	-155 to -175	-148 to -168	
(ft. msl)										
depth (feet)	220 to 240	195 to 215	194 to 214	170 to 190	180 to 200	190 to 210	205 to 225	230 to 250	220 to 240	
Effluent										
elevation										
(ft. msl)	-82 to -102	-60.5 to -80.5	-68 to -88	-53 to -73	-54 to -74	-58 to -78	-68 to -88			Monthly
depth (feet)	165 to 185	140 to 160	139 to 159	125 to 145	125 to 145	140 to 160	150 to 170			Total
January	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
February	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
March	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
April	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
June	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
July	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
August	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
September	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
October	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
November	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
December	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual Average (K gal/month)	stand-by	stand-by	stand-by	stand-by	stand-by	stand-by	stand-by	stand-by	stand-by	stand-by

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

Table 2-2
2021 Remediation Well Pumpage Report

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat BUILDING 96 SYSTEM - Groundwater Withdrawal and Reinjection (1,000 gallons per month)					
BNL Well No.	095-151	095-153	095-155	095-157	BUILDING
Extraction Well	RTW-1	RTW-2	RTW-3	RTW-4	96
Screen Int.					
Influent					
elevation (ft. msl)	+34 to+24	+26 to +16	+26 to +16	+23 to +13	
depth (feet)	48 to 58	48 to 58	48 to 58	48 to 58	
Effluent					
elevation (ft. msl)	+57 to +47	+49 to +39	+49 to +39	+46 to +36	Monthly
depth (feet)	25 to 35	25 to 35	25 to 35	25 to 35	Total
January	2,553.88	0.00	0.00	0.00	2,553.88
February	2,185.59	0.00	0.00	0.00	2,185.59
March	2,452.41	0.00	0.00	0.00	2,452.41
April	2,448.37	0.00	0.00	0.00	2,448.37
May	2,535.44	0.00	0.00	0.00	2,535.44
June	2,424.53	0.00	0.00	0.00	2,424.53
July	2,534.02	0.00	0.00	0.00	2,534.02
August	2,504.90	0.00	0.00	0.00	2,504.90
September	2,375.97	0.00	0.00	0.00	2,375.97
October	2,553.18	0.00	0.00	0.00	2,553.18
November	2,381.64	0.00	0.00	0.00	2,381.64
December	2,490.10	0.00	0.00	0.00	2,490.10
Annual Average (K gal/month)	2,453	stand-by	stand-by	stand-by	2,453

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

Annual average based on actual pumping durations

*Well RTW-4 put in stand-by mode in October 2012

Table 2-2
2021 Remediation Well Pumpage Report

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat WESTERN SOUTH BOUNDARY System (1,000 gallons per month)							
BNL Well No. Extraction Well Screen Int. elevation (ft. msl) depth (feet)	126-12 WSB-1 -60 to -80 140 to 160	127-05 WSB-2 -80 to -100 150 to 170	111-17 WSB-3 -97.2 to -117.2 168 to 188	119-13 WSB-4 -91.7 to 111.7 170 to 190	130-12 WSB-5 -84.5 to -114.50 160 to 190	130-13 WSB-6 -120.6 to 140.6 196 to 216	WESTERN SOUTH BOUNDARY Monthly Total
January	3,297.00	0.00	4,174.40	3,667.60	2,964.00	3,209.00	17,312.00
February	4,086.00	0.00	4,405.60	3,822.40	0.00	3,489.00	15,803.00
March	3,499.00	0.00	3,962.00	3,174.00	0.00	3,340.00	13,975.00
April	4,371.00	0.00	4,052.00	3,699.00	0.00	3,647.00	15,769.00
May	3,109.00	0.00	3,407.00	3,770.00	2,899.00	3,777.00	16,962.00
June	3,709.00	0.00	2,900.00	3,401.00	4,334.00	3,809.00	18,153.00
July	1,856.00	0.00	2,155.00	2,031.00	2,700.00	2,411.00	11,153.00
August	6,670.00	0.00	4,301.00	2,699.00	4,692.00	4,419.00	22,781.00
September	3,923.00	0.00	3,296.00	1,264.00	3,570.00	3,526.00	15,579.00
October	3,657.00	0.00	3,954.00	4,667.00	3,606.00	3,661.00	19,545.00
November	3,511.00	0.00	4,092.00	4,894.00	3,382.00	3,533.00	19,412.00
December	4,385.00	0.00	5,208.00	5,768.00	4,052.00	4,340.00	23,753.00
Annual Average (K gal/month)	3,836.96	0.00	3,823.45	3,572.17	2,703.79	3,597.28	17,533.66

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

Table 2-2
2021 Remediation Well Pumpage Report

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat Chem Holes Strontium-90 remediation System (1,000 gallons per month)				
BNL Well No. Extraction Well Screen Int. elevation (ft. msl) depth (feet)	106-92 SR-90 EW-1 +40.5 to +25.5 23.5 to 38.5	106-23 SR-90 EW-2 +32.6 to 22.6 35 to 45	106-24 SR-90 EW-3 +27.6 to +17.6 35 to 45	Chem Holes Monthly Total
January	0.00	0.00	0.00	0.00
February	0.00	0.00	0.00	0.00
March	0.00	0.00	0.00	0.00
April	0.00	0.00	0.00	0.00
May	0.00	0.00	0.00	0.00
June	0.00	0.00	0.00	0.00
July	0.00	0.00	0.00	0.00
August	0.00	0.00	0.00	0.00
September	0.00	0.00	0.00	0.00
October	0.00	0.00	0.00	0.00
November	0.00	0.00	0.00	0.00
December	0.00	0.00	0.00	0.00
Annual Average (K gal/month)	stand-by	stand-by	stand-by	0.00

Notes:

Differences in averages due to rounding

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

Table 2-2
2021 Remediation Well Pumpage Report

Operable Unit III - Pump and Treat LIPA SYSTEM - Groundwater Withdrawal (1,000 gallons per month)					
BNL Well No. Extraction Well Screen Int. elevation (ft. msl) depth (feet)	000-453 EW-1L -111 to -131 217 to 237	000-455 EW-2L -115 to -135 224 to 244	000-457 EW-3L -104 to -124 216 to 236	000-461 EW-4L -192 to -212 304 to 324	LIPA Monthly Total
January	0.00	0.00	0.00	0.00	0.00
February	0.00	0.00	0.00	0.00	0.00
March	0.00	0.00	0.00	0.00	0.00
April	0.00	0.00	0.00	0.00	0.00
May	0.00	0.00	0.00	0.00	0.00
June	0.00	0.00	0.00	0.00	0.00
July	0.00	0.00	0.00	0.00	0.00
August	0.00	0.00	0.00	0.00	0.00
September	0.00	0.00	0.00	0.00	0.00
October	0.00	0.00	0.00	0.00	0.00
November	0.00	0.00	0.00	0.00	0.00
December	0.00	0.00	0.00	0.00	0.00
Annual Average (K gal/month)*	0.00	0.00	0.00	0.00	0.00

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

* Annual average is based on actual pumping timeframe

Table 2-2
2021 Remediation Well Pumpage Report

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat AIRPORT SYSTEM - Groundwater Withdrawal (1,000 gallons per month)							
BNL Well No.	800-109	800-110	800-111	800-112	800-113	800-132	AIRPORT
Extraction Well	RTW-1A	RTW-2A	RTW-3A	RTW-4A	RTW-5A	RW-6A	
Screen Int.							
Influent							
	-108 to -128	-109 to -129	-130 to -150	-184 to -204	-133 to -153		Monthly
depth (feet)	188 to 208	188 to 208	210 to 230	268 to 288	220 to 240	165 to 185	Total
Effluent							
elevation (ft. msl)	+25 to -15	+24 to -16	+25 to -15	+24 to -16	+22 to -18		Monthly
depth (feet)	55 to 95	55 to 95	55 to 95	60 to 100	65 to 105		Total
January	4,320.00	0.00	0.00	7,776.00	0.00	6,480.00	18,576.00
February	4,370.40	0.00	0.00	5,519.47	0.00	6,555.60	16,445.47
March	4,497.96	0.00	0.00	8,050.71	0.00	6,746.94	19,295.61
April	4,569.48	0.00	0.00	8,119.15	0.00	6,854.22	19,542.85
May	4,789.28	0.00	0.00	8,586.00	0.00	7,183.92	20,559.20
June	4,472.04	0.00	0.00	8,033.79	0.00	6,708.06	19,213.89
July	4,018.84	0.00	0.00	7,102.29	0.00	6,028.26	17,149.39
August	5,415.72	0.00	0.00	7,268.74	0.00	8,123.58	20,808.04
September	5,046.40	0.00	0.00	7,957.49	0.00	7,569.60	20,573.49
October	5,224.24	0.00	0.00	8,568.03	0.00	7,836.36	21,628.63
November	4,920.20	0.00	0.00	8,081.21	0.00	7,380.30	20,381.71
December	5,240.04	0.00	0.00	8,453.13	0.00	7,860.06	21,553.23
Annual Average (K gal/month)*	4,743.30	0.00	0.00	7,808.89	0.00	7,114.94	19,667.14

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

RTW-1A, RTW-6A and RTW-2A flow estimated. Wells share a common flow meter, individial well pumpage estimated of actual flow meter reading.

* Annual average is based on actual pumping timeframe

Table 2-2
2021 Remediation Well Pumpage Report

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat NORTH STREET - Groundwater Withdrawal (1,000 gallons per month)			
BNL Well No. Extraction Well Screen Int. elevation (ft. msl) depth (feet)	000-471 NS-1 -64 to-104 165 to 205	000-473 NS-2 -96 to -126 190 to 220	NORTH STREET Monthly Total
January	0.00	0.00	0.00
February	0.00	0.00	0.00
March	0.00	0.00	0.00
April	0.00	0.00	0.00
May	0.00	0.00	0.00
June	0.00	0.00	0.00
July	0.00	0.00	0.00
August	0.00	0.00	0.00
September	0.00	0.00	0.00
October	0.00	0.00	0.00
November	0.00	0.00	0.00
December	0.00	0.00	0.00
Annual Average (K gal/month)	0.00	0.00	0.00

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

Table 2-2
2021 Remediation Well Pumpage Report

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat NORTH STREET EAST- Groundwater Withdrawal (1,000 gallons per month)					
BNL Well No. Extraction Well Screen Int. elevation (ft. msl) depth (feet)	000-487 NSE-1 -71 to -101 161 to 191	000-488 NSE-2 -71 to -101 152 to 182	000-561 NSE-EDB-EW-3 -111 to -131 195 to 215	000-562 NSE-EDB-EW-4 -112 to -132 182 to 202	NORTH STREET EAST Monthly Total
January	0.00	0.00	4,658.00	4,326.00	8,984.00
February	0.00	0.00	4,771.00	5,469.00	10,240.00
March	0.00	0.00	4,303.00	5,128.00	9,431.00
April	0.00	0.00	4,176.00	5,723.00	9,899.00
May	0.00	0.00	4,609.00	4,566.00	9,175.00
June	0.00	0.00	4,446.00	4,232.00	8,678.00
July	0.00	0.00	4,113.00	4,045.00	8,158.00
August	0.00	0.00	4,686.00	4,306.00	8,992.00
September	0.00	0.00	4,818.00	4,276.00	9,094.00
October	0.00	0.00	4,216.00	3,686.00	7,902.00
November	0.00	0.00	3,314.00	3,147.00	6,461.00
December	0.00	0.00	5,074.00	5,229.00	10,303.00
Annual Average (K gal/month)	0.00	0.00	4,431.88	4,505.04	8,936.92

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

Table 2-2
2021 Remediation Well Pumpage Report

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat BGRR/WCF Strontium-90 - Groundwater Withdrawal (1,000 gallons per month)										
BNL Well No.	065-368	065-369	075-676	075-677	075-678	065-403	075-702	075-703	075-704	BGRR
Extraction Well	SR-1	SR-2	SR-3	SR-4	SR-5	SR-6	SR-7	SR-8	SR-9	
Screen Int.										
elevation (ft. msl)	51.5-31.5	51.5-31.5	50-30	46-6	46-6	38.7 to 18.7	13.2 to -6.8	15.1 to -4.9	24.6 to 4.6	Monthly
depth (feet)	33-53	33.5-53.5	51-71	35-75	35-75	85-105	82-102	77-97	67-87	Total
January	360.93	232.35	0.00	0.00	0.00	0.00	0.00	378.24	420.00	1,736
February	232.35	232.35	28.80	0.00	0.00	0.00	0.00	0.00	420.00	1,197
March	232.35	232.35	232.35	0.00	0.00	0.00	0.00	402.77	420.00	1,288
April	232.35	233.35	232.35	0.00	0.00	0.00	0.00	0.00	420.00	510
May	232.35	232.35	280.55	0.00	0.00	0.00	0.00	495.63	420.00	1,664
June	116.17	116.17	168.26	0.00	0.00	0.00	0.00	0.00	210.00	1,092
July	232.35	232.35	292.75	0.00	0.00	0.00	0.00	431.97	420.00	94
August	232.35	232.35	241.93	0.00	0.00	0.00	0.00	0.00	420.00	216
September	232.35	232.35	275.88	0.00	0.00	0.00	0.00	522.00	420.00	1,679
October	0.00	232.36	298.44	0.00	0.00	0.00	0.00	0.00	420.00	1,177
November	95.00	201.92	201.92	0.00	0.00	0.00	0.00	345.15	345.15	1,652
December	77.53	77.53	77.53	0.00	0.00	0.00	0.00	0.00	141.12	466
Annual Average (K gal/month)	190	207	194	stand-by	stand-by	stand-by	stand by	215	373	1,064

Notes:

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

Source: Groundwater Protection Group Field Engineer

Table 2-2
2021 Remediation Well Pumpage Report

2021 BNL Groundwater Status Report

Operable Unit VI - Pump and Treat EDB SYSTEM- Groundwater Withdrawal (1,000 gallons per month)			
BNL Well No. Extraction Well Screen Int. elevation (ft. msl) depth (feet)	000-503 EW-1E -41 to -61 115 to 135	000-504 EW-2E -45 to -65 115 to 135	OU VI EDB Monthly Total
January	7,151.00	8,180.00	7,986
February	6,905.70	8,285.60	15,210
March	7,041.20	4,995.40	15,215
April	7,988.00	4,162.70	13,903
May	7,026.10	8,081.30	14,722
June	6,684.00	8,022.00	14,185
July	6,596.00	7,827.00	15,252
August	1,336.20	5,426.60	5,935
September	1,622.80	7,747.40	0
October	7,452.00	7,855.00	8,753
November	6,645.90	7,975.30	13,279
December	6,896.20	8,032.20	14,712
Annual Average (K gal/month)	6,112	7,216	11,596

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

Flow per well estimated, average combined flow 155 gallons per minute

Table 2-2
2021 Remediation Well Pumpage Report

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat BUILDING 452 FREON SYSTEM- Groundwater Withdrawal (1,000 gallons per month)		
BNL Well No. Extraction Well Screen Int. elevation (ft. msl) depth (feet)	085-839 EW-18 55-65	Building 452 Freon Monthly Total
January	0.00	0.00
February	0.00	0.00
March	0.00	0.00
April	0.00	0.00
May	0.00	0.00
June	0.00	0.00
July	0.00	0.00
August	0.00	0.00
September	0.00	0.00
October	0.00	0.00
November	0.00	0.00
December	0.00	0.00
Annual Average (K gal/month)	stand-by	stand-by

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

Table 2-3
2021 Recharge Basin Flow Report

2021 BNL Groundwater Status Report

Recharge Basins										
BNL Basin No.	HN	HO	HS	HT-W	HT-E	HX	RA V	OU III	HZ	WSB
January	34,751	2,480	7,316	2,542	1,333	2,480	27,852	25,361	693	0
February	38,454	3,360	9,599	2,355	5,046	3,360	12,789	8,532	626	0
March	46,128	1,240	18,228	2,108	1,116	1,240	20,646	16,989	155	0
April	45,480	2,400	9,270	2,010	780	2,400	17,053	18,281	671	0
May	50,623	2,480	5,394	2,418	310	2,480	21,999	21,129	693	0
June	59,610	2,400	11,220	4,320	1,290	2,400	20,975	18,382	671	0
July	58,125	1,240	12,121	7,223	1,054	1,240	14,679	13,370	693	0
August	50,530	1,240	11,315	5,611	744	1,240	18,541	13,387	693	0
September	61,410	2,400	13,830	7,770	960	2,400	13,179	24,821	671	0
October	88,722	2,480	16,585	5,890	992	2,480	19,438	21,419	693	0
November	23,580	1,200	6,090	3,510	270	1,200	18,031	19,585	1,106	0
December	9,269	1,240	5,146	5,394	186	1,240	21,788	23,378	428	0
Basin Average	47,224	2,013	10,510	4,263	1,173	2,013	18,914	18,720	649	0

Notes:

- Sources: BNL Environmental Protection Division (HN, HO, HS, HT, HX, HZ)
  BNL Groundwater Protection Division (RA V, WSB, OU III, New HP)
- Monthly recharge values reported in K gallons per month.
- Values for basins HN, HO, HS, HT, HX are based on flow meter readings which include surface- water run-off, as applicable.
- Values for basin HZ were calculated and based on the average measured flow from readings collected on a weekly basis.
- Values for RA V basin and OU III basin estimated based on flow readings from corresponding RA V basin flow meter minus the total flow from the OU III SB, Middle Road and WSB systems.

Table 2-4
BNL Monthly Precipitation Summary (1949–2021)

2021 BNL Groundwater Status Report

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1949	5.55	4.71	2.88	3.63	3.32	trace	3.07	5.21	3.49	1.74	2.96	3.36	39.92
1950	2.80	4.28	3.98	2.41	5.23	2.72	3.22	4.26	1.38	1.69	4.34	4.36	40.67
1951	3.75	4.99	5.02	3.42	3.68	2.64	2.08	4.50	1.06	5.48	6.01	6.17	48.80
1952	7.10	3.54	5.44	3.61	7.64	2.78	1.00	7.61	1.35	0.31	3.56	4.45	48.39
1953	6.73	4.16	10.36	5.59	3.34	1.66	2.76	2.40	0.90	3.17	5.03	6.43	52.53
1954	2.74	2.18	4.21	5.36	4.08	1.69	0.94	11.98	10.47	2.44	5.42	6.39	57.90
1955	0.62	3.26	4.79	4.28	0.95	2.53	1.65	9.04	3.96	11.43	7.19	0.82	50.52
1956	3.52	6.32	5.47	2.97	2.63	3.00	5.79	1.50	3.64	2.95	4.63	6.03	48.45
1957	2.36	2.53	3.20	4.44	1.46	0.42	2.84	4.25	3.57	3.86	4.41	8.45	41.79
1958	7.96	4.58	6.65	6.34	5.81	2.28	3.42	5.37	4.24	7.39	2.88	2.68	59.60
1959	2.60	2.06	6.71	3.93	1.75	5.35	6.85	3.72	1.36	3.13	4.46	5.12	47.04
1960	3.59	5.48	3.38	3.27	2.54	2.13	6.03	1.79	7.49	3.94	2.62	4.31	46.57
1961	3.56	4.10	4.60	5.70	6.17	2.30	5.61	4.23	6.23	3.06	2.89	3.70	52.15
1962	4.38	5.77	3.63	3.31	1.12	3.55	1.64	7.64	4.07	4.62	5.04	2.83	47.60
1963	3.27	3.88	4.27	2.56	3.08	5.51	2.65	2.10	3.66	0.18	6.89	2.78	40.83
1964	5.89	4.76	3.56	8.37	0.63	1.41	4.40	1.16	3.02	4.29	3.07	6.63	47.19
1965	4.88	3.03	2.74	4.20	1.63	1.69	3.43	5.15	1.51	2.15	1.83	2.11	34.35
1966	4.57	5.18	1.73	2.13	6.55	1.40	1.12	3.23	6.53	4.45	2.89	4.15	43.93
1967	1.65	3.98	8.18	4.14	7.98	5.30	6.01	5.43	2.24	2.11	4.00	7.60	58.62
1968	3.00	2.21	7.54	2.00	4.95	4.24	0.50	3.10	2.08	3.01	8.09	8.22	48.94
1969	1.04	4.03	3.62	5.15	2.44	2.06	8.62	5.51	3.60	3.69	4.48	7.83	52.07
1970	0.81	4.37	5.44	4.57	3.44	1.77	3.10	6.08	2.42	1.41	6.52	3.73	43.66
1971	2.95	6.45	3.55	3.30	3.80	0.92	5.03	3.86	2.12	3.41	6.86	2.57	44.82
1972	2.41	6.12	5.40	4.53	6.10	7.30	1.03	1.29	3.08	7.64	7.51	6.22	58.63
1973	4.44	4.36	4.38	7.77	5.46	3.25	4.45	3.11	2.51	2.79	2.22	8.00	52.74
1974	4.96	2.82	5.06	3.49	3.13	2.50	0.81	2.55	5.10	2.66	1.94	6.78	41.80
1975	6.50	4.06	4.27	3.89	3.45	5.37	3.33	2.01	5.58	3.61	5.89	4.92	52.88
1976	5.98	3.57	3.30	2.27	3.89	3.27	4.32	7.57	2.07	5.42	0.54	2.96	45.16
1977	3.09	2.46	5.47	4.28	2.04	4.31	1.51	5.49	5.73	6.12	6.39	6.93	53.82
1978	10.72	2.60	3.33	2.39	6.47	0.81	4.63	5.22	4.26	4.11	2.79	6.12	53.45
1979	13.01	5.27	3.53	4.96	4.09	2.15	0.61	7.76	3.20	4.57	3.95	3.02	56.12
1980	2.02	1.18	7.20	6.16	1.52	3.60	1.92	1.56	0.98	3.59	4.20	1.06	34.99
1981	1.15	5.16	1.80	4.59	2.17	3.14	2.69	0.96	5.17	4.49	3.16	5.55	40.03
1982	7.20	2.90	3.38	5.44	1.71	12.85	1.77	3.45	1.40	2.07	3.87	2.38	48.42
1983	4.07	4.36	8.68	11.09	4.22	2.63	4.20	4.48	2.09	3.67	8.68	5.67	63.84
1984	2.87	6.38	6.92	5.41	8.08	6.68	7.06	1.02	4.16	3.20	2.40	2.98	57.16
1985	1.07	1.82	2.62	1.56	4.87	6.38	2.30	4.89	1.54	1.53	6.85	1.10	36.53
1986	3.96	3.46	3.17	2.35	1.09	1.66	5.02	5.69	0.86	2.25	6.72	7.50	43.73
1987	6.74	1.21	5.95	4.32	1.83	1.86	1.48	4.38	4.05	2.22	3.55	3.20	40.79
1988	3.59	4.81	4.22	2.17	2.58	1.43	3.93	1.36	3.52	3.87	9.05	2.52	43.05
1989	2.23	4.09	5.20	4.66	10.47	7.24	5.84	9.17	4.45	8.90	5.16	1.25	68.66
1990	5.24	2.92	2.14	4.96	6.52	3.95	2.64	6.75	3.04	7.17	1.78	5.90	53.01
1991	4.41	1.86	5.45	4.30	2.78	1.87	2.11	9.19	4.45	2.61	1.80	4.30	45.13
1992	2.40	2.18	3.34	1.78	3.05	4.90	4.76	5.61	3.51	1.07	5.96	6.60	45.16
1993	2.47	4.10	7.11	3.81	1.71	1.37	1.84	1.61	4.36	4.69	3.72	6.11	42.90
1994	5.78	4.04	6.55	2.26	2.93	0.51	0.91	5.04	4.41	1.09	6.34	4.30	44.16
1995	2.93	3.74	1.53	2.52	2.79	3.12	1.78	0.54	4.91	5.97	5.83	3.74	39.40
1996	5.22	3.51	3.58	6.40	3.39	4.41	4.94	2.68	6.08	8.24	3.11	8.66	60.22
1997	3.82	2.64	5.10	4.21	2.67	2.16	2.21	3.33	1.27	2.55	5.42	4.66	40.04
1998	7.01	5.66	8.08	6.55	8.58	8.43	0.94	3.68	2.50	1.91	2.05	1.22	56.61
1999	8.85	4.81	5.32	2.35	2.41	1.04	2.12	8.71	5.90	4.78	2.58	2.85	51.72
2000	3.75	2.58	5.49	6.29	4.28	5.18	8.37	3.38	6.86	0.31	3.79	4.09	54.37
2001	3.28	2.63	10.37	2.03	4.22	6.46	3.47	4.68	4.04	1.04	0.74	2.59	45.55
2002	3.07	1.16	5.05	4.58	4.48	4.37	1.37	3.94	5.84	6.40	6.18	5.63	52.07
2003	2.48	5.74	5.99	5.11	6.07	12.28	2.38	5.19	5.22	4.80	3.63	4.22	63.11

Table 2-4
BNL Monthly Precipitation Summary (1949–2021)

2021 BNL Groundwater Status Report

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2004	2.15	3.14	3.47	4.94	2.59	1.34	3.05	4.30	5.14	1.62	2.16	1.96	35.86
2005	3.32	2.10	2.47	2.53	2.36	1.48	2.16	0.87	1.09	22.14	5.00	4.60	50.12
2006	5.52	2.87	0.89	7.17	6.73	6.73	5.73	6.44	3.21	7.22	6.61	2.47	61.59
2007	4.32	2.00	5.58	6.87	2.06	3.18	7.58	2.78	1.69	1.71	3.31	4.25	45.33
2008	2.36	5.57	4.67	4.01	3.61	2.28	1.97	3.07	9.31	4.02	3.82	4.37	49.06
2009	1.27	1.74	1.79	5.39	6.05	7.99	7.19	1.15	3.18	6.13	4.65	7.64	54.17
2010	2.15	6.01	11.98	0.74	3.88	1.64	6.7	2.21	4.56	3.08	2.91	4.08	49.94
2011	3.23	3.61	3	4.34	3.37	4.33	2.34	9.81	4.74	5.75	3.52	3.16	51.2
2012	3.01	1.27	1.11	3.81	4.53	7.74	8.26	4.57	3.49	3.24	2.49	7.3	50.82
2013	2.35	5.84	3.82	1.67	3.04	8.37	4.14	2.05	2.39	0.26	3.13	6.17	43.23
2014	2.9	5.63	6.73	4.86	4.82	2.35	2.58	3.67	2.66	5.23	5.79	7.03	54.25
2015	5.15	2.98	5.87	1.81	0.53	4.38	1.69	1.54	3.53	4.23	2.41	5.25	39.37
2016	3.08	5.4	3.41	2.65	3.84	1.17	3.42	2.19	3.35	3.42	3.3	3.7	38.93
2017	5.19	2.37	6.82	4.79	4.83	4.12	3.11	4.77	3.24	6.52	2.26	2.33	50.35
2018	4.25	6.71	8.04	4.39	3.73	2.43	3.74	7.67	4.81	6.5	9.16	7.1	68.53
2019	4.74	3.62	3.37	6.95	6.19	3.95	2.62	2.15	1.18	6.84	2.05	8.44	52.1
2020	1.95	3.33	3.97	5.62	1.52	1.39	5.33	3.64	2.49	5.22	5.66	5.29	45.41
2021	1.98	4.94	3.99	3.98	6.17	1.26	6.19	5.24	5.27	7.46	0.94	1.85	49.27
Average*	4.03	3.82	4.85	4.19	3.85	3.70	3.47	4.38	3.70	4.09	4.35	4.65	49.02
Maximum	13.01	6.71	11.98	11.09	10.47	12.85	8.62	11.98	10.47	22.14	9.16	8.66	68.66
Minimum	0.62	1.16	0.89	0.74	0.53	0.42	0.50	0.54	0.86	0.18	0.54	0.82	34.35

Notes: Precipitation is given in inches. Source: BNL Meteorological Services, Environmental & Climate Sciences Department * Long Term Average

Table 3.1-1
OU I South Boundary
Summary of Strontium-90 Results From Vertical Profile Wells,
March 22 Through April 19 2022

2021 BNL Groundwater Status Report

Sample Interval (bls)	Geoprobe ID: / Sample Date: / Analysis:	Units	OU1-SR-90-GP-69 03/22-23/2022	OU1-SR-90-GP-70 03/24-25/2022	OU1-SR-90-GP-71 03/29-30/2022
22'-26'	Strontium-90	pCi/L			6.24
26'-30'	Strontium-90	pCi/L	0.989	1.5	<MDA
30'-34'	Strontium-90	pCi/L	3.01	10.8	3.8
34'-38'	Strontium-90	pCi/L	6.1	6.09	33.9
38'-42'	Strontium-90	pCi/L	3.9	11.5	95
42'-46'	Strontium-90	pCi/L	2.4	8.37	77.6
46'-50'	Strontium-90	pCi/L	1.42	4.1	12.7
50'-54'	Strontium-90	pCi/L	2.25	1.38	7.28
54'-58'	Strontium-90	pCi/L	1.5	<MDA	<MDA
58'-62'	Strontium-90	pCi/L	1.84	1.28	<MDA
62'-66'	Strontium-90	pCi/L	0.679J	0.859	<MDA
66'-70'	Strontium-90	pCi/L	0.635J	<MDA	<MDA

Sample Interval (bls)	Geoprobe ID: / Sample Date: / Analysis:	Units	OU1-SR-90-GP-72 03/31-04/1/2022	OU1-SR-90-GP-73 04/19/22	OU1-SR-90-GP-74 04/27-28/2022
20'-24'					1.42
25'-29'	Strontium-90	pCi/L	<MDA	1.11	<MDA
30'-34'	Strontium-90	pCi/L	<MDA	1.48	2.00
35'-39'	Strontium-90	pCi/L	4.26	2.26	7.84
40'-44'	Strontium-90	pCi/L	9.66	5.66	4.45
45'-49'	Strontium-90	pCi/L	4.89	5.07	<MDA
50'-54'	Strontium-90	pCi/L	2.42	5.58	3.50
55'-59'	Strontium-90	pCi/L	1.01N2	2.81	1.97
60'-64	Strontium-90	pCi/L	<MDA	1.02	1.07
65'-69'	Strontium-90	pCi/L	<MDA	1.06	<MDA

Table 3.1-1
OU I South Boundary
Summary of Strontium-90 Results From Vertical Profile Wells,
March 22 Through April 19 2022

2021 BNL Groundwater Status Report

Sample Interval (bls)	Geoprobe ID: / Sample Date: / Analysis:	Units	OU1-SR-90-GP-97 04/15-18/2022	OU1-SR-90-GP-98 04/5-7/2022	OU1-SR-90-GP-99 04/8-9/2022	OU1-SR-90-GP-100 04/12-13/2022
25'-29'	Strontium-90	pCi/L	1.28	<MDA	<MDA	
30'-34'	Strontium-90	pCi/L	1.47	<MDA	<MDA	<MDA
35'-39'	Strontium-90	pCi/L	1.17	<MDA	<MDA	<MDA
40'-44'	Strontium-90	pCi/L	1.33	1.85	1.48	<MDA
45'-49'	Strontium-90	pCi/L	2.63	3.65	1.4	1.82
50'-54'	Strontium-90	pCi/L	1.65	2.86	2.13	3.85
55'-59'	Strontium-90	pCi/L	2.97	2.5	5.88	3.07
60'-64'	Strontium-90	pCi/L	1.07	1.29N2	<MDA	1.92
65'-69'	Strontium-90	pCi/L	1.39	1.09N2	<MDA	1.45
70'-74'	Strontium-90	pCi/L	<MDA	1.2N2	1.03N2	0.953N2
75'-79'	Strontium-90	pCi/L	<MDA	1.28N2	1.68	<MDA
80'-84'	Strontium-90	pCi/L	2.03	1.73	1.22N2	<MDA

<MDA: Minimum Detectable Activity

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 MDA and the uncertainty.

Table 3.2.1-3
OU III Building 96 2021 Extraction Well Pumping Rates

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat BUILDING 96 SYSTEM - Groundwater Withdrawal and Reinjection (gpm)					
BNL Well No. Extraction Well Screen Int. Influent elevation (ft. msl) depth (feet) Effluent elevation (ft. msl) depth (feet)	095-151 RTW-1 +34 to+24 48 to 58 +57 to +47 * 25 to 35	095-153 RTW-2 +26 to +16 48 to 58 +49 to +39 25 to 35	095-155 RTW-3 +26 to +16 48 to 58 +49 to +39 25 to 35	095-157 RTW-4 +23 to +13 48 to 58 +46 to +36 25 to 35	BUILDING 96 Monthly Total
January	59	0	0	0	59
February	51	0	0	0	51
March	57	0	0	0	57
April	57	0	0	0	57
May	58	0	0	0	58
June	56	0	0	0	56
July	59	0	0	0	59
August	58	0	0	0	58
September	55	0	0	0	55
October	59	0	0	0	59
November	55	0	0	0	55
December	58	0	0	0	58
Annual Average (gpm)	57	0	0	0	57

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

gpm - gallons per minute

* - The upper screen on RTW-1 has not been used since 2008

Table 3.2.2-3
OU III Middle Road 2021 Extraction Well Pumping Rates

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat MIDDLE ROAD SYSTEM - Groundwater Withdrawal (GPM)								
BNL Well No. Extraction Well Screen Int. elevation (ft. msl) depth (feet)	113-23 RW-1 -17 to -57 90 to 130	113-24 RW-2 -99 to -129 170 to 200	113-25 RW-3 -159 to -199 228 to 268	113-26 RW-4 -98 to -128 150 to 180	113-27 RW-5 -91 to -121 150 to 180	106-66 RW-6 -124 to -154 188 to 218	113-33 RW-7 202 to 222	MIDDLE ROAD Monthly Total
January	0	116	117	0	0	0	74	307
February	0	114	118	0	0	0	110	341
March	0	112	117	0	0	0	101	330
April	0	126	130	0	0	0	105	361
May	0	122	135	0	0	0	113	369
June	0	127	137	0	0	0	119	382
July	0	81	88	0	0	0	73	242
August	0	0	0	0	0	0	0	0
September	0	90	92	0	0	0	81	263
October	0	125	137	0	0	0	126	388
November	0	127	131	0	0	0	120	378
December	0	155	161	0	0	0	148	463
Annual Average (gpm)	0	108	114	0	0	0	97	319

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

Table 3.2.2-4
OU III Middle Road
2021 Temporary Well Data
Detected VOCs

2021 BNL Groundwater Status Report

MR-VP-01-2021																															
Sample Depth	**235-240**		**225-230**		**215-220**		**205-210**		**195-200**		**185-190**		**175-180**		**165-170**		**155-160**		**145-150**		**135-140**		**125-130**		**115-120**		**105-110**		**95-100**	
Date sampled	**08/06/21**		**08/09/21**		**08/09/21**		**08/09/21**		**08/09/21**		**08/09/21**		**08/09/21**		**08/09/21**		**08/10/21**		**08/10/21**		**08/10/21**		**08/10/21**		**08/10/21**		**08/10/21**		**08/10/21**	
Compound	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**	
1,1,2,2-Tetrachloroethane	-		5.32		6.02		3.07		2.31		1		0.41	J	-		-		-		-		-		-		-		-		-	
Methylene chloride	1.49	BJ	1.11	BJ	1.43	BJ	1.36	BJ	4.41		4.97		5.11		1.06	BJ	1.3	BJ	0.33	BJ	1.12	BJ	0.98	BJ	1.01	BJ	1.09	BJ	0.97	BJ
Toluene	4.62		0.360	J	0.570	J	0.210	J			-		-		-		-		-		-		-		-		-		-	
1,1,1-Trichloroethane	-		0.510	J	1.64		0.980	J	3.87		1.12		4.28		-		-		-		-		-		-		-		-		-	
Carbon tetrachloride	-		0.370	J	5.53		2.63		8.59		15.5		46.2		3.73		1.83		0.750	J	-		-		-		-		-		-	
Chloroform	-		0.310	J	1.56		1.05		2.12		2.40		1.91		2.26		1.46		1.09		0.790	J	0.770	J	0.670	J	-		-		-	
Tetrachloroethylene	-		14.5		80.3		34.5		87.1	D	86.9	D	114	D	24		9.03		5.11		1.72		1.91		2.16		1.69		6.34		
Trichloroethylene	-		2.93		9.75		5.75		9.25		2.76		1.54		0.380	J	-		-		-		-		-		-		-		-	
TVOC total	6.11		25.41		106.8		49.55		117.65		114.65		173.45		31.43		13.62		7.28		3.63		3.66		3.84		2.78		7.31	

MR-VP-02-2021																															
Sample Depth	**235-240**		**225-230**		**215-220**		**205-210**		**195-200**		**185-190**		**175-180**		**165-170**		**155-160**		**145-150**		**135-140**		**125-130**		**115-120**		**105-110**		**95-100**	
Date sampled	**08/03/21**		**08/03/21**		**08/03/21**		**08/04/21**		**08/04/21**		**08/04/21**		**08/04/21**		**08/04/21**		**08/04/21**		**08/04/21**		**08/05/21**		**08/05/21**		**08/05/21**		**08/05/21**		**08/05/21**	
Compound	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**	
1,1,2,2-Tetrachloroethane	-		-		-		-		2.7		-		-		-		-		-		-		-		-		-		-	
Methylene chloride	1.61	J	1.9	J	1.78	J	1.61	J	1.77	J	1.7	J	1.53	J	-		-		-		-		-		-		-		-		-	
Toluene	-		0.390	J	0.590	J	0.500	J	-		-		-		-		-		-		-		-		-		-		-		-	
1,1,1-Trichloroethane	-		-		-		-		0.850	J	-		-		-		-		-		-		-		-		-		-		-	
Carbon tetrachloride	-		-		-		-		0.860	J	7.3		1.73		-		-		-		-		-		-		-		-		-	
Chloroform	-		-		-		-		0.830	J	1.28		1.03		1.03		0.840	J	0.590	J	0.460	J	0.370	J	-		-		-		-	
Tetrachloroethylene	-		-		-		-		59.3		58		15.5		24.3		6.41		1.41		-		0.980	J	0.410	J	0.450	J	0.780	J	
Trichloroethylene	-		-		-		-		14		3.14		-		0.410	J	-	U	-		-		-		-		-		-		-	
TVOC total	1.61		2.29		2.37		2.11		80.31		71.42		19.79		25.74		7.25		2		0.46		1.35		0.41		0.45		0.78	

Table 3.2.2-4
OU III Middle Road
2021 Temporary Well Data
Detected VOCs

MR-VP-03-2021															
	Sample Depth	235-240	225-230	215-220	205-210	195-200	185-190	175-180	165-170	155-160	145-150	135-140	125-130	115-120	105-110	95-100
	Date sampled	07/29/21	07/29/21	07/29/21	07/30/21	07/30/21	07/30/21	07/30/21	07/30/21	07/30/21	08/02/21	08/02/21	08/02/21	08/02/21	08/02/21	08/02/21
		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Compound																
1,1-Dichloroethane		-	-	-	-	-	1.26	1.07	0.520 J	-	-	-	-	-	-	-
1,1-Dichloroethylene		-	-	-	-	-	1.1	1.93	-	-	-	-	-	-	-	-
MTBE		-	-	-	-	-	0.970 J	0.710 J	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane		-	-	-	-	-	1.90	1.93	1.2	-	-	-	-	-	-	-
Chloroform		-	-	-	-	0.900 J	1.04	1.36	0.640 J	-	-	-	-	-	-	-
Tetrachloroethylene		-	-	-	-	-	1.32	3.80	10.4	11.5	1.68	0.850 J	0.390 J	0.630 J	1.18	0.950 J
Trichloroethylene		-	-	-	-	-	1.06	0.940 J	0.500 J		-	-	-	-	-	-
TVOC total		0	0	0	0	0.9	8.65	11.74	13.26	11.5	1.68	0.85	0.39	0.63	1.18	0.95

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

J: Value is estimated.

E: Concentration of the target analyte exceeds the instrument calibration range.

B: The target analyte was detected in the associated blank.

Table 3.2.2-5

OU III Middle Road
2021 Temporary Well Data
MR-VP-01-2021
Installed: August 6-10, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
95-100	0.24	8.41	7.37	2.44	8.96	1.65U	1.58J	7.61	2.4	0.681J	1.74U	1.36J	2.08	3.31U
105-110	0.27	11	6.97	3.59	12.2	1.64U	1.82	6.91	3.62	1.57J	1.73U	1.13J	3.22	3.28U
115-120	NA	10.3	6.45	4.69	12.3	1.74U	1.78J	5.63	3.35	1.83	1.83U	1.32J	2.39	3.48U
125-130	NA	10.7	7.82	4.64	15	1.67U	2.05	8.54	4	0.826J	1.76U	1.35J	3.04	3.34U
135-140	0.28	10.3	7.07	2.67	11	1.65U	1.89	14.4	2.81	0.614J	1.74U	1.63	1.32J	3.30U
145-150	0.32	7.23	8.42	2.23	12	1.73U	1.86	9.78	2.51	1.82U	1.82U	1.15J	1.06J	3.46U
155-160	0.18 J	6.32	5.94	1.92	13.4	1.67U	1.32J	9.92	2.82	1.76U	1.76U	1.47J	0.737J	3.35U
165-170	0.14 J	5.35	6.36	2.18	15.6	1.67U	1.64J	9.97	2.52	1.76U	1.76U	1.72	0.852J	3.35U
175-180	1.1	2.44	3.83	2.19	27.8	1.69U	1.02J	12.2	2.67	1.78U	1.78U	2.28	1.46J	3.38U
185-190	0.69	3.42	7.57	2.4	11.9	1.65U	0.988J	20.20	3.8	1.73U	1.73U	3.23	0.907J	3.29U
195-200	0.92	2.37	11.7	3.22	14	1.66U	1.48J	23.5	6.6	1.74U	1.74U	3.81	1.25J	3.31U
205-210	1.5	2.68	37	7.16	10.7	1.74U	3.68	60.4	21.4	1.83U	1.83U	8.7	3.22	3.48U
215-220	1.3	2.26	26.5	5.77	14	1.74U	2.9	47.1	16.2	1.83U	1.83U	6.9	2.58	3.48U
225-230	4.0	0.995J	7.5	2.48	8.56	1.65U	0.791J	12.9	4.3	1.74U	1.74U	2.13	0.722J	3.31U
235-240	5.6 E	1.73U	1.73U	1.45J	7.84	1.64U	1.73U	2.8	1.73U	1.73U	1.73U	0.798J	1.73U	3.29U
FRB	--	1.76U	1.76U	1.57U	1.76U	1.68U	1.76U	1.61U	1.76U	1.76U	1.76U	1.66U	1.76U	3.35U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

E: Results are over the calibration range on the raw data.

Table 3.2.2-5

OU III Middle Road
2021 Temporary Well Data
MR-VP-02-2021
Installed: August 16-18, 2021

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
95-100	1.4	7.3	8.42	3.2	12.4	1.92U	1.68J	5.63	3.88	2.02U	2.02U	1.50J	1.64J	3.83U
105-110	0.20 U	17	9.65	3.15	13.3	1.62U	1.65J	5.44	3.09	0.969J	1.71U	1.13J	2.14	3.24U
115-120	0.20 U	11.2	7.92	5.25	16.4	1.65U	1.57J	6.92	2.64	0.701J	1.73U	1.08J	2.47	3.29U
125-130	0.30	10.9	8.72	4.63	20.6	1.65U	2.52	7.41	2.61	0.661J	1.74U	1.21J	2.02	3.30U
135-140	0.36	9.81	7.32	3.49	14.9	1.67U	1.8	7.43	2.04	1.75U	1.75U	1.21J	1.43J	3.33U
145-150	0.65	8.9	7.14	1.82	13.1	1.64U	2.21	6.93	2.74	1.73U	1.73U	0.980J	1.10J	3.29U
155-160	0.47	8.15	4.17	1.34J	8.16	1.70U	1.22J	8.66	1.23J	1.79U	1.79U	1.26J	0.629J	3.41U
165-170	0.39	6.13	4.03	1.68	7.05	1.62U	0.863J	12.1	1.79	1.70U	1.70U	1.46J	1.70U	3.24U
175-180	0.52	5.61	6	1.96	10.8	1.70U	1.63J	12.3	1.61J	1.79U	1.79U	2.04	1.79U	3.39U
185-190	1.1	2.60	7.5	2.51	12.7	1.65U	1.25J	12.90	2.61	1.73U	1.73U	2.46	0.762J	3.29U
195-200	1.6	4.43	77.5	9.41	10.4	0.585J	4.56	101	24.8	1.72U	1.72U	11.3	3.95	3.27U
205-210	5.4 E	1.82U	1.10J	6.21	19.3	1.73U	1.82U	4.79	4.28	1.82U	1.82U	4.69	0.890J	3.45U
215-220	6.3 E	1.76U	0.759J	6.67	22.6	1.67U	1.76U	3.52	4.82	1.76U	1.76U	4.6	0.972J	3.33U
225-230	6.5 E	1.73U	0.953J	6.39	23.1	1.64U	1.64U	6.03	5.52	1.73U	1.73U	4.41	0.953J	3.32U
235-240	4.9	1.75U	1.75U	5.9	19.7	1.66U	1.75U	1.8	2.13	1.75U	1.75U	2.92	1.75U	3.32U
FRB	--	1.77U	1.77U	1.57U	1.77U	1.68U	1.77U	1.61U	1.77U	1.77U	1.77U	1.66U	1.77U	3.36U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

E: Results are over the calibration range on the raw data.

Table 3.2.2-5

OU III Middle Road
2021 Temporary Well Data
MR-VP-03-2021
Installed: July 29-August 2, 2021

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
95-100	0.22U	10.3	6.1	1.50J	6.7	1.70U	2.48	10.1	5.89	0.820J	1.79U	1.13J	4.28	3.39U
105-110	0.39U	9.98	5.97	1.39J	6.52	1.64U	2.33	9.81	5.26	0.736J	1.72U	1.07J	4.14	3.27U
115-120	0.19U	12.1	6.50	1.42J	6.01	1.67U	2.27	12.9	4.35	0.846J	1.76U	1.22J	3.27	3.34U
125-130	0.18U	9.08	7.06	1.25J	7.37	1.65U	1.94	13.6	2.64	1.73U	1.73U	1.17J	1.55J	3.29U
135-140	0.25U	5.94	7.33	1.12J	6.31	1.63U	2.18	12.2	2.95	1.72U	1.72U	1.09J	1.40J	3.26U
145-150	0.22U	5.25	5.66	1.13J	8.38	1.65U	1.47J	28	1.58J	1.73U	1.73U	2.1	0.585J	3.29U
155-160	0.52B	3.15	4.10	1.13J	8.85	1.63U	0.719J	13.3	1.18J	1.72U	1.72U	1.67	1.72U	3.26U
165-170	2.3B	3.13	4.14	1.18J	6.75	1.77U	1.87U	9.63	1.52J	1.87U	1.87U	1.41J	1.87U	3.55U
175-180	3.0B	3.92	2.27	1.24J	2.67	1.85U	1.95U	9.41	0.856J	1.95U	1.95U	1.42J	1.95U	3.70U
185-190	4.8B	3.90	5.74	2.8	3.44	1.66U	0.787J	18.10	3.75	1.74U	1.74U	3.28	0.89J	3.31U
195-200	5.9EB	1.73U	1.21J	0.781J	0.739J	1.65U	1.73U	4.48	1.09J	1.73U	1.73U	0.729J	1.73U	3.29U
205-210	0.59JB	1.93U	1.93U	1.72U	1.93U	1.83U	1.93U	1.76U	1.93U	1.93U	1.93U	1.82U	1.93U	3.67U
215-220	0.21U	1.84U	1.84U	1.63U	1.73J	1.74U	1.84U	1.67U	1.84U	1.84U	1.84U	1.73U	1.84U	3.49U
225-230	0.80B	1.73U	1.73U	1.54U	2.64	1.65U	1.73U	1.58U	1.73U	1.73U	1.73U	1.63U	1.73U	3.29U
235-240	1.1B	1.74U	1.74U	1.55U	2.75	1.65U	1.74U	1.58U	1.74U	1.74U	1.74U	1.63U	1.74U	3.30U
FRB	--	1.72U	1.72U	1.53U	1.72U	1.63U	1.72U	1.57U	1.72U	1.72U	1.72U	1.62U	1.72	3.27U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

E: Results are over the calibration range on the raw data: however the actual amounts are within calibration range.

B: Blank contamination.The analyte was detected above one-half the reporting limit in an associated blank.

Table 3.2.3-3
OU III South Boundary 2021 Extraction Well Pumping Rates

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat SOUTH BOUNDARY SYSTEM - Groundwater Withdrawal (gpm)								
BNL Well No.	121-017	121-016	121-015	122-014	122-013	122-012	121-46	SOUTH
Extraction Well	EW-3	EW-4	EW-5	EW-6	EW-7	EW-8	EW-17	BOUNDARY
Screen Int.								
elevation	-79 to -119	-88 to -108	-91 to -131	-105 to -145	-115 to -155	-131 to -151		
(ft. msl)		-118 to -128				-171 to -191		
depth (feet)	150 to 190	160 to 180	160 to 200	160 to 200	170 to 210	190 to 210	207 to 237	Monthly
		190 to 200				230 to 250		Total
January	0	149	0	0	0	0	115	264
February	0	0	0	0	0	0	138	138
March	0	99	0	0	0	0	119	218
April	0	0	0	0	0	0	135	135
May	0	141	0	0	0	0	126	267
June	0	0	0	0	0	0	132	132
July	0	87	0	0	0	0	78	165
August	0	0	0	0	0	0	150	150
September	0	113	0	0	0	0	133	246
October	0	0	0	0	0	0	150	150
November	0	0	0	0	0	0	111	111
December	0	0	0	0	0	0	158	158
Annual Average (gpm)	0	49	0	0	0	0	129	178

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

Table 3.2.3-4
OU III South Boundary
2021 Temporary Well Data
Detected VOCs

2021 BNL Groundwater Status Report

SB-VP-01-2021														
Sample Depth	**215-220**	**205-210**	**195-200**	**185-190**	**175-180**	**165-170**	**155-160**	**145-150**	**135-140**	**125-130**	**115-120**	**105-110**	**95-100**
Date sampled	**08/12/21**	**08/12/21**	**08/12/21**	**08/12/21**	**08/12/21**	**08/12/21**	**08/13/21**	**08/13/21**	**08/13/21**	**08/13/21**	**08/13/21**	**08/13/21**	**08/13/21**
	ug/L	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Compound													
1,1-Dichloroethane	0.680 J	-		-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethylene	5.58	2.42	1.6	-	-	-	-	-	-	-	-	-	-
Methylene chloride	2.73 BJ	2.59 BJ	2.64 BJ	2.74 BJ	2.7 BJ	2.64 BJ	-	-	-	-	-	-	-
1,1,1-Trichloroethane	7.4	2.31	1.8	0.530 J	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	38.8	1.69	0.880 J	-	-	-	-	-	0.430 J	-	-	-	-
Chloroform	1.55	0.610 J	0.720 J	0.570 J	0.450 J	-	-	0.470 J	0.570 J	0.500 J	-	-	-
Tetrachloroethylene	282 E	88.6	51.1	38.7	8.29	1.86	1.63	1.00	1.17	1.12	0.840 J	0.960 J	1.01
Trichloroethylene	7.8	2.02	0.910 J	1.44	-	-	-	-	-	-	-	-	-
TVOC total	346.54	100.24	59.65	43.98	11.44	4.5	1.63	1.47	2.17	1.62	0.84	0.96	1.01

SB-VP-02-2021													
Sample Depth	**215-220**	**205-210**	**195-200**	**185-190**	**175-180**	**165-170**	**155-160**	**145-150**	**135-140**	**125-130**	**115-120**	**105-110**	**95-100**
Date sampled	**08/16/21**	**08/16/21**	**08/17/21**	**08/17/21**	**08/17/21**	**08/17/21**	**08/17/21**	**08/17/21**	**08/18/21**	**08/18/21**	**08/18/21**	**08/18/21**	**08/18/21**
	ug/L	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Compound													
1,1-Dichloroethylene	-	-	-	0.350 J	-	-	-	-	-	-	-	-	-
Bromoform	-	-	-	-	-	-	-	-	0.53 J	-	-	-	-
Toluene	-	-	0.350 J	0.350 J	-	-	-	-	1.31	-	-	-	-
1,1,1-Trichloroethane	-	-	-	0.390 J	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethylene	-	-	-	-	-	-	3.5	0.47 J	-	-	-	-	-
Carbon tetrachloride	0.720 J	19.4	-	-	1.60	-	-	-	-	-	-	-	-
Chloroform	0.600 J	1.07	0.460 J	0.530 J	0.940 J	0.420 J	-	0.370 J	0.440 J	-	-	-	-
Tetrachloroethylene	0.81 J	32.8	2.35	40.8	8.80	3.08	64.3	34.5	6.52	5.17	4.91	1.58	2.60
Trichloroethylene	-	0.660 J	-	0.570 J	0.410 J	-	29.3	5.39	1.18	-	-	-	-
trans-1,2-Dichloroethylene	-	-	-	-	-	-	0.36 J	-	-	-	-	-	-
TVOC total	2.13	53.93	3.16	42.99	11.75	3.5	97.46	40.73	9.98	5.17	4.91	1.58	2.6

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

J: Value is estimated.

E: Concentration of the target analyte exceeds the instrument calibration range.

B: The target analyte was detected in the associated blank.

Table 3.2.3-5

OU III South Boundary
2021 Temporary Well Data
SB-VP-01-2021
Installed: August 12-13, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
95-100	0.14 J	6.17	11.3	0.624J	10.4	1.69U	2.36	3.44	3.45	1.78U	1.78U	1.67U	1.78U	3.38U
105-110	0.14 J	5.26	13	0.711J	10.8	1.73U	3.43	3.69	4.71	1.82U	1.82U	1.72U	1.17J	3.47U
115-120	0.20 U	3.18	8.13	1.64U	10.3	1.75U	1.88	3.26	1.61J	1.84U	1.84U	1.73U	0.671J	3.50U
125-130	0.17 J	5.28	7.63	0.817J	18.4	1.73U	1.15J	5.77	0.947J	1.82U	1.82U	1.71U	1.82U	3.46U
135-140	0.20	2.52	3.94	1.60U	27.4	1.70U	1.79U	2.42	1.79U	1.79U	1.79U	1.69U	1.79U	3.41U
145-150	0.27	3.31	4.9	1.62U	26.6	1.73U	0.642J	3.07	1.82U	1.82U	1.82U	1.71U	1.82U	3.45U
155-160	0.27	3.08	3.19	1.60U	23	1.71U	1.80U	3.27	1.80U	1.80U	1.80U	1.69U	1.80U	3.41U
165-170	0.36	3.27	2.8	0.735J	20.9	1.70U	1.79U	3.89	1.79U	1.79U	1.79U	1.68U	1.79U	3.40U
175-180	2.0	2.88	3.91	0.935J	6.35	1.71U	1.80U	16.8	1.8	1.80U	1.80U	1.05J	1.80U	3.42
185-190	2.7	4.89	3.31	0.895J	6.27	1.71U	0.676J	17.5	1.94	1.80U	1.80U	0.865J	0.940J	3.41U
195-200	4.7	1.58J	0.835J	1.74	12.7	1.70U	1.79U	3.14	1.79U	1.79U	1.79U	0.781J	1.79U	3.41U
205-210	4.8	1.13J	0.607J	1.77	16.7	1.70U	1.79U	2.6	1.79U	1.79U	1.79U	0.729J	1.79U	3.40J
215-220	19 D	1.80U	1.07J	0.778J	8.49	1.71U	1.80U	1.8	1.80U	1.80U	1.80U	1.69U	1.80U	3.42U
FRB	--	1.75U	1.75U	1.56U	1.75U	1.66U	1.75U	1.59U	1.75U	1.75U	1.75U	1.65U	1.75U	3.33U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

E: Results are over the calibration range on the raw data.

Table 3.2.3-5

OU III South Boundary
2021 Temporary Well Data
SB-VP-02-2021
Installed: August 16-18, 2021

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
95-100	0.20 U	6.59	7.1	1.31J	5.04	1.69U	1.16J	7.43	1.78U	1.19J	1.78	0.974J	1.78U	3.38U
105-110	0.12 J	8.38	9.78	1.82	7.4	1.71U	3.48	11.2	2.17	1.02J	1.80U	1.59J	3.07	3.43U
115-120	0.15 J	7.76	10.2	2.31	11.5	1.75U	3.18	18.6	1.56J	0.688J	1.85U	2.3	1.43J	3.51U
125-130	0.15 J	5.37	7.01	1.48J	9.69	1.69U	1.54J	10.3	1.64J	1.78U	1.78U	1.18J	1.19J	3.38U
135-140	0.53	2.44	3.55	1.36J	15.8	1.65U	0.741J	5.17	1.27J	1.74U	1.74U	1.06J	1.74U	3.30U
145-150	1.3	1.56J	2.13	0.949J	16.8	1.74U	1.83U	3.7	0.738J	1.83U	1.83U	1.06J	1.83U	3.48U
155-160	2.7	1.85U	1.85U	1.64U	6.15	1.76U	1.85U	1.15J	1.85	1.85U	1.85U	1.74U	1.85U	3.51U
165-170	0.40	2.85	2.06	1.27J	19.1	1.74U	1.83U	5.87	1.83U	1.83U	1.83U	1.19J	1.83U	3.47U
175-180	0.77	4	5.49	1.43J	18.9	1.69U	1.10J	6.36	1.10J	1.78U	1.78U	1.01J	0.607J	3.38U
185-190	1.3	6.05	4.12	1.65J	11.8	1.80U	1.23J	11.9	3.53	1.89U	1.89U	1.45J	2.01	3.59U
195-200	0.77	8.22	4.51	1.22J	7.65	1.70U	1.70J	11	4.78	0.639J	1.79U	1.13J	2.81	3.39U
205-210	1.0	7.37	5.04	1.34J	7.68	1.70U	1.45J	14.1	4.35	1.76U	1.76U	1.34J	2.34	3.41U
215-220	0.29	1.76U	1.76U	1.56U	1.76U	1.67U	1.76U	1.60U	1.76U	1.76U	1.76U	1.65U	1.76U	3.34U
FRB	--	1.73U	1.73U	1.54U	1.73U	1.64U	1.73U	1.57U	1.73U	1.73U	1.73U	1.62U	1.73U	3.28U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

E: Results are over the calibration range on the raw data.

Table 3.2.4-2
OU III Western South Boundary 2021 Extraction Well Pumping Rates

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat WESTERN SOUTH BOUNDARY System (gpm)							
BNL Well No. Extraction Well Screen Int. elevation (ft. msl) depth (feet)	126-12 WSB-1 -60 to -80 140 to 160	127-05 WSB-2 -80 to -100 150 to 170	111-17 WSB-3 -97.2 to -117.2 168 to 188	119-13 WSB-4 -91.7 to 111.7 170 to 190	130-12 WSB-5 -84.5 to -114.50 160 to 190	130-13 WSB-6 -120.6 to 140.6 196 to 216	 Total
January	76	0	97	85	69	74	401
February	95	0	102	88	0	81	366
March	81	0	92	73	0	77	323
April	101	0	94	86	0	84	365
May	72	0	79	87	67	87	393
June	86	0	67	79	100	88	420
July	43	0	50	47	63	56	258
August	154	0	100	62	109	102	527
September	91	0	76	29	83	82	361
October	85	0	92	108	83	85	452
November	81	0	95	113	78	82	449
December	102	0	121	134	94	100	550
Annual Average (gpm)	89	0	89	83	62	83	405

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

gpm - gallons per minute

Table 3.2.5-1
OU III Industrial Park 2021 Extraction Well Pumping Rates

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat OFFSITE INDUSTRIAL PARK SYSTEM - Groundwater Withdrawal (gpm)										
BNL Well No.	000-231	000-233	000-235	000-237	000-239	000-241	000-243	000-532	000-533	OFFSITE
Extraction Well	UVB-1	UVB-2	UVB-3	UVB-4	UVB-5	UVB-6	UVB-7	IP-EW-8	IP-EW-9	INDUSTRIAL
Screen Int.										PARK
Influent										
elevation	-137 to -157	-115.5 to -135.5	-123 to -143	-98 to -118	-109 to -129	-110 to -130	-123 to -143	-155 to -175	-148 to -168	
(ft. msl)										
depth (feet)	220 to 240	195 to 215	194 to 214	170 to 190	180 to 200	190 to 210	205 to 225	230 to 250	220 to 240	
Effluent										
elevation										
(ft. msl)	-82 to -102	-60.5 to -80.5	-68 to -88	-53 to -73	-54 to -74	-58 to -78	-68 to -88			Monthly
depth (feet)	165 to 185	140 to 160	139 to 159	125 to 145	125 to 145	140 to 160	150 to 170			Total
January	0	0	0	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0	0	0	0
March	0	0	0	0	0	0	0	0	0	0
April	0	0	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0	0	0
June	0	0	0	0	0	0	0	0	0	0
July	0	0	0	0	0	0	0	0	0	0
August	0	0	0	0	0	0	0	0	0	0
September	0	0	0	0	0	0	0	0	0	0
October	0	0	0	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0	0	0	0
December	0	0	0	0	0	0	0	0	0	0
Annual Average (gpm)	0	0	0	0	0	0	0	0	0	0

Notes:

System was in standby mode

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

gpm - gallons per minute

Table 3.2.6-2
OU III North Street 2021 Extraction Well Pumping Rates

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat NORTH STREET - Groundwater Withdrawal (gpm)			
BNL Well No. Extraction Well Screen Int. elevation (ft. msl) depth (feet)	000-471 NS-1 -64 to-104 165 to 205	000-473 NS-2 -96 to -126 190 to 220	NORTH STREET Monthly Total
January	0	0	0
February	0	0	0
March	0	0	0
April	0	0	0
May	0	0	0
June	0	0	0
July	0	0	0
August	0	0	0
September	0	0	0
October	0	0	0
November	0	0	0
December	0	0	0
Annual Average (gpm)	0	0	0

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

gpm - gallons per minute

System is closed

Table 3.2.7-2
OU III North Street East 2021 Extraction Well Pumping Rates

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat NORTH STREET EAST- Groundwater Withdrawal (gpm)					
BNL Well No. Extraction Well Screen Int. elevation (ft. msl) depth (feet)	000-487 NSE-1 -71 to -101 161 to 191	000-488 NSE-2 -71 to -101 152 to 182	000-561 NSE-EDB-EW-3 -111 to -131 195 to 215	000-562 NSE-EDB-EW-4 -112 to -132 182 to 202	NORTH STREET EAST Monthly Total
January	0	0	108	100	208
February	0	0	110	127	237
March	0	0	100	119	218
April	0	0	97	132	229
May	0	0	107	106	212
June	0	0	103	98	201
July	0	0	95	94	189
August	0	0	108	100	208
September	0	0	112	99	211
October	0	0	98	85	183
November	0	0	77	73	150
December	0	0	117	121	238
Annual Average (gpm)	0	0	103	104	207

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

gpm - gallons per minute

Table 3.2.8-2
OU III LIPA/Airport 2021 Extraction Well Pumping Rates

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat LIPA SYSTEM - Groundwater Withdrawal (gpm)					
Extraction Well Screen Int. elevation (ft. msl) depth (feet)	000-453 EW-1L -111 to -131 217 to 237	000-455 EW-2L -115 to -135 224 to 244	000-457 EW-3L -104 to -124 216 to 236	000-461 EW-4L -192 to -212 304 to 324	LIPA Monthly Total
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	0	0	0	0	0
June	0	0	0	0	0
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Annual Average (gpm)*	0	0	0	0	0

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

* Annual average is based on actual pumping timeframe

gpm - gallons per minute

Table 3.2.8-2
OU III LIPA/Airport 2021 Extraction Well Pumping Rates

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat AIRPORT SYSTEM - Groundwater Withdrawal (gpm)							
BNL Well No.	800-109	800-110	800-111	800-112	800-113	800-132	Airport
Extraction Well	RTW-1A	RTW-2A	RTW-3A	RTW-4A	RTW-5A	RW-6A	
Screen Int.							
Influent							
elevation (ft. msl)	-108 to -128	-109 to -129	-130 to -150	-184 to -204	-133 to -153		Monthly
depth (feet)	188 to 208	188 to 208	210 to 230	268 to 288	220 to 240	165 to 185	Total
Effluent							
elevation (ft. msl)	+25 to -15	+24 to -16	+25 to -15	+24 to -16	+22 to -18		Monthly
depth (feet)	55 to 95	55 to 95	55 to 95	60 to 100	65 to 105		Total
January	100	0	0	180	0	150	430
February	101	0	0	128	0	152	381
March	104	0	0	186	0	156	447
April	106	0	0	188	0	159	452
May	111	0	0	199	0	166	476
June	104	0	0	186	0	155	445
July	93	0	0	164	0	140	397
August	125	0	0	168	0	188	482
September	117	0	0	184	0	175	476
October	121	0	0	198	0	181	501
November	114	0	0	187	0	171	472
December	121	0	0	196	0	182	499
Annual Average (gpm)*	110	0	0	181	0	165	455

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

RTW-1A, RTW-6A and RTW-2A flow estimated. All three wells share a common flow meter, individial well pumpage estimated of actual flow meter reading.

gpm - gallons per minute

Table 3.2.10-1

Wm. Floyd Well Field Sentinal Geoprobe PFC-GP-170
Installed: November 19, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
82-86	NA	7.68	8.77	1.12J	0.79J	1.86U	1.44J	2.77	1.72J	1.96U	1.96U	1.84U	1.54U	3.72U
86-90	NA	7.6	9.8	1.09J	0.85J	1.87U	1.54J	2.98	1.76J	1.97U	1.97U	1.85U	1.62U	3.75U
90-94	NA	9.58	6.59	1.46J	1.01J	1.86U	1.09J	3.39	1.19J	1.96U	1.96U	1.84U	0.92J	3.72U
90-94 (BD)	NA	7.29	5.59	1.32J	1.99U	1.89U	0.98J	2.51	1.15J	1.99U	1.99U	1.87U	0.88J	3.79U
94-98	NA	3.23	3.46	0.79J	1.88U	1.78U	1.88U	1.56J	0.92J	1.88U	1.88U	1.77U	1.88U	3.57U
106-110	NA	0.88J	0.72J	1.22J	2.03U	1.93U	2.03U	1.28J	2.03U	2.03U	2.03U	1.91U	2.03U	3.86U
118-122	NA	1.87U	1.87U	1.66U	1.87U	1.77U	1.87U	0.67J	1.87U	1.87U	1.87U	1.75U	1.87U	3.55U
130-134	NA	1.86U	1.86U	1.65U	1.86U	1.77U	1.86U	1.69U	1.86U	1.86U	1.86U	1.75U	1.86U	3.53U
FRB	--	1.78U	1.78U	1.58U	1.78U	1.69U	1.78U	1.62U	1.78U	1.78U	1.78U	1.67U	1.78U	3.38U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.2.10-1

Wm. Floyd Well Field Sentinal Geoprobe PFC-GP-171
Installed: March 15, 2022

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
86-90	NA	1.15J	5.74	2.44	1.19J	1.91U	2.01	0.83J	2.79	2.01U	2.01U	1.89U	2.4	3.82U
90-94	NA	5.34	2.62	5.12	2.12U	2.01U	2.12U	0.76J	1.23J	2.12U	2.12U	1.99U	1.14J	4.02U
94-98	NA	2.83	1.5J	1.19J	2.02U	1.92U	2.02U	1.84U	0.72J	2.02U	2.02U	1.90U	2.02U	3.84U
106-110	NA	2.12U	2.12U	1.89U	2.12U	2.02U	2.12U	1.94U	2.12U	2.12U	2.12U	2.00U	2.12U	4.03U
118-122	NA	2.03U	2.03U	0.69J	2.03U	1.93U	2.03U	1.85U	2.03U	2.03U	2.03U	1.91U	2.03U	3.86U
130-134	NA	2.12U	2.12U	1.88U	2.12U	2.01U	2.12U	1.93U	2.12U	2.12U	2.12U	1.99U	2.12U	4.02U
FRB	--	1.91U	1.91U	1.70U	1.91U	1.82U	1.91U	1.74U	1.91U	1.91U	1.91U	1.80U	1.91U	3.64U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.2.10-1

Wm. Floyd Well Field Sentinal Geoprobe PFC-GP-172
Installed: January 12-13, 2022

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
82-86	NA	3.57	4.42	1.87	0.86J	1.83U	1.01J	1.51J	0.99J	1.93U	1.93U	1.81U	0.72J	3.66U
86-90	NA	**12.5**	5.55	3.54	1.46J	1.88U	0.94J	1.72J	1.19J	1.98U	1.98U	1.86U	0.83J	3.76U
86-90 DUP	NA	**13**	5.2	3.76	1.49J	0.71J	1.04J	1.87	1.10J	2.08U	2.08U	1.90U	0.91J	3.85U
90-94	NA	7	2.38	5.41	1.09J	1.78U	1.88U	2.98	0.65J	1.88U	1.88U	1.76U	1.88U	3.57U
94-98	NA	6.29	2.54	2.28	1.88U	1.78U	1.88U	2.35	0.74J	1.88U	1.88U	1.76U	1.88U	3.56U
106-110	NA	0.87J	1.09U	1.86U	2.09U	1.99U	2.09U	1.90U	2.09U	2.09U	2.09U	1.97U	2.09U	3.97U
118-122	NA	1.82U	1.82U	1.62U	1.82U	1.73U	1.82U	1.66U	1.82U	1.82U	1.82U	1.71U	1.82U	3.46U
130-134	NA	1.97U	1.97U	1.75U	1.97U	1.87U	1.97U	1.79U	1.97U	1.97U	1.97U	1.85U	1.97U	3.73U
FRB	--	1.78U	1.78U	1.59U	1.78U	1.69U	1.78U	1.62U	1.78U	1.78U	1.78U	1.67U	1.78U	3.38U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.2.10-1

Wm. Floyd Well Field Sentinal Geoprobe PFC-GP-173
Installed: January 18, 2022

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
86-90	NA	3.51	1.41J	1.47J	0.85J	1.82U	1.91U	1.14J	0.8J	1.91U	1.91U	1.80U	1.91U	3.63U
90-94	NA	2.01	1.97	2.08	1.20J	1.76U	0.74J	0.96J	1.13J	1.85U	1.85U	1.74U	1.85U	3.52U
94-98	NA	1.87U	1.87U	1.47J	1.87U	1.78U	1.87U	0.73J	1.87U	1.87U	1.87U	1.76U	1.87U	3.56U
106-110	NA	2.02U	2.02U	1.80U	2.02U	1.92U	2.02U	1.84U	2.02U	2.02U	2.02U	1.90U	2.02U	3.84U
118-122	NA	1.88U	1.88U	1.67U	1.88U	1.78U	1.88U	1.71U	1.88U	1.88U	1.88U	1.76U	1.88U	3.56U
130-134	NA	1.80U	1.80U	1.60U	1.80U	1.71U	1.80U	1.64U	1.80U	1.80U	1.80U	1.69U	1.80U	3.43U
FRB	--	1.97U	1.97U	1.76U	1.97U	1.87U	1.97U	1.80U	1.97U	1.97U	1.97U	1.86U	1.97U	3.75U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.2.10-1

Wm. Floyd Well Field Sentinal Geoprobe PFC-GP-174
Installed: December 9-10, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
80-84	NA	2.04J	0.88J	1.82U	2.04U	1.94U	2.04U	0.71J	2.04U	2.04U	2.04U	1.92U	2.04U	3.88U
90-94	NA	7.3	2.76	1.32J	1.95U	1.86U	0.69J	1.10J	1.06J	1.95U	1.95U	1.84U	0.77J	3.71U
100-104	NA	7.17	1.55J	1.13J	2.09U	1.99U	2.09U	1.91U	2.09U	2.09U	2.09U	1.97U	2.09U	3.98U
110-114	NA	2.01U	0.84J	1.79U	2.01U	1.91U	2.01U	1.83U	2.01U	2.01U	2.01U	1.89U	2.01U	3.82U
120-124	NA	1.23J	2.85	1.88U	3.26	2.00U	2.11U	1.03J	0.71J	2.11U	2.11U	0.74J	2.11U	4.01U
130-134	NA	2.03U	2.03U	1.81U	2.03U	1.93U	2.03U	1.85U	2.03U	2.03U	2.03U	1.91U	2.03U	3.85U
140-144	NA	2.12U	2.12U	1.89U	2.12U	2.01U	2.12U	1.93U	2.12U	2.12U	2.12U	1.99U	2.12U	4.08U
FRB	--	1.85U	1.85U	1.65U	1.85U	1.76U	1.85U	1.69U	1.85U	1.85U	1.85U	1.74U	1.85U	3.52U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.2.10-1

Wm. Floyd Well Field Sentinal Geoprobe PFC-GP-175
Installed: March 10, 2022

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
82-86	NA	5.83	4.15	1.38	1.08	1.78U	0.81J	4.04	1.25	1.87U	1.87U	0.75	1.25	3.55U
86-90	NA	4.3	2.73	1.33J	0.71J	1.66U	0.77J	3.2	1.03J	1.75U	1.75U	1.65U	0.8J	3.33U
86-90 DUP	NA	5.74	2.73	1.69	1.85U	1.75U	0.66J	3.7	1.02J	1.85U	1.85U	0.88J	0.83J	3.51U
90-94	NA	2.43	1.28J	1.29J	1.81U	1.72U	1.81U	1.26J	1.81U	1.81U	1.81U	1.70U	1.81U	3.44U
94-98	NA	1.83J	1.07J	1.01J	1.83U	1.74U	1.83U	1.03J	1.83U	1.83U	1.83U	1.72U	1.83U	3.48U
106-110	NA	1.06J	1.73U	0.90J	1.73U	1.65U	1.73U	1.08J	1.73U	1.73U	1.73U	1.63U	1.73U	3.29U
118-122	NA	1.09J	1.85U	1.65U	1.85U	1.76U	1.85U	1.1J	1.85U	1.85U	1.85U	1.74U	1.85U	3.51U
130-134	NA	0.97J	1.81U	1.61U	1.81U	1.72U	1.81U	1.65U	1.81U	1.81U	1.81U	1.70U	1.81U	3.44U
FRB	--	1.73U	1.73U	1.54U	1.73U	1.65U	1.73U	1.58U	1.73U	1.73U	1.73U	1.63U	1.73U	3.30U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.2.11-1
OU III BGRR
Strontium-90 Results from Geoprobe Temporary wells

2021 BNL Groundwater Status Report

Sample Interval (bls)	Geoprobe ID: / Sample Date: / Analysis:	BGRR-GP-169 04/06-07/2022	BGRR-GP-170 04/04-05/2022	BGRR-GP-171 03/31-04/1/2022	BGRR-GP-172 03/28-30/2022
60-64	Strontium-90				
65-69	Strontium-90				
70-74	Strontium-90	1.81	18.6	4.39	<MDA
75-79	Strontium-90	6.13	12.6	8.81	<MDA
80-84	Strontium-90	8.42	9.52	7.45	<MDA
85-89	Strontium-90	13.1	1.53	9.9	1.94
90-94	Strontium-90	16.3	<MDA	21.1	3.69
95-99	Strontium-90	4.52	<MDA	26	25.7
100-104	Strontium-90	1.1N2	<MDA	25.1	13.8
105-109	Strontium-90	1.18N2	<MDA	17.2	<MDA
110-114	Strontium-90	<MDA	<MDA	16	<MDA
115-119	Strontium-90	1.08N2	<MDA	7.67	<MDA
120-124	Strontium-90	<MDA	<MDA	1.49	2.61
125-129	Strontium-90	1.37	<MDA	0.943N2	3.97

<MDA: Minimum Detectable Activity
J: Value is estimated.
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 MDA and the uncertainty.

Table 3.2.11-1
OU III BGRR
Strontium-90 Results from Geoprobe Temporary wells

2021 BNL Groundwater Status Report

Sample Interval (bls)	Geoprobe ID: / Sample Date: / Analysis:	BGRR-GP-39 04/19-21/2022	BGRR-GP-137 04/15-19/2022	BGRR-GP-138 04/13-15/2022	BGRR-GP-139 04/11-13/2022
60-64	Strontium-90	0.787J	<MDA	4.06	1.33
65-69	Strontium-90	0.846	1.1	5.74	0.808
70-74	Strontium-90	<MDA	1.63	6.01	1.71
75-79	Strontium-90	<MDA	<MDA	3.39	3.35
80-84	Strontium-90	<MDA	2.28	1.58	4.9
85-89	Strontium-90	<MDA	1.25	4.8	7.92
90-94	Strontium-90	0.595J	1.38	2.89	8.32
95-99	Strontium-90	1.2	0.885	3.53	12.1
100-104	Strontium-90	1.52	0.977	8.21	8.86
105-109	Strontium-90	<MDA	1.03	8.22	22.1
110-114	Strontium-90	1	1.55	8.54	34.4
115-119	Strontium-90	0.994	1.47	26.9	80.6
120-124	Strontium-90	7.75	2.07	41.5	19
125-129	Strontium-90	2.78	4.82	12.9	4.27

<MDA: Minimum Detectable Activity
J: Value is estimated.
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 MDA and the uncertainty.

Table 3.2.11-1
OU III BGRR
Strontium-90 Results from Geoprobe Temporary wells

2021 BNL Groundwater Status Report

Sample Interval (bls)	Geoprobe ID: / Sample Date: / Analysis:	BGRR-GP-142 04/27-28/2022	BGRR-GP-145 05/10-11/2022	BGRR-GP-146 04/29-05/03/2022	BGRR-GP-147 05/06-09/2022
60-64	Strontium-90	10.7	<MDA	<MDA	1.97
65-69	Strontium-90	22	3.16	1.08	<MDA
70-74	Strontium-90	38.7	<MDA	<MDA	<MDA
75-79	Strontium-90	24.8	2.29	0.960	<MDA
80-84	Strontium-90	44.8	2.37	<MDA	<MDA
85-89	Strontium-90	41	5.96	0.899	1.48
90-94	Strontium-90	31.2	4.51	3.39	3.19
95-99	Strontium-90	6.13	8.85	6.55	5.17
100-104	Strontium-90	<MDA	9.97	11.9	7.46
105-109	Strontium-90	<MDA	11.6	19.6	3.56
110-114	Strontium-90	<MDA	7.73	11.9	4
115-119	Strontium-90	<MDA	1.58	4.53	0.775J
120-124	Strontium-90				
125-129	Strontium-90				

<MDA: Minimum Detectable Activity
J: Value is estimated.
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 MDA and the uncertainty.

Table 3.2.11-1
OU III BGRR
Strontium-90 Results from Geoprobe Temporary wells

2021 BNL Groundwater Status Report

Sample Interval (bls)	Geoprobe ID: / Sample Date: / Analysis:	BGRR-GP-85 04/25-27/2022	BGRR-GP-88 04/21-25/2022	BGRR-GP-136 05/04-05/2022
60-64	Strontium-90	1.09	<MDA	<MDA
65-69	Strontium-90	8.02	<MDA	1.24
70-74	Strontium-90	21.2	3.1	<MDA
75-79	Strontium-90	45.2	1.57	<MDA
80-84	Strontium-90	32.2	8.48	2.45
85-89	Strontium-90	12.3	16.9	7.21
90-94	Strontium-90	10.6	11	6.8
95-99	Strontium-90	1.02	8.35	7.31
100-104	Strontium-90	1.09	3.04	3.16
105-109	Strontium-90	1.16	0.750J	3.74
110-114	Strontium-90	0.975	<MDA	0.959
115-119	Strontium-90	1.01	<MDA	<MDA
120-124	Strontium-90			
125-129	Strontium-90			

<MDA: Minimum Detectable Activity
J: Value is estimated.
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 MDA and the uncertainty.

Table 3.2.11-**2**

BGRR Sr-90 Treatment System 2021 Extraction Well Pumping Rates

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat BGRR/WCF Strontium-90 - Groundwater Withdrawal (gpm)										
BNL Well No.	065-368	065-369	075-676	075-677	075-678	065-403	075-702	075-703	075-704	BGRR
Extraction Well	SR-1	SR-2	SR-3	SR-4	SR-5	SR-6	SR-7	SR-8	SR-9	
Screen Int.										
elevation (ft. msl)	51.5 to 31.5	51.5 to 31.5	50 to 30	46 to 6	46 to 6	38.7 to 18.7	13.2 to -6.8	15.1 to -4.9	24.6 to 4.6	Monthly
depth (feet)	33-53	33.5-53.5	51-71	35-75	35-75	85-105	82-102	77-97	67-87	Total
January	8.4	5.4	0.0	0.0	0.0	0.0	0.0	8.8	10.0	32.6
February	5.4	5.4	0.7	0.0	0.0	0.0	0.0	0.0	10.0	21.5
March	5.4	5.4	5.4	0.0	0.0	0.0	0.0	9.3	10.0	35.5
April	5.4	5.4	5.4	0.0	0.0	0.0	0.0	0.0	10.0	26.2
May	5.4	5.4	6.5	0.0	0.0	0.0	0.0	11.5	10.0	38.8
June	2.7	2.7	3.9	0.0	0.0	0.0	0.0	0.0	5.0	14.3
July	5.4	5.4	6.8	0.0	0.0	0.0	0.0	10.0	10.0	37.6
August	5.4	5.4	5.6	0.0	0.0	0.0	0.0	0.0	10.0	26.4
September	5.4	5.4	6.4	0.0	0.0	0.0	0.0	12.1	10.0	39.3
October	0.0	5.4	6.9	0.0	0.0	0.0	0.0	0.0	10.0	22.3
November	2.2	4.7	4.7	0.0	0.0	0.0	0.0	8.0	8.0	27.6
December	1.8	1.8	1.8	0.0	0.0	0.0	0.0	3.3	8.7	17.4
Annual Average (gpm)	4.4	4.8	4.5	0.0	0.0	0.0	0.0	5.3	9.3	28.3

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

gpm - gallons per minute

Table 3.2.12-2
OU III Chemical/Animal Holes Sr-90 Remediation System 2021 Extraction Well Pumping Rates

2021 BNL Groundwater Status Report

Operable Unit III - Pump and Treat Chem Holes Strontium-90 Remediation System (gpm)				
BNL Well No. Extraction Well Screen Int. elevation (ft. msl) depth (feet)	106-92 SR-90 EW-1 +40.5 to +25.5 23.5 to 38.5	106-123 SR-90 EW-2 +32.6 to +22.6 35 to 45	106-124 SR-90 EW-3 +27.6 to +17.6 35 to 45	 Monthly Total
January	0	0	0	0
February	0	0	0	0
March	0	0	0	0
April	0	0	0	0
May	0	0	0	0
June	0	0	0	0
July	0	0	0	0
August	0	0	0	0
September	0	0	0	0
October	0	0	0	0
November	0	0	0	0
December	0	0	0	0
Annual Average (gpm)	0	0	0	0

Notes:

Differences in averages due to rounding

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

gpm - gallons per minute

Table 3.4-2
OU VI EDB Pump & Treat System 2021 Extraction Well Pumping Rates

2021 BNL Groundwater Status Report

Operable Unit VI - Pump and Treat EDB SYSTEM- Groundwater Withdrawal (gpm)			
BNL Well No. Extraction Well Screen Int. elevation (ft. msl) depth (feet)	000-503 EW-1E -41 to -61 115 to 135	000-504 EW-2E -45 to -65 115 to 135	OU VI EDB Monthly Total
January	161	184	345
February	163	187	350
March	166	118	284
April	180	98	278
May	158	182	340
June	158	181	339
July	156	177	333
August	32	128	160
September	38	175	213
October	168	177	345
November	157	180	337
December	156	181	337
Annual Average (gpm)	141	164	305

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

gpm - gallons per minute

Table 3.4-3
OU VI EDB
Summary of EDB Results From Vertical Profile Wells

2021 BNL Groundwater Status Report

	Geoprobe ID:		EDB-VP05-2021	EDB-VP06-2021
	Sample Date:		7/7/21 to 7/9/21	6/28/21 to 6/30/21
Sample depth (bls)	Analysis:	Units		
97	EDB	ug/L	ND	ND
107	EDB	ug/L	ND	ND
117	EDB	ug/L	ND	ND
127	EDB	ug/L	ND	ND
137	EDB	ug/L	ND	0.0297
147	EDB	ug/L	ND	0.274
157	EDB	ug/L	ND	0.431 D
167	EDB	ug/L	ND	0.34
177	EDB	ug/L	ND	0.0192 J
187	EDB	ug/L	ND	ND
197	EDB	ug/L	ND	ND
207	EDB	ug/L	ND	ND
217	EDB	ug/L	ND	ND
227	EDB	ug/L	ND	ND
237	EDB	ug/L	ND	ND

J = Estimated value.
D = Analysis performed at a secondary dilution factor.

Table 3.5.1-1

Current Firehouse Plume Geoprobe PFC-GP-93
Installed: March 25-29, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)
60-64	NA	4.94	1.06J	1.59U	1.79U	1.70U	1.79U	3.05	1J	1.79U	1.79U	1.68U	1.79U
70-74	NA	104	4.53	2.73	1.66J	2.37	1.56J	55.3	7.89	1.78U	1.78U	4.62	3.08
80-84	NA	9.49	3.46	1.60U	1.41J	1.71U	1.1J	4.2	4.72	0.69J	1.80U	1.69U	1.6J
90-94	0.19U	17.1	1.84J	1.73U	1.95U	1.85U	0.64J	7.73	2.87	1.95U	1.95U	0.96J	0.91J
100-104	0.2U	100	7.15	3.97	2.92	3.92	2.24	81.5	10.9	1.95U	1.95U	7046	4.9
110-114	0.2U	1.42J	1.87U	1.67U	1.87U	1.78U	1.87U	1.58J	1.87U	1.87U	1.87U	1.76U	1.87U
120-124	0.2U	1.85U	1.85U	1.65U	1.85U	1.76U	1.85U	1.69U	1.85U	1.85U	1.85U	1.74U	1.85U
130-134	0.67U	2.06U	2.06U	1.83U	2.06U	1.96U	2.06U	1.88U	2.06U	2.06U	2.06U	1.94U	2.06U
140-144	0.67U	1.99U	1.99U	1.77U	1.99U	1.89U	1.99U	1.81U	1.99U	1.99U	1.99U	1.87U	1.99U
150-154	0.67U	1.82U	1.82U	1.62U	1.82U	1.73U	1.82U	1.66U	1.82U	1.82U	1.82U	1.71U	1.82U
FRB-1	--	1.84U	1.84U	1.64U	1.84U	1.75U	1.84U	1.67U	1.84U	1.84U	1.84U	1.73U	1.84U
FRB-2	--	1.84U	1.84U	1.63U	1.84U	1.74U	1.84U	1.67U	1.84U	1.84U	1.84U	1.73U	1.84U

U: Analyte not detected.

J: Estimated concentration.

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Current Firehouse Plume Geoprobe PFC-GP-94
Installed: April 6 - May 18, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
70-74	NA	7.8	1.23J	1.1J	0.92J	1.81U	1.91U	3.81	1.37J	1.91U	1.91U	1.79U	0.93J	3.62U
80-84	NA	11.2	0.96J	1.68U	1.88U	1.79U	1.88U	4.25	1.27J	1.88U	1.88U	0.7J	1.88U	3.58U
90-94	0.19U	194D	8.26	11	3.48	3.81	3.88	96.5	22.8	1.56J	2.02U	14.3	11.5	3.83U
100-104	0.19U	38.8	2.2	1.84	1.64J	1.91U	1.24J	13.9	7.11	1.17J	2.01U	1.88J	3.01	3.82U
" " BD	0.19U	30.6	2.13	1.5J	1.35J	1.82U	0.97J	10.9	5.93	0.94J	1.91U	1.44J	2.58	3.64U
110-114	0.2U	485D	16.3	27.7	6.66	8.16	8.06	231D	48.4	4.65	1.89U	34.7	26.1	1.4J
120-124	0.2	125	6.58	7.11	1.26J	1.97	1.66J	64	12	1.86U	1.86U	8.88	1.96	3.54U
130-134	1.3EB	281D	10.5	11.8	1.87	5.2	2	118	11.8	1.83U	1.83U	16.1	2.44	3.48
140-144	0.67B	169	9.21	10.7	1.99	4.26	2	109	14.2	1.83U	1.83U	14.2	2.69	1.94J
150-154	0.22U	1.85U	1.85U	1.65U	0.74J	1.76U	1.85U	1.69U	1.85U	1.85U	1.85U	1.74U	1.85U	3.52U
FRB-1	--	1.82U	1.82U	1.65U	1.85U	1.76U	1.85U	1.69U	1.85U	1.85U	1.85U	1.74U	1.84U	3.52U
FRB-2	--	1.94U	1.94U	1.72U	0.94J	1.84U	1.94U	1.76U	1.94U	1.94U	1.94U	1.82U	1.94U	3.68U
FRB-3	--	1.88U	1.88U	1.67U	1.88U	1.78U	1.88U	1.71U	1.88U	1.88U	1.88U	1.76U	1.88U	3.56U

U: Analyte not detected.

J: Estimated concentration.

E: Result exceeded calibration range on raw data. Results are bias corrected.

B: Analyte detected in the blank at a concentration >1/2 the RL.

D: Dilution

BD: Blind Duplicate

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-95
Installed: May 26-27, 2021

2021 BNL Groundwater Staus Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
50-54	NA	1.84U	1.84U	1.64U	1.6J	1.75U	1.84U	1.67U	1.84U	1.84U	1.84U	1.73U	1.84U	3.49U
60-64	NA	1,450D	24.3	46.3	8.8	24.6	12.7	689D	78.1	0.62J	1.81U	80.7	26	4.64
70-74	NA	1,970D	32.2	42.8	10.3	27.7	16.3	746D	80.9	1.56J	1.84U	61.3	29.3	8.22
80-84	NA	162	6.46	3.72	1.6J	2.36	1.74J	75.6	6.49	1.81U	1.81U	6.48	1.85	3.45U
90-94	NA	270D	20.6	12.1	5.19	9.89	5.13	244D	19.4	1.71U	1.71U	23.4	4.09	3.25U
100-104	NA	2.02	1.86U	1.66U	1.86U	1.77U	1.86U	2.12	1.86U	1.86U	1.86U	1.75U	1.86U	3.54U
110-114	NA	0.99J	1.85U	1.65U	1.85U	1.76U	1.85U	1.68U	1.85U	1.85U	1.85U	1.74U	1.85U	3.52U
120-124	NA	1.82U	1.82U	1.62U	1.82U	1.73U	1.82U	1.66U	1.82U	1.82U	1.82U	1.72U	1.82U	3.47U
FRB	--	1.79U	1.79U	1.60U	1.79U	1.70U	1.79U	1.63U	1.79U	1.79U	1.79U	1.69U	1.79U	3.41U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-96
Installed: May 11-27, 2021

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
52-56	NA	5.61	1.98	0.88J	1.78U	1.69U	1.78U	2.15	1.05J	1.78U	1.78U	1.68U	1.78U	3.39U
60-64	NA	69	2.39	1.35J	1.56J	1.61J	0.93J	22.7	4.76	1.89U	1.89U	2.16	1.7J	3.59U
70-74	NA	774D	20	16.2	6.7	14.4	12.1	336D	34.8	1.29J	1.74U	28	17.3	4.09
80-84	NA	54.8	5.38	3.35	2.21	2.3	1.61J	58.5	8.77	1.72U	1.72U	6.9	2.17	3.27U
90-94	NA	6.9	2.37	0.61J	2	1.73U	0.83J	7.42	3.71	1.83U	1.83U	0.83J	1.02J	3.47U
100-104	NA	1.29J	1.81U	1.61U	1.81U	1.72U	1.81U	1.65U	1.81U	1.81U	1.81U	1.70U	1.81U	3.44U
110-114	NA	1.77U	1.77U	1.58U	1.77U	1.68U	1.77U	1.53J	1.77U	1.77U	1.77U	1.67U	1.77U	3.37U
120-124	NA	1.72U	1.72U	1.53U	1.72U	1.63U	1.72U	1.56U	1.72U	1.72U	1.72U	1.61U	1.72U	3.26U
130-134	NA	1.80U	1.80U	1.60U	1.80U	1.71U	1.80U	1.64U	1.80U	1.80U	1.80U	1.69U	1.80U	3.42U
140-144	NA	1.76U	1.76U	1.57U	1.76U	1.67U	1.76U	1.60U	1.76U	1.76U	1.76U	1.65U	1.76U	3.34U
FRB	--	1.92U	1.92U	1.71U	1.26J	1.82U	1.92U	1.75U	1.92U	1.92U	1.92U	1.81U	1.92U	3.65U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 **Plume** Geoprobe PFC-
GP-142 Installed: July 14, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
50-54	NA	73.2	11.2	1.62U	1.59J	1.48J	1.4J	6	8.88	2.66	1.82U	1.71U	0.93J	6.41
58-62	NA	300D	5.69	1.61	1.05J	12.5	1.94	26.2	4.11	1.77U	1.77U	1.87	1.60J	3.37U
66-70	NA	1,120D	16.4	6.79	1.79U	27.2	4.97	248D	9.76	1.79U	1.79U	12.9	6.6	3.41U
74-78	NA	175	2.08	1.47J	1.80U	3.15	1.13J	36.8	1.97	1.80U	1.80U	2.94	1.39J	3.41U
82-86	NA	114	1.68J	1.38J	1.77U	2.56	1.77U	27.2	1.48J	1.77U	1.77U	2.45	0.89J	3.37U
90-94	NA	33.4	1.31J	0.94J	1.71U	0.93J	1.71U	18.7	0.68J	1.71U	1.71U	1.79	1.71U	3.24U
FRB	--	1.68U	1.68U	1.49U	1.68U	1.59U	1.68U	1.53U	1.68U	1.68U	1.68U	1.58U	1.68U	3.18U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-143
Installed: July 15, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
46-50	NA	39.2	11.9	3	1.88	2.25	3.31	106	10.4	2.31	1.84U	6.8	2.49	5.64
50-54	NA	386D	144	45.6	20.2	50	42.5	1,990D	121	1.34J	1.85U	99.2	42.4	20.8
58-62	NA	1,750D	43	27.6	10.2	26.4	13.8	800D	79.4	1.32J	1.79U	54.7	26.6	12.8
66-70	NA	272D	9.34	1.75	1.83U	4.42	2.49	122	8.13	1.14J	1.83U	8.66	1.86	3.01J
74-78	NA	271D	12.6	0.79J	1.91U	8.26	1.98	129	4.34	1.91U	1.91U	4.46	0.68J	3.62U
82-86	NA	299D	10.8	1.67U	1.88U	12.4	1.22J	120	1.87J	1.88U	1.88U	3.3	1.88U	3.57U
90-94	NA	2.34	0.8J	1.62U	1.82U	1.73U	1.82U	1.46J	1.82U	1.82U	1.82U	1.71U	1.82U	3.45U
FRB	--	1.73U	1.73U	1.54U	1.73U	1.64U	1.73U	1.57U	1.73U	1.73U	1.73U	1.62U	1.73U	3.28U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-144
Installed: September 10, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
46-50	NA	1.82J	1.72J	6.38	1.33J	1.82U	1.92U	22.5	2.43	1.92U	1.92U	6.98	1.92U	3.64U
50-54	NA	1.54J	2.31	20.5	1.51J	1.76U	0.67J	64.2	5.55	1.85U	1.85U	21.4	0.83J	3.51U
58-62	NA	118	16.9	7.67	1.47J	6.32	2.06	163	11.6	1.82U	1.82U	15.2	2.57	3.46U
66-70	NA	11.8	2.29	1.64U	1.85U	1.76U	1.85U	6.98	2.22	1.85U	1.85U	1.74U	1.85U	3.51U
74-78	NA	1.79J	1.97	1.62U	1.82U	1.73U	1.82U	0.73J	0.97J	1.82U	1.82U	1.71U	1.82U	3.46U
82-86	NA	1.84U	1.12J	1.63U	0.97J	1.74U	1.84U	1.67U	1.84U	1.84U	1.84U	1.73U	1.84U	3.49U
90-94	NA	2.35	1.81J	1.64U	0.82J	1.75U	1.84U	0.88J	1.84U	1.84U	1.84U	1.73U	1.84U	3.49U
FRB	--	1.75U	1.75U	1.56U	1.75U	1.66U	1.75U	1.54U	1.75U	1.75U	1.75U	1.64U	1.75U	3.32U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-145
Installed: September 13, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
50-54	NA	15.8	5.27	0.81J	1.06J	1.95U	2.05U	3.03	2.52	2.05U	2.05U	1.93U	1.34J	3.90U
58-62	NA	7.85	5.84	0.86J	0.89J	2.07U	0.81J	3.61	2.76	2.17U	2.17U	2.04U	1.55J	4.13U
66-70	NA	1.93	1.90U	1.69U	1.90U	1.80U	1.90U	0.71J	1.90U	1.90U	1.90U	1.78U	1.90U	3.61U
74-78	NA	1.12J	1.96U	1.74U	1.96U	1.86U	1.96U	1.78U	1.96U	1.96U	1.96U	1.84U	1.96U	3.72U
82-86	NA	1.99U	1.99U	1.77U	1.99U	1.89U	1.99U	1.81U	1.99U	1.99U	1.99U	1.87U	1.99U	3.77U
90-94	NA	2.03U	2.03U	1.81U	2.03U	1.93U	2.03U	1.85U	2.03U	2.03U	2.03U	1.91U	2.03U	3.85U
FRB	--	1.71U	1.71U	1.52U	1.71U	1.62U	1.71U	1.55U	1.71U	1.71U	1.71U	1.60U	1.71U	3.24U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-146
Installed: November 22, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
46-50	NA	149	6.66	1.8J	2.54	2.43	2.59	33	6.18	1.09J	2.05U	1.94	4.61	3.9U
50-54	NA	181	2.69	1.3J	1.38J	0.89J	1.58J	13.4	3.69	1.17J	1.88U	0.81J	3.97	3.57U
58-62	NA	5,590D	36	33.5	7.92	53.8	15.2	778D	44.2	2.07	1.76U	50.3	19.9	5.12
58-62 (DUP)	NA	5,760D	41	39.5	8.19	63.8	16.9	743D	47.4	2.37	1.81U	64.7	22.1	4.21
66-70	NA	8.94	0.96J	1.65U	1.86U	1.76U	1.86U	2.58	1.58J	1.86U	1.86U	1.75U	1.86U	1.45J
74-78	NA	0.74J	1.01J	1.72U	0.98J	1.84U	1.94U	1.76U	0.96J	1.94U	1.94U	1.82U	1.94U	3.68U
82-86	NA	2.13U	1.17J	1.89U	1.13J	2.02U	2.13U	0.76J	2.13U	2.13U	2.13U	2U	2.13U	4.04U
90-94	NA	1.99U	1.99U	1.77U	1.99U	1.89U	1.99U	1.81U	1.99U	1.99U	1.99U	1.87U	1.99U	3.77U
FRB	--	1.84U	1.84U	1.64U	1.84U	1.75U	1.84U	1.67U	1.84U	1.84U	1.84U	1.73U	1.84U	3.5U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-147
Installed: February 23-24, 2022

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
50-54	NA	621D	14.1	13.6	4.6	8.74	11.7	281D	26.7	2.05U	2.05U	31.6	11.4	3.89U
54-58	NA	615D	30.7	49,2	12.4	13.5	15.7	712D	94.6	1.89U	1.89U	82.9	41	3.58U
58-62	NA	787D	12.7	12.6	2.85	12	4.22	210D	10.1	1.86U	1.86U	20.8	6.08	3.57U
62-66	NA	682D	19,3	17.7	4.06	18	6.73	335D	21.9	1.82U	1.82U	36	10.1	3.46U
66-70	NA	474D	10.9	9.86	2.27	11.4	4.28	235D	11.9	1.85U	1.85U	19.9	5.93	3.51U
74-78	NA	10.5	1.81J	1.69U	1.14J	1.80U	1.90U	6.7	1.29J	1.90U	1.90U	1.78U	1.90U	3.60U
82-86	NA	27.4	3.2	0.69J	2.13	1.24J	1.81U	22.4	1.81U	1.81U	1.81U	1.26J	1.81U	3.44U
FRB	--	1.76U	1.76U	1.57U	1.76U	1.67U	1.76U	160U	1.76U	1.76U	1.76U	1.66U	1.76U	3.35U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Current Firehouse Geoprobe PFC-GP-148
Installed: September 8-9, 2021

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
38-42	NA	10.8	4.15	2.87	3.46	1.77U	2.4	1.05J	4.31	1.29J	1.86U	1.75U	3.99	3.54U
42-46	NA	8.07	3.11	2.04	2.59	1.72U	1.46J	0.99J	2.1	0.66J	1.81U	1.70U	2.2	3.43U
46-50	NA	3.96	3.54	1.86	3.02	1.96U	1.01J	1.76J	1.45J	2.06U	2.06U	1.94U	1.28J	3.91U
46-50 (DUP)	NA	4.32	3.6	1.95	2.98	1.80U	1.02J	1.8	1.38J	1.89U	1.89U	1.78U	1.24J	3.59U
50-54	NA	4.02	1.45J	0.63J	1.87U	1.77U	1.87U	1.12J	0.62J	1.87U	1.87U	1.75U	1.87U	3.55U
54-58	NA	5.19	0.84J	0.78J	1.63J	1.77U	1.86U	0.87J	1.86U	1.86U	1.86U	1.75U	1.86U	3.54U
62-66	NA	1.81U	1.81U	1.61U	1.81U	1.72U	1.81U	1.64U	1.81U	1.81U	1.81U	1.70U	1.81U	3.48U
FRB (Note 1)	--													

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Note 1: FRB submitted for PFC-GP-150 (COC 43325)

Table 3.5.1-1

Current Firehouse Geoprobe PFC-GP-149
Installed: September 9, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
38-42	NA	9.66	5.27	0.88J	2.02J	2.03U	1.65J	0.89J	2.69	2.07J	2.13U	2.00U	2.99	4.05U
42-46	NA	25.3	10.9	0.85J	1.64J	1.87U	2.18	1.81	2.64	3.4	1.97U	1.86U	3.17	3.75U
46-50	NA	4.4	4.29	2.48	1.81	1.71U	1.09J	2.66	1.25J	0.7J	1.80U	1.70U	1.64J	3.43U
50-54	NA	3.31	5.18	3.22	2.4	1.75U	1.27J	1.32J	1.45J	0.73J	1.84U	1.73U	1.57J	3.50U
54-58	NA	3.68	3.61	3.87	3.12	1.78U	1.17J	1.21J	1.15J	1.87U	1.87U	1.76U	1.46J	3.55U
62-66	NA	1.89U	1.89U	1.68U	1.89U	1.79U	1.89U	1.72U	1.89U	1.89U	1.89U	1.77U	1.89U	3.59U
FRB	--	1.73U	1.73U	1.54U	1.73U	1.65U	1.73U	1.58U	1.73U	1.73U	1.73U	1.63U	1.73U	3.29U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Current Firehouse Geoprobe PFC-GP-150
Installed: September 7, 2021

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
38-42	NA	2.01	3.91	1.63U	3.9	1.74U	1.43J	2.74	2.92	1.83U	1.83U	1.72U	2.73	3.48U
42-46	NA	1.92	4.6	0.87J	1.33J	1.82U	1.25J	1.62J	1.42J	1.92U	1.92U	1.80U	1.37J	3.64U
42-46 DUP	NA	2.38	4.59	0.86J	1.33J	1.78U	1.28J	1.60J	1.38J	1.87U	1.87U	1.76U	1.31J	3.56U
46-50	NA	3.89	1.90J	1.71U	1.92U	1.82U	1.92U	1.75U	1.92U	1.92U	1.92U	1.80U	1.92U	3.64U
50-54	NA	0.98J	2.11U	1.88U	2.11U	2.00U	2.11U	1.92U	2.11U	2.11U	2.11U	1.98U	2.11U	4.00U
54-58	NA	1.92U	1.92U	1.71U	1.92U	1.82U	1.92U	1.75U	1.92U	1.92U	1.92U	1.80U	1.92U	3.65U
62-66	NA	1.84U	1.84U	1.64U	1.84U	1.75U	1.84U	1.67U	1.84U	1.84U	1.84U	1.73U	1.84U	3.49U
FRB	--	1.73U	1.73U	1.54U	1.73U	1.64U	1.73U	1.57U	1.73U	1.73U	1.73U	1.62U	1.73U	3.28U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Current Firehouse Geoprobe PFC-GP-152
Installed: September 2-3, 2021

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Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
38-42	NA	1.95U	1.19J	1.73U	1.27J	1.85U	0.68J	1.77U	1.95U	1.95U	1.95U	1.83U	0.67J	3.70U
42-46	NA	1.95U	1.83J	1.74U	1.48J	1.85U	1.95U	1.78U	1.95U	1.95U	1.95U	1.84U	1.95U	3.71U
46-50	NA	1.82U	0.87J	1.62U	0.84J	1.73U	1.82U	1.66U	0.64J	1.82U	1.82U	1.71U	1.82U	3.46U
50-54	NA	1.84U	1.84U	1.64U	1.84U	1.75U	1.84U	1.11J	1.84U	1.84U	1.84U	1.73U	1.84U	3.50U
54-58	NA	1.88U	1.88U	1.67U	1.88U	1.78U	1.88U	0.71J	1.88U	1.88U	1.88U	1.76U	1.88U	3.50U
62-66	NA	1.95U	1.95U	1.74U	1.95U	1.86U	1.95U	1.78U	1.95U	1.95U	1.95U	1.84U	1.95U	3.71U
FRB	--	1.74U	1.74U	1.55U	1.74U	1.65U	1.74U	1.58U	1.74U	1.74U	1.74U	1.64U	1.74U	3.30U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Current Firehouse Geoprobe PFC-GP-156
Installed: September 17, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
66-70	NA	1.91U	1.91U	1.70U	1.91U	1.81U	1.91U	1.73U	1.91U	1.91U	1.91U	1.79U	1.91U	3.62U
66-70 (DUP)	NA	1.86U	1.86U	1.65U	1.86U	1.76U	1.86U	1.69U	1.86U	1.86U	1.86U	1.74U	1.86U	3.52U
74-78	NA	1.87U	1.22J	1.67U	2.3	1.78U	1.87U	1.70U	1.87U	1.87U	1.87U	1.76U	1.87U	3.56U
82-86	NA	1.81U	1.81U	1.61U	1.81U	1.72U	1.81U	1.65U	1.81U	1.81U	1.81U	1.70U	1.81U	3.44U
90-94	NA	2.08U	2.08U	1.85U	2.08U	1.97U	2.08U	1.89U	2.08U	2.08U	2.08U	1.95U	2.08U	3.94U
FRB	--	1.83U	1.83U	1.63U	1.83U	1.74U	1.83U	1.67U	1.83U	1.83U	1.83U	1.72U	1.83U	3.48U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Current Firehouse Geoprobe PFC-GP-157
Installed: September 16, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
58-62	NA	1.73U	1.73U	1.54U	1.73U	1.64U	1.73U	1.57U	1.73U	1.73U	1.73U	1.62U	1.73U	3.28U
66-70	NA	1.89U	1.89U	1.68U	1.89U	1.79U	1.89U	1.72U	1.89U	1.89U	1.89U	1.78U	1.89U	3.59U
74-78	NA	1.96U	1.96U	1.75U	1.96U	1.87U	1.96U	1.79U	1.96U	1.96U	1.96U	1.85U	1.96U	3.73U
82-86	NA	1.88U	1.88U	1.67U	1.88U	1.79U	1.88U	1.71U	1.88U	1.88U	1.88U	1.77U	1.88U	3.58U
90-94	NA	1.79U	1.79U	1.59U	1.79U	1.70U	1.79U	1.63U	1.79U	1.79U	1.79U	1.68U	1.79U	3.40U
FRB	--	1.80U	1.80U	1.61U	1.80U	1.71U	1.80U	1.64U	1.80U	1.80U	1.80U	1.70U	1.80U	3.43U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-158
Installed: September 15, 2021

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Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
58-62	NA	1.72U	0.64J	1.53U	1.72U	1.63U	1.72U	1.56U	1.72U	1.72U	1.72U	1.62U	1.72U	3.27U
66-70	NA	1.73U	0.6J	1.54U	1.73U	1.64U	1.73U	1.58U	1.73U	1.73U	1.73U	1.63U	1.73U	3.29U
74-78	NA	1.88U	1.88U	1.67U	1.88U	1.79U	1.88U	1.71U	1.88U	1.88U	1.88U	1.77U	1.88U	3.57U
82-86	NA	1.89U	1.89U	1.68U	1.89U	1.79U	1.89U	1.72U	1.89U	1.89U	1.89U	1.77U	1.89U	3.58U
90-94	NA	1.86U	1.86U	1.66U	1.86U	1.77U	1.86U	1.70U	1.86U	1.86U	1.86U	1.75U	1.86U	3.54U
FRB	--	1.75U	1.75U	1.56U	1.75U	1.66U	1.75U	1.59U	1.75U	1.75U	1.75U	1.65U	1.75U	3.33U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-160
Installed: June 25, 2021

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Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
50-54	NA	23	2.29	2.34	1.64J	1.66U	1.03J	17.7	3.35	1.75U	1.75U	2.32	1.05J	1.69J
60-64	NA	78	8.5	22.7	1.62J	1.91	2.11	150	13.3	1.77U	1.77U	26.2	2.77	3.36U
70-74	NA	2,330D	44.7	57.1	14	38.5	18.9	989D	110	1.29J	1.83U	100	38.3	13.7
80-84	NA	13.6	3.27	1.54U	1.73U	1.65U	1.73U	5.73	0.72J	1.73U	1.73U	1.63U	1.73U	3.3U
90-94	NA	1.66J	0.99J	1.55U	1.74U	1.65U	1.74U	1.58U	1.74U	1.74U	1.74U	1.64U	1.74U	3.31U
100-104	NA	0.95J	1.74U	1.55U	1.74U	1.66U	1.74U	1.59U	1.74U	1.74U	1.74U	1.64U	1.74U	3.31U
110-114	NA	1.78U	1.78U	1.58U	1.78U	1.69U	1.78U	1.62U	1.78U	1.78U	1.78U	1.67U	1.78U	3.38U
120-124	NA	1.81U	1.81U	1.61U	1.81U	1.72U	1.81U	1.64U	1.81U	1.81U	1.81U	1.70U	1.81U	3.43U
FRB	--	1.69U	1.69U	1.50U	1.69U	1.60U	1.69U	1.53U	1.69U	1.69U	1.69U	1.58U	1.69U	3.20U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-161
Installed: June 28-29, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
50-54	NA	1.80U	0.97J	1.60U	0.76J	1.71U	1.80U	1.63U	1.80U	1.80U	1.80U	1.69U	1.80U	3.41U
60-64	NA	8.37	2.13	1.68U	0.95J	1.81U	1.91U	3.11	1.43J	1.63J	1.91U	1.79U	1.37J	3.62U
70-74	NA	9.14	2.58	10.8	1.80U	0.7J	0.7J	40.9	1.46J	1.80U	1.80U	8.6	1.80U	3.42U
80-84	NA	0.98J	1.77U	1.57U	1.77U	1.68U	1.77U	1.49J	1.77U	1.77U	1.77U	1.66U	1.77U	3.35U
90-94	NA	0.76J	4.11	1.60U	1.80U	1.71U	1.80U	1.64U	1.80U	1.80U	1.80U	1.69U	1.80U	3.42U
100-104	NA	1.81U	1.81U	1.61U	1.81U	1.72U	1.81U	1.65U	1.81U	1.81U	1.81U	1.70U	1.81U	3.44U
110-114	NA	1.83U	1.83U	1.63U	1.83U	1.74U	1.83U	1.67U	1.83U	1.83U	1.83U	1.72U	1.83U	3.48U
120-124	NA	1.77U	1.77U	1.57U	1.77U	1.68U	1.77U	1.61U	1.77U	1.77U	1.77U	1.66U	1.77U	3.36U
FRB	--	1.73U	1.73U	1.54U	1.73U	1.64U	1.73U	1.57U	1.73U	1.73U	1.73U	1.63U	1.73U	1.24J

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-162
Installed: August 20-30, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
50-54	NA	2.24U	3.96	1.99U	1.50J	2.12U	2.24U	2.03U	2.97	1.77J	2.24U	2.10U	2.24U	1.52J
60-64	NA	1.80U	0.60J	1.60U	1.80U	1.71U	1.80U	1.63J	0.66J	1.80U	1.80U	1.69U	1.80U	3.41U
70-74	NA	1.57J	1.72J	1.62U	0.8J	1.73U	1.82U	2.98	0.62J	1.82U	1.82U	1.71U	1.82U	3.46U
80-84	NA	0.75J	0.58J	1.52U	1.71U	1.63U	1.71U	1.56U	1.71U	1.71U	1.71U	1.61U	1.71U	3.25U
90-94	NA	0.74J	0.71J	1.73U	1.95U	1.85U	1.95U	1.77U	1.95U	1.95U	1.95U	1.83U	1.97U	3.70U
100-104	NA	1.81U	1.81U	1.61U	1.81U	1.72U	1.81U	1.65U	1.81U	1.81U	1.81U	1.71U	1.81U	3.45U
110-114	NA	1.78U	1.78U	1.58U	1,78U	1.69U	1.78U	1.62U	1.78U	1.78U	1.78U	1.67U	1.78U	3.37U
120-124	NA	1.83U	1.83U	1.63U	1.83U	1.74U	1.83U	1.67U	1.83U	1.83U	1.83U	1.72U	1.83U	3.48U
130-134	NA	1.79U	1.79U	1.59U	1.79U	1.70U	1.79U	1.63U	1.79U	1.79U	1.79U	1.68U	1.79U	3.40U
140-144	NA	1.80U	1.80U	1.60U	0.75J	1.71U	1.80U	1.64U	1.80U	1.80U	1.80U	1.69U	1.80U	3.42U
FRB-1	--	1.72U	1.72U	1.53U	1.72U	1.63U	1.72U	1.56U	1.72U	1.72U	1.72U	1.61U	1.72U	3.26U
FRB-2	--	1.71U	1.71U	1.52U	1.71U	1.62U	1.71U	1.56U	1.71U	1.71U	1.71U	1.61U	1.71U	3.25U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-163
Installed: August 4-6, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
56-60	NA	1.78U	1.78U	1.58U	1.78U	1.69U	1.78U	1.62U	1.78U	1.78U	1.78U	1.67U	1.78U	3.38U
60-64	NA	1.78U	1.78U	1.59U	1.78U	1.69U	1.78U	0.71J	1.78U	1.78U	1.78U	1.68U	1.78U	3.39U
70-74	NA	0.92J	1.86	1.65U	1.08J	1.76U	0.67J	1.20J	0.75J	1.85U	1.85U	1.74U	1.85U	3.51U
80-84	NA	1.01J	1.61J	1.63U	1.41J	1.74U	1.83U	1.61J	0.67J	1.83U	1.83U	1.72U	1.83U	3.48U
90-94	NA	1.60J	1.77U	1.57U	0.91J	1.68U	1.77U	2.15	1.77U	1.77U	1.77U	1.66U	1.77U	3.36U
100-104	NA	2.53	1.81U	1.61U	1.81U	1.72U	1.81U	0.99J	1.81U	1.81U	1.81U	1.71U	1.81U	3.45U
110-114	NA	2.22	1.09J	1.68U	0.86J	1.79U	1.88U	1.20J	1.88U	1.88U	1.88U	1.77U	1.88U	3.58U
120-124	0.2U	1.88	1.18J	1.67U	1.88U	1.79U	1.88U	0.82J	1.88U	1.88U	1.88U	1.77U	1.88U	3.57U
120-124DUP	0.2U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
130-134	0.2U	1.78J	0.66J	1.67U	0.78J	1.79U	1.88U	1.09J	1.88U	1.88U	1.88U	1.77U	1.88U	3.57U
140-144	0.1J	1.84U	1.84U	1.64U	1.84U	1.75U	1.84U	1.68U	1.84U	1.84U	1.84U	1.73U	1.84U	3.51U
150-154	0.38	1.92U	1.92U	1.71U	1.92U	1.82U	1.92U	1.75U	1.92U	1.92U	1.92U	1.80U	1.92U	3.65U
FRB	--	1.69U	1.69U	1.51U	1.69U	1.61U	1.69U	1.54U	1.69U	1.69U	1.69U	1.59U	1.69U	3.22U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-164
Installed: July- August 2, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
50-54	NA	7.12	3.57	1.58U	0.73J	1.68U	1.16J	1.61U	1.06J	1.35J	1.77U	1.67U	0.96J	3.37U
60-64	NA	7.1	2.3	1.55U	1.74U	1.66U	1.74U	1.59U	1.74U	1.74U	1.74U	1.64U	1.74U	3.31U
70-74	NA	0.77J	1.79U	1.59U	1.79U	1.70U	1.79U	1.63U	1.79U	1.79U	1.79U	1.68U	1.79U	3.40U
80-84	NA	3.16	1.71U	1.52U	1.71U	1.62U	1.71U	1.55U	1.71U	1.71U	1.71U	1.61U	1.71U	3.25U
90-94	NA	3.62	1.82U	1.62U	1.82U	1.73U	1.82U	1.60J	1.82U	1.82U	1.82U	1.71U	1.82U	3.46U
100-104	NA	1.55J	2.00U	1.78U	2.00U	1.90U	2.00U	0.73J	2.00U	2.00U	2.00U	1.88U	2.00U	3.80U
110-114	NA	1.53J	1.79U	1.59U	1.79U	1.70U	1.79U	0.59J	1.79U	1.79U	1.79U	1.68U	1.79U	3.40U
120-124	NA	1.83U	1.83U	1.63U	1.83U	1.74U	1.83U	1.66U	1.83U	1.83U	1.83U	1.72U	1.83U	3.48U
130-134	NA	0.87J	1.83U	1.63U	1.83U	1.74U	1.83U	1.67U	1.83U	1.83U	1.83U	1.72U	1.83U	3.48U
140-144	NA	1.00J	1.85U	1.46U	1.85U	1.75U	1.85U	1.49J	1.85U	1.85U	1.85U	1.74U	1.85U	3.51U
FRB	--	1.75U	1.75U	1.55U	1.75U	1.66U	1.75U	1.59U	1.75U	1.75U	1.75U	1.64U	1.75U	1.7J

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-165
Installed: July 27-28, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
46-50	NA	1.86U	1.94	1.66U	1.13J	1.77U	1.86U	1.70U	1.94	0.65J	1.86U	1.75U	1.86U	2.22J
50-54	NA	1.83U	1.19J	1.63U	1.83U	1.74U	1.83U	1.67U	1.21J	0.66J	1.83U	1.72U	1.83U	1.54J
60-64	NA	1.12J	1.74U	1.55U	1.74U	1.65U	1.74U	0.6J	0.65J	1.74U	1.74U	1.63U	1.74U	3.30U
70-74	NA	4.01	2.94	1.55J	0.83J	1.78U	0.88J	3.53	1.28J	1.16J	1.87U	1.78U	1.87U	3.56U
80-84	NA	5.09	2.07	1.76	0.78J	1.73U	1.82U	4.75	1.18J	1.22J	1.82U	1.71U	0.66J	3.46U
80-84DUP	NA	5.2	1.98	1.67	0.77J	1.74U	0.66J	4.7	1.29J	1.18J	1.83U	0.62J	0.82J	3.48U
90-94	NA	2.8	0.82J	1.57U	1.76U	1.67U	1.76U	1.34J	1.76U	0.69J	1.76U	1.66U	1.76U	3.35U
100-104	NA	4.29	0.68J	1.61U	1.81U	1.72U	1.81U	0.69J	1.81U	1.81U	1.81U	1.70U	1.81U	3.43U
110-114	NA	3.62	1.13J	1.61U	1.80U	1.71U	1.80U	3.21	1.80U	1.80U	1.80U	1.70U	1.80U	3.43U
120-124	0.2U	1.18J	1.87U	1.66U	1.87U	1.77U	1.87U	1.34J	1.87U	1.87U	1.87U	1.75U	1.87U	3.55U
130-134	0.2U	1.82U	1.5J	1.62U	0.81J	1.72U	1.82U	1.65U	1.82U	1.82U	1.82U	1.71U	1.82U	3.45U
140-144	0.2U	1.75U	1.75U	1.56U	1.75U	1.66U	1.75U	0.94J	1.75U	1.75U	1.75U	1.65U	1.75U	3.33U
FRB	--	1.89U	1.89U	1.69U	1.89U	1.80U	1.89U	1.72U	1.89U	1.89U	1.89U	1.78U	1.89U	3.60U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-166
Installed: August 9-11, 2021

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
46-50	NA	2.05U	2.05U	1.83U	2.05U	1.95U	2.05U	1.87U	2.05U	2.05U	2.05U	1.93U	2.05U	3.65U
50-54	NA	1.92U	1.92U	1.71U	1.92U	1.82U	1.92U	1.74U	1.92U	1.92U	1.92U	1.80U	1.92U	3.56U
60-64	NA	4.02	0.91J	1.58U	1.77U	1.68U	1.77U	9.94	1.77U	1.77U	1.77U	1.67U	1.77U	3.38U
70-74	NA	1.02J	0.66J	1.75U	1.97U	1.87U	1.97U	1.01J	1.97U	1.97U	1.97U	1.85U	1.97U	3.48U
80-84	NA	3.28	1.92U	1.71U	1.92U	1.82U	1.92U	2.45	1.92U	1.92U	1.92U	1.80U	1.92U	3.45U
90-94	NA	1.51J	1.84U	1.63U	1.84U	1.74U	1.84U	1.42J	1.84U	1.84U	1.84U	1.73U	1.84U	1.90J
100-104	NA	1.82U	1.82U	1.62U	1.82U	1.73U	1.82U	0.61J	1.82U	1.82U	1.82U	1.71U	1.82U	3.71U
110-114	NA	1.93U	1.93U	1.72U	1.93U	1.84U	1.93U	1.76U	1.93U	1.93U	1.93U	1.82U	1.93U	3.63U
120-124	NA	1.88U	1.88U	1.67U	1.88U	1.78U	1.88U	1.71U	1.88U	1.88U	1.88U	1.76U	1.88U	3.52U
130-134	NA	0.79J	1.95U	1.73U	1.95U	1.85U	1.95U	1.77U	1.95U	1.95U	1.95U	1.83U	1.95U	3.45U
140-144	NA	1.84U	1.84U	1.64U	1.84U	1.75U	1.84U	1.67U	1.84U	1.84U	1.84U	1.73U	1.84U	3.67U
EB	--	1.95U	1.95U	1.74U	1.95U	1.85U	1.95U	1.78U	1.95U	1.95U	1.95U	1.83U	1.95U	3.55U
FRB	--	1.68U	1.68U	1.50U	1.68U	1.60U	1.68U	1.53U	1.68U	1.68U	1.68U	1.58U	1.68U	3.26U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

EB: Equipment Blank (well screen)

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Current Firehouse Plume Geoprobe PFC-GP-167
Installed: August 16-17, 2021

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
40-44	NA	1.91J	5.28	1.73U	1.40J	1.84U	0.79J	1.82	3.71	1.87J	1.94U	1.82U	1.94U	2.88J
50-54	NA	15.2	2.98	2.36	1.65J	1.86U	1.01J	19.4	3.65	1.95U	1.95U	2.55	1.08J	3.71U
60-64	NA	14.9	2.66	1.92	1.35J	1.79U	0.77J	17.5	3.67	1.88U	1.88U	2.4	0.96J	3.57U
70-74	NA	13.3	1.46J	2.24	1.32J	1.75U	1.84U	21.5	2	1.84U	1.84U	2.94	1.84U	3.50U
80-84	NA	14.5	1.98	1.28J	1.09J	1.69U	0.65J	11.9	2.92	1.78U	1.78U	1.47J	1.12J	3.38U
90-94	NA	15.2	1.06J	1.45J	1.87U	1.78U	1.87U	12.9	1.72J	1.87U	1.87U	2.03	1.87U	3.56U
100-104	NA	5.63	0.62J	1.61U	1.80U	1.71U	1.80U	5.16	0.89J	1.80U	1.80U	0.66J	1.80U	3.43U
110-114	NA	6.43	1.08J	1.03J	1.82U	1.73U	1.82U	6.64	1.42J	1.82U	1.82U	1.05J	1.82U	3.45U
110-114(DUP)	NA	6.08	0.82J	0.84J	1.79U	1.70U	1.79U	7.55	1.34J	1.79U	1.79U	1.26J	1.79U	3.41U
120-124	NA	7.47	1.01J	1.32J	0.81J	1.77U	1.87U	9.15	1.24J	1.87U	1.87U	1.30J	0.64J	3.54U
130-134	NA	14.4	1.97	1.36J	1.01J	1.69U	0.62J	11.6	2.91	1.78U	1.78U	1.41J	1.07J	3.39U
140-144	NA	15.6	2.13	1.44J	1.10J	1.79U	0.71J	11.9	3.08	1.88U	1.88U	1.49J	1.10J	3.58U
FRB	--	1.90U	1.90U	1.69U	1.90U	1.81U	1.90U	1.73U	1.90U	1.90U	1.90U	1.79U	1.90U	3.62U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Current Firehouse Plume Geoprobe PFC-GP-168
Installed: August 31-September 1, 2021

2021 BNL Groundwater Status report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
60-64	NA	43.1	8.77	16.4	2.46	2.15	2.08J	88.5	14	1.07J	2.22U	12.7	3.7	4.21U
70-74	NA	149	11.1	18.4	2.72	4.67	3.01	142	17.6	1.98U	1.98U	17.2	5.24	3.76U
80-84	NA	72.4	4.36	6.75	1.45J	1.53J	1.36J	38.1	6.75	1.85U	1.85U	4.81	2.24	3.51U
90-94	NA	413D	28.6	28.2	4.02	9.79	4.34	338D	36.4	2.05	1.98U	36.8	9.89	3.77U
100-104	NA	552D	33.6	37.6	4.42	14.1	5.71	394D	47.8	2.02	2.01U	43	12	3.82U
110-114	NA	224D	12.1	16.4	2.55	5.38	2.87	134.00	18	2.5	1.80U	17.7	5.61	3.42U
120-124	0.26	107	10.4	14.3	2.48	3.24	2.52	82.50	13.6	1.89J	1.91U	11.9	5.11	3.62U
130-134	0.26	142	15	23.8	2.59	5.2	2.61	122.0	16.6	4.51	1.89U	17.4	4.15	3.58U
140-144	0.55	94.5	8.09	17.6	2.24	3.17	2.17	81.3	14.8	1.85U	1.85U	12.8	3.59	3.52U
FRB	--	1.08U	1.68U	1.50U	1.68U	1.60U	1.68U	1.53U	1.68U	1.68U	1.68U	1.58U	1.68U	3.20U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Current Firehouse Plume Geoprobe PFC-GP-169
Installed: October 1-4, 2021

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
46-50	NA	5.12	3.58	1.53J	1.79U	1.70U	0.76J	8.25	2.39	1.4J	1.79U	1.01J	1.79U	3.4U
50-54	NA	17	6.19	3.42	1.73J	1.77U	1.21J	20.7	4.78	2.29	1.86U	2.4	0.88J	3.54U
60-64	NA	77	8.76	10.6	2.64	2.5	1.67J	84.1	7.4	0.93J	1.86U	11.9	2.57	3.54U
70-74	NA	73	7.35	11.1	2.63	2.04	1.49J	78.1	7.78	0.65J	1.85U	11	2	3.52U
80-84	NA	108	10.3	11.9	2.61	3.06	1.54J	96.8	7	1.89U	1.89U	14	1.93	3.59U
90-94	NA	66.7	6.37	8.57	2.29	1.85	1.32J	66.8	8.28	1.87U	1.87U	9.19	2.24	3.56U
100-104	NA	55.6	6.04	7.25	2.68	1.4J	1.83J	50.4	14.1	1.90U	1.90U	7.52	3.2	3.6U
110-114	NA	92.7	8.09	10.6	3.47	2.16	1.75J	81.9	12.2	1.98U	1.98U	10.3	2.95	3.76U
120-124	NA	231D	12.4	16.7	3.37	4.32	2.45	130	24	3.3	1.90U	21.7	2.99	3.61U
130-134	NA	159	13.9	24.4	2.44	5.85	3.28	185D	18.6	4.1	1.93U	29.5	2.02	3.67U
140-144	NA	228D	16.9	25.9	3.2	6.42	4.08	250D	26.2	3.7	1.85U	29.2	3.26	3.51U
FRB	--	1.76U	1.76U	1.57U	1.76U	1.68U	1.76U	1.61U	1.76U	1.76U	1.76U	1.66U	1.76U	3.35U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

DUP: Duplicate Sample

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-176
Installed: February 21, 2022

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
50-54	NA	1,250D	11.5	25.9	3.53	3.9	5.01	351D	41.5	1.90U	1.90U	40.2	10.3	3.61U
54-58	NA	103	0.64J	1.70U	1.91U	1.81U	1.91	3.14	2.71	1.91U	1.91U	1.79U	1.91U	3.62U
58-62	NA	4.27	1.26J	1.69U	0.86J	1.80U	1.90U	1.93	1.99	1.90U	1.90U	1.78U	1.90U	3.61U
62-66	NA	2.59	1.95U	1.73U	1.95U	1.85U	1.95U	0.88J	0.84J	1.95U	1.95U	1.83U	1.95U	3.70U
66-70	NA	2.42	0.81J	1.63U	1.83U	1.74U	1.83U	0.99J	0.61J	1.83U	1.83U	1.72U	1.83U	3.48U
74-78	NA	2.47	1.94U	1.73U	1.94U	1.84U	1.94U	1.76U	1.94U	1.94U	1.94U	1.82U	1.94U	3.68U
82-86	NA	1.51J	0.75J	1.61U	1.81U	1.72U	1.81U	1.65U	1.81U	1.81U	1.81U	1.70U	1.81U	3.44U
FRB	--	1.81U	1.81U	1.61U	1.81U	1.72U	1.81U	1.64U	1.81U	1.81U	1.81U	1.70U	1.81U	3.43U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-177
Installed: February 11, 2022

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
54-58	NA	3,230D	16	20.5	4.85	13.8	4.6	358D	23.8	1.80U	1.80U	28.9	8.75	3.42U
58-62	NA	1,120D	45.4	7.5	2.84	28.7	5.42	398D	21.3	2.11U	2.11U	27.7	6.58	4.01U
62-66	NA	80.8	3.82	1.92	1.42J	1.08J	0.92J	100	5.96	2.01U	2.01U	5.72	0.91J	3.82U
66-70	NA	337D	16.4	3.56	2.06J	11.2	3.62	319D	8.84	2.13U	2.13U	14.8	1.96J	4.04U
74-78	NA	2.9	1.92J	1.93U	0.91J	2.06U	0.8J	0.83J	2.17U	2.17U	2.17U	2.04U	2.17U	4.13U
82-86	NA	10.7	1.62J	1.82U	1.82J	1.95U	2.05U	1.37J	2.05U	2.05U	2.05U	1.92U	2.05U	3.89U
FRB	--	1.72U	1.72U	1.53U	1.72U	1.63U	1.72U	1.56U	1.72U	1.72U	1.72U	1.62U	1.72U	3.27U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-178
Installed: February 17, 2022

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
58-62	NA	2.77	2.17U	1.93U	2.17U	2.06U	2.17U	5.37	1.38J	2.17U	2.17U	2.04U	0.14J	4.13U
62-66	NA	1.11J	2.04U	1.82U	2.04U	1.94U	2.04U	1.05J	1.05J	2.04U	2.04U	1.92U	2.04U	3.87U
66-70	NA	1.34J	1.75U	1.94U	0.99J	2.07U	2.18U	1.99U	1.74J	2.18U	2.18U	2.05U	0.83J	4.15U
74-78	NA	2.08U	1.03J	1.85U	2.08U	1.98U	2.08U	1.89U	2.08U	2.08U	2.08U	1.96U	2.08U	3.96U
82-86	NA	2.16U	2.16U	1.92U	2.16U	2.05U	2.16U	0.72U	2.16U	2.16U	2.16U	2.03U	2.16U	4.10U
FRB	--	1.96U	1.96U	1.74U	1.96U	1.86U	1.96U	1.78U	1.96U	1.96U	1.96U	1.84U	1.96U	3.72U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-181
Installed: February 24, 2022

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
54-58	NA	22.4	3.09	1.67U	1.07J	1.79U	0.73J	1.78	2.39	1.88U	1.88U	1.77U	1.36J	3.57U
58-62	NA	5.72	2.64	1.67U	0.81J	1.79U	0.63J	0.96J	0.95J	1.88U	1.88U	1.77U	1.88U	3.58U
62-66	NA	2.17	1.59J	1.70U	0.9J	1.81U	0.67J	0.72J	1.91U	1.91U	1.91U	1.79U	1.91U	3.63U
66-70	NA	14.5	1.23J	1.73U	0.88J	1.84U	1.94U	1.31J	1.94U	1.94U	1.94U	1.83U	1.94U	3.69U
74-78	NA	13.8	0.98J	1.73U	0.86J	1.85U	1.95U	1J	1.95U	1.95U	1.95U	1.83U	1.95U	3.70U
82-86	NA	70.1	1.25J	1.82U	1.1J	1.95U	2.05U	6.16	1.51J	2.05U	2.05U	1.93U	2.05U	1.72J
FRB	--	1.78U	1.87U	1.58U	1.78U	1.68U	1.78U	1.62U	1.78U	1.78U	1.78U	1.67U	1.78U	3.38U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 3.5.1-1

Building 170 Plume Geoprobe PFC-GP-182
Installed: March 2, 2022

2021 BNL Groundwater Status Report

Sample Depth (BLS)	1,4-D (µg/L)	PFOS (ng/L)	PFOA (ng/L)	PFBS (ng/L)	PFBA (ng/L)	PFHpS (ng/L)	PFHpA (ng/L)	PFHxS (ng/L)	PFHxA (ng/L)	PFNA (ng/L)	PFOSAm (ng/L)	PFPeS (ng/L)	PFPeA (ng/L)	6:2 FTS (ng/L)
46-50	NA	7,150D	27.2	92.3	12.4	28.1	16.9	810D	135	3.42	2.13U	142	39.2	15.6
50-54	NA	6,130D	50.2	124D	19	58.9	20.1	1,900D	306D	1J	1.80U	228D	68.3	26.1
54-58	NA	8,470D	65.5	142	17.3	73.9	20.7	2,200D	389D	1.07J	1.83U	218D	73.6	35.1
58-62	NA	844D	3.83	2.4	1.37J	2.89	1.51J	39.5	8.53	1.86U	1.86U	4.21	2.22	3.53U
62-66	NA	42.2	0.81J	1.59U	1.79U	1.70U	1.79U	1.91	1.03J	1.79U	1.79U	1.68U	1.79U	3.40U
66-70	NA	1.45J	1.22J	1.65U	1.85U	1.76U	1.85U	0.92J	1.85U	1.85U	1.85U	1.74U	1.85U	3.52U
74-78	NA	1.37J	0.94J	1.63U	0.93J	1.74U	1.83U	1.66U	1.83U	1.83U	1.83U	1.72U	1.83U	3.48U
82-86	NA	1.81J	2.27	1.62U	2.57	1.73U	1.82U	0.62J	1.82U	1.82U	1.82U	1.71U	1.82U	3.46U
FRB	--	1.97U	1.97U	1.75U	1.97U	1.87U	1.97U	1.79U	1.97U	1.97U	1.97U	1.85U	1.97U	3.74U

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

FRB: Field Reagent Blank

NA: Samples not analyzed for this chemical.

BLS: Depth below land surface

µg/L: Micrograms per liter

ng/L: Nanograms per liter

Table 4.4-1

Tolyltriazole (TTA) in Temporary Wells Installed Downgradient of the STP
October-November 2021

2021 BNL Groundwater Status Report

Sample Depth (Feet BLS)	TTA-GP-04 (mg/L)	TTA-GP-05 (mg/L)	TTA-GP-06 (mg/L)
16-20	<0.05	<0.05	<0.05
36-40	<0.05	**1.203**	<0.05
56-60	<0.05	**1.533** (BD=**1.402**)	<0.05
76-80	**0.984**	**1.034**	**0.937**

BD: Blind Duplicate
BLS: Depth below land surface
mg/L: Millagrams per liter
NYSAWQS = 0.05 mg/L

Table 5-1

Proposed Groundwater Monitoring Well Sampling Frequency Changes

2021 Groundwater Status Report

Well ID	Current Project	Current Frequency	Proposed Frequency	Affected Parameters
095-318	OU III Bldg 96	Quarterly	Annual	
095-293	OU III Bldg 96	Quarterly	Annual	
095-85	OU III Bldg 96	Quarterly	Annual	
000-101	LIPA	Annual	Quarterly	
000-102	LIPA	Annual	Quarterly	
000-104	LIPA	Semiannual	Quarterly	
000-105	LIPA	Annual	Quarterly	
000-130	LIPA	Semiannual	Quarterly	
000-131	LIPA	Semiannual	Quarterly	
000-425	LIPA	Semiannual	Quarterly	
000-445	LIPA	Annual	Quarterly	VOCs
000-446	LIPA	Annual	Quarterly	
000-447	LIPA	Semiannual	Quarterly	
000-448	LIPA	Semiannual	Quarterly	
000-449	LIPA	Semiannual	Quarterly	
000-450	LIPA	Annual	Quarterly	
000-451	LIPA	Semiannual	Quarterly	
000-452	LIPA	Semiannual	Quarterly	
000-458	LIPA	Annual	Quarterly	
000-459	LIPA	Annual	Quarterly	
000-460	LIPA	Annual	Discontinue	
109-03	WFWS	Quarterly	Quarterly	
117-01	WFWS	New	Quarterly	
117-02	WFWS	New	Quarterly	
117-04	WFWS	New	Quarterly	VOCs,Sr-90, Gamma, 1,4-dioxane, PFAS
117-05	WFWS	New	Quarterly	
117-06	WFWS	New	Quarterly	
109-04	WFWS	Quarterly	Discontinue	
109-12	WFWS	Quarterly	Discontinue	
109-13	WFWS	Quarterly	Discontinue	
065-325	BGRR	Quarterly	Semiannual	
065-405	BGRR	Quarterly	Semiannual	
075-415	BGRR	None	One Event	
075-417	BGRR	None	One Event	
075-419	BGRR	None	One Event	
085-171	BGRR	None	One Event	Sr-90
085-285	BGRR	None	One Event	
085-286	BGRR	None	One Event	
085-287	BGRR	None	One Event	
085-01	BGRR	None	One Event	
085-290	BGRR	None	One Event	
95 Wells *	PFAS	New	TBD	PFAS (Note 1)

Note 1: Initially, one round of samples will be collected. The subsequent sampling frequency will then be determined. Select wells will also be analyzed for 1,4-dioxane.

Table 4.10-1

Tolyltriazole (TTA) in Temporary Wells Installed Downgradient of Recharge Basin HN
October-November 2021

2021 BNL Groundwater Status Report

Sample Depth (Feet BLS)	TTA-GP-01 (mg/L)	TTA-GP-02 (mg/L)	TTA-GP-03 (mg/L)
40-44	<0.05	<0.05	<0.05
60-64	<0.05	<0.05 **(BD=0.068)**	<0.05
80-84	**0.15**	<0.05	<0.05
100-104	**0.221**	**0.67**	**0.317**

BD: Blind Duplicate

BLS: Depth below land surface

mg/L: Millagrams per liter

NYSAWQS = 0.05 mg/L

Table 4.10-2

Monitoring Wells Downgradient of Recharge Basin HN
Tolyltrizole Monitoring Results 2021-2022

2021 BNL Groundwater Status Report

Well	Sample Date	TTA mg/L	MDL mg/L	NYSAWQS mg/L
055-01	01/12/22	0.05U	0.05	0.05
055-06	12/10/21	0.05	0.05	0.05
055-10	12/10/21	**0.362**	0.05	0.05
	01/12/22	**0.304**	0.05	0.05
	" " (BD)	**0.325**	0.05	0.05
056-01	01/12/22	0.05U	0.05	0.05
056-03	01/12/22	**0.131**	0.05	0.05

U: Analyte not detected.

mg/L: Miligrams per liter.

BD: Blind Duplicate sample.

NYSAWQS: New York State Ambient Water Quality Standard.