BROOKHAVEN NATIONAL LABORATORY

# 2022

# Site Environmental Report

## GROUNDWATER STATUS REPORT

**VOLUME II**

# 2022
# SITE ENVIRONMENTAL REPORT
# VOLUME II
# GROUNDWATER STATUS REPORT

June 13, 2023


**Environmental Protection Division**
Groundwater Protection Group

**Brookhaven National Laboratory**
**Operated by**
**Brookhaven Science Associates**
**Upton, NY 11973**



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# *Contents*


Report Contributors ..... i
Contents ..... iii
List of Appendices ..... ix
List of Figures ..... xiii
List of Tables ..... xvii
Acronyms and Abbreviations ..... xix
Executive Summary ..... xxi

1.0 INTRODUCTION AND OBJECTIVES ..... 1-1
1.1 Groundwater Monitoring Program ..... 1-2
1.1.1 Regulatory Requirements ..... 1-2
1.1.2 Groundwater Quality and Classification ..... 1-2
1.1.3 Monitoring Objectives ..... 1-3
1.1.4 Groundwater - CERCLA Monitoring ..... 1-3
1.2 Private Well Sampling ..... 1-6

2.0 HYDROGEOLOGY ..... 2-1
2.1 Hydrogeologic Data ..... 2-2
2.1.1 Groundwater Elevation Monitoring ..... 2-2
2.1.2 Pumpage of On-Site Water Supply and Remediation Wells ..... 2-2
2.1.3 Off-Site Water Supply Wells ..... 2-3
2.1.4 Summary of On-Site Recharge and Precipitation Data ..... 2-4
2.2 Groundwater Flow ..... 2-5
2.2.1 Water-Table Contour Map ..... 2-6
2.2.2 Well Hydrographs ..... 2-6
2.2.3 Groundwater Gradients and Flow Rates ..... 2-6
2.3 New Geologic Data ..... 2-7

3.0 CERCLA GROUNDWATER MONITORING AND REMEDIATION ..... 3-1
3.1 Operable Unit I ..... 3-7
3.1.1 OU I South Boundary Treatment System ..... 3-7
3.1.2 System Description ..... 3-7
3.1.3 Groundwater Monitoring ..... 3-7
3.1.4 Monitoring Well VOC Results ..... 3-7
3.1.5 Radionuclide Monitoring Results ..... 3-8
3.1.6 System Operations ..... 3-9
3.1.7 System Evaluation ..... 3-9
3.1.8 Recommendations ..... 3-10
3.2 Operable Unit III ..... 3-11
3.2.1 Building 96 Treatment System ..... 3-13
3.2.1.1 System Description ..... 3-13
3.2.1.2 Source Area Soil Remediation ..... 3-13
3.2.1.3 Groundwater Monitoring ..... 3-13
3.2.1.4 Monitoring Well Results ..... 3-13
3.2.1.5 System Operations ..... 3-15
3.2.1.6 System Operational Data ..... 3-15
3.2.1.7 System Evaluation ..... 3-16
3.2.1.8 Recommendations ..... 3-17
3.2.2 Middle Road Treatment System ..... 3-19
3.2.2.1 System Description ..... 3-19
3.2.2.2 Groundwater Monitoring ..... 3-19
3.2.2.3 Monitoring Well Results ..... 3-19
3.2.2.4 System Operations ..... 3-20
3.2.2.5 System Operational Data ..... 3-20
3.2.2.6 System Evaluation ..... 3-21
3.2.2.7 Recommendations ..... 3-22
3.2.3 OU III South Boundary Treatment System ..... 3-23
3.2.3.1 System Description ..... 3-23

3.2.3.2 Groundwater Monitoring ..... 3-23
3.2.3.3 Monitoring Well Results ..... 3-23
3.2.3.4 System Operations ..... 3-24
3.2.3.5 System Operational Data ..... 3-25
3.2.3.6 System Evaluation ..... 3-25
3.2.3.7 Recommendations ..... 3-26
3.2.4 Western South Boundary Treatment System ..... 3-27
3.2.4.1 System Description ..... 3-27
3.2.4.2 Groundwater Monitoring ..... 3-27
3.2.4.3 Monitoring Well Results ..... 3-27
3.2.4.4 System Operations ..... 3-28
3.2.4.5 System Operational Data ..... 3-29
3.2.4.6 System Evaluation ..... 3-30
3.2.4.7 Recommendations ..... 3-31
3.2.5 Industrial Park Groundwater Treatment System ..... 3-33
3.2.5.1 System Description ..... 3-33
3.2.5.2 Groundwater Monitoring ..... 3-33
3.2.5.3 Monitoring Well Results ..... 3-34
3.2.5.4 System Operations ..... 3-34
3.2.5.5 System Operational Data ..... 3-35
3.2.5.6 System Evaluation ..... 3-35
3.2.5.7 Recommendations ..... 3-36
3.2.6 North Street Groundwater Monitoring ..... 3-37
3.2.6.1 System Description ..... 3-37
3.2.6.2 Groundwater Monitoring ..... 3-38
3.2.6.3 Monitoring Well Results ..... 3-38
3.2.6.4 Groundwater Monitoring Evaluation ..... 3-38
3.2.6.5 Recommendations ..... 3-39
3.2.7 North Street East Ethylene Dibromide Treatment System ..... 3-41
3.2.7.1 System Description ..... 3-41
3.2.7.2 Groundwater Monitoring ..... 3-41
3.2.7.3 Monitoring Well Results ..... 3-41
3.2.7.4 System Operations ..... 3-42
3.2.7.5 System Operational Data ..... 3-42
3.2.7.6 System Evaluation ..... 3-43
3.2.7.7 Recommendations ..... 3-44
3.2.8 LIPA/Airport Treatment System ..... 3-45
3.2.8.1 System Description ..... 3-45
3.2.8.2 Groundwater Monitoring ..... 3-45
3.2.8.3 Monitoring Results ..... 3-46
3.2.8.4 System Operations ..... 3-47
3.2.8.5 System Operational Data ..... 3-47
3.2.8.6 System Evaluation ..... 3-47
3.2.8.7 Recommendations ..... 3-48
3.2.9 Magothy Monitoring ..... 3-51
3.2.9.1 Monitoring Well Results ..... 3-52
3.2.9.2 Recommendations ..... 3-52
3.2.10 William Floyd Wellfield Sentinel Monitoring ..... 3-53
3.2.10.1 Groundwater Monitoring ..... 3-53
3.2.10.2 Monitoring Well Results ..... 3-53
3.2.10.3 Groundwater Monitoring Program Evaluation ..... 3-54
3.2.10.4 Recommendations ..... 3-54
3.2.11 BGRR/WCF Strontium-90 Treatment System ..... 3-55
3.2.11.1 System Description ..... 3-55
3.2.11.2 Groundwater Monitoring ..... 3-55
3.2.11.3 Monitoring Well/Temporary Well Results ..... 3-56
3.2.11.4 System Operations ..... 3-57
3.2.11.5 System Operational Data ..... 3-58
3.2.11.6 System Evaluation ..... 3-59
3.2.11.7 Recommendations ..... 3-60
3.2.12 Chemical/Animal Holes Strontium-90 Treatment System ..... 3-63
3.2.12.1 System Description ..... 3-63
3.2.12.2 Groundwater Monitoring ..... 3-63

3.2.12.3 Monitoring Well Results ..... 3-63
3.2.12.4 System Operations ..... 3-64
3.2.12.5 System Operational Data ..... 3-64
3.2.12.6 System Evaluation ..... 3-64
3.2.12.7 Recommendations ..... 3-65
3.2.13 HFBR Tritium Monitoring Program ..... 3-67
3.2.13.1 System Description ..... 3-67
3.2.13.2 Groundwater Monitoring ..... 3-67
3.2.13.3 Monitoring Well Results ..... 3-67
3.2.13.4 Monitoring Program Evaluation ..... 3-68
3.2.13.5 Recommendations ..... 3-68
3.3 Operable Unit IV ..... 3-69
3.3.1 Building 650 and Sump Outfall Strontium-90 Monitoring Program ..... 3-71
3.3.1.1 Groundwater Monitoring ..... 3-71
3.3.1.2 Monitoring Well Results ..... 3-71
3.3.1.3 Groundwater Monitoring Program Evaluation ..... 3-72
3.3.1.4 Recommendations ..... 3-72
3.4 Operable Unit VI EDB Treatment System ..... 3-75
3.4.1 System Description ..... 3-75
3.4.2 Groundwater Monitoring ..... 3-75
3.4.3 Monitoring Well Results ..... 3-75
3.4.4 System Operational Data ..... 3-76
3.4.5 System Evaluation ..... 3-77
3.4.6 Recommendations ..... 3-78
3.5 OPERABLE UNIT X ..... 3-81
3.5.1 Operable Unit X Current Firehouse PFAS Treatment System ..... 3-83
3.5.1.1 System Description ..... 3-83
3.5.1.2 Groundwater Monitoring ..... 3-83
3.5.1.3 Monitoring Well Results ..... 3-83
3.5.1.4 System Operational Data ..... 3-84
3.5.1.5 System Evaluation ..... 3-85
3.5.1.6 Recommendations ..... 3-86
3.5.2 Operable Unit X Former Firehouse PFAS Treatment System ..... 3-87
3.5.2.1 System Description ..... 3-87
3.5.2.2 Groundwater Monitoring ..... 3-87
3.5.2.3 Monitoring Well Results ..... 3-87
3.5.2.4 System Operational Data ..... 3-88
3.5.2.5 System Evaluation ..... 3-88
3.5.2.6 Recommendations ..... 3-89
3.5.3 1,4-Dioxane in Groundwater ..... 3-91
3.5.3.1 1,4-Dioxane Groundwater Monitoring ..... 3-91
3.5.3.2 Monitoring Results ..... 3-91
3.5.3.3 1,4-Dioxane Groundwater Monitoring Program Evaluation ..... 3-92
3.5.3.4 1,4-Dioxane Monitoring Recommendations ..... 3-92
3.6 Site Background Monitoring ..... 3-93
3.6.1 Groundwater Monitoring ..... 3-93
3.6.2 Monitoring Well Results ..... 3-93
3.6.3 Groundwater Monitoring Program Evaluation ..... 3-93
3.6.4 Recommendation ..... 3-93
3.7 Current and Former Landfill Groundwater Monitoring ..... 3-95
3.7.1 Current Landfill Summary ..... 3-95
3.7.1.1 Current Landfill Recommendations ..... 3-95
3.7.2 Former Landfill Summary ..... 3-95
3.7.2.1 Former Landfill Recommendations ..... 3-96
3.8 g-2 Tritium Source Area and Groundwater Plume ..... 3-97
3.8.1 g-2 Tritium Source Area and Plume Groundwater Monitoring ..... 3-97
3.8.2 g-2 Tritium Source Area and Plume Monitoring Well Results ..... 3-97
3.8.3 g-2 Tritium Source Area and Plume Groundwater Monitoring Program Evaluation ..... 3-98
3.8.4 g-2 Tritium Source Area and Plume Recommendations ..... 3-98
3.9 Brookhaven Linac Isotope Producer (BLIP) ..... 3-99
3.9.1 BLIP Groundwater Monitoring ..... 3-99
3.9.2 BLIP Monitoring Well Results ..... 3-99

3.9.3 BLIP Groundwater Monitoring Program Evaluation....3-100
3.9.4 BLIP Recommendation....3-100

4.0 FACILITY MONITORING PROGRAM SUMMARY....4-1
4.1 Alternating Gradient Synchrotron (AGS) Complex....4-3
4.1.1 AGS Building 912....4-3
4.1.1.1 AGS Building 912 Groundwater Monitoring....4-3
4.1.1.2 AGS Building 912 Monitoring Well Results....4-4
4.1.1.3 AGS Building 912 Groundwater Monitoring Program Evaluation....4-4
4.1.1.4 AGS Building 912 Recommendations....4-4
4.1.2 AGS Booster Beam Stop....4-4
4.1.2.1 AGS Booster Groundwater Monitoring....4-4
4.1.2.2 AGS Booster Monitoring Well Results....4-5
4.1.2.3 AGS Booster Groundwater Monitoring Program Evaluation....4-5
4.1.2.4 AGS Booster Recommendation....4-5
4.1.3 NASA Space Radiation Laboratory (NSRL)....4-5
4.1.3.1 NSRL Groundwater Monitoring....4-5
4.1.3.2 NSRL Monitoring Well Results....4-5
4.1.3.3 NSRL Groundwater Monitoring Program Evaluation....4-6
4.1.3.4 NSRL Recommendation....4-6
4.1.4 Former AGS E-20 Catcher....4-6
4.1.4.1 Former AGS E-20 Catcher Groundwater Monitoring....4-6
4.1.4.2 Former AGS E-20 Catcher Monitoring Well Results....4-6
4.1.4.3 Former AGS E-20 Catcher Groundwater Monitoring Program Evaluation....4-6
4.1.4.4 Former AGS E-20 Catcher Recommendation....4-7
4.1.5 AGS Building 914....4-7
4.1.5.1 AGS Building 914 Groundwater Monitoring....4-7
4.1.5.2 AGS Building 914 Monitoring Well Results....4-7
4.1.5.3 AGS Building 914 Groundwater Monitoring Program Evaluation....4-7
4.1.5.4 AGS Building 914 Recommendation....4-7
4.1.6 Former g-2 Beam Stop....4-7
4.1.6.1 Former g-2 Beam Stop Groundwater Monitoring....4-8
4.1.6.2 Former g-2 Beam Stop Monitoring Well Results....4-8
4.1.6.3 Former g-2 Beam Stop Groundwater Monitoring Program Evaluation....4-8
4.1.6.4 Former g-2 Beam Stop Recommendation....4-8
4.1.7 AGS J-10 Beam Stop....4-8
4.1.7.1 AGS J-10 Beam Stop Groundwater Monitoring....4-8
4.1.7.2 AGS J-10 Beam Stop Monitoring Well Results....4-9
4.1.7.3 AGS J-10 Beam Stop Monitoring Program Evaluation....4-9
4.1.7.4 AGS J-10 Beam Stop Recommendation....4-9
4.1.8 Former AGS U-Line Beam Target and Stop Areas....4-9
4.1.8.1 Former AGS U-Line Groundwater Monitoring....4-9
4.1.8.2 Former AGS U-Line Groundwater Monitoring Well Results....4-9
4.1.8.3 Former AGS U-Line Groundwater Monitoring Program Evaluation....4-9
4.1.8.4 Former AGS U-Line Recommendation....4-10
4.2 Relativistic Heavy Ion Collider (RHIC)....4-11
4.2.1 RHIC Groundwater Monitoring....4-11
4.2.2 RHIC Monitoring Well Results....4-11
4.2.3 RHIC Groundwater Monitoring Program Evaluation....4-11
4.2.4 RHIC Recommendation....4-11
4.3 Brookhaven Medical Research Reactor (BMRR)....4-13
4.3.1 BMRR Groundwater Monitoring....4-13
4.3.2 BMRR Monitoring Well Results....4-13
4.3.3 BMRR Groundwater Monitoring Program Evaluation....4-13
4.3.4 BMRR Recommendation....4-14
4.4 Sewage Treatment Plant (STP)....4-15
4.4.1 STP Groundwater Monitoring....4-15
4.4.2 STP Monitoring Well Results....4-15
4.4.3 STP Groundwater Monitoring Program Evaluation....4-15
4.4.4 STP Recommendation....4-16
4.5 Motor Pool Area....4-17
4.5.1 Motor Pool Area Groundwater Monitoring....4-17
4.5.2 Motor Pool Monitoring Well Results....4-17

4.5.3 Motor Pool Groundwater Monitoring Program Evaluation ....4-17
4.5.4 Motor Pool Recommendations ....4-17
4.6 On-Site Service Station ....4-19
4.6.1 Service Station Groundwater Monitoring ....4-19
4.6.2 Service Station Monitoring Well Results ....4-19
4.6.3 Service Station Groundwater Monitoring Program Evaluation ....4-19
4.6.4 Service Station Groundwater Monitoring Program Recommendation ....4-19
4.7 Major Petroleum Facility (MPF) ....4-21
4.7.1 MPF Groundwater Monitoring ....4-21
4.7.2 MPF Monitoring Well Results ....4-21
4.7.3 MPF Groundwater Monitoring Program Evaluation ....4-21
4.7.4 MPF Recommendation ....4-22
4.8 Waste Management Facility (WMF) ....4-23
4.8.1 WMF Groundwater Monitoring ....4-23
4.8.2 WMF Monitoring Well Results ....4-23
4.8.3 WMF Groundwater Monitoring Program Evaluation ....4-24
4.8.4 WMF Recommendation ....4-24
4.9 National Synchrotron Light Source II (NSLS-II) ....4-25
4.9.1 NSLS-II Groundwater Monitoring ....4-25
4.9.2 NSLS-II Monitoring Well Results ....4-25
4.9.3 NSLS-II Groundwater Monitoring Program Evaluation ....4-25
4.9.4 NSLS-II Recommendations ....4-25
4.10 Recharge Basin HN ....4-27
4.10.1 Basin HN Groundwater Monitoring ....4-27
4.10.2 Basin HN Area Monitoring Results ....4-27
4.10.3 Basin HN Area Groundwater Monitoring Program Evaluation ....4-27
4.10.4 Recommendation ....4-28

5.0 SUMMARY OF RECOMMENDATIONS ....5-1
5.1 OU I South Boundary Treatment System ....5-1
5.2 Building 96 Treatment System ....5-1
5.3 Middle Road Treatment System ....5-2
5.4 OU III South Boundary Treatment System ....5-2
5.5 Western South Boundary Treatment System ....5-2
5.6 Industrial Park Treatment System ....5-3
5.7 North Street Treatment System ....5-3
5.8 North Street East EDB Treatment System ....5-3
5.9 LIPA/Airport Treatment System ....5-3
5.10 Magothy Monitoring ....5-4
5.11 William Floyd Wellfield Sentinel Monitoring ....5-4
5.12 BGRR/WCF Strontium-90 Treatment System ....5-4
5.13 Chemical/Animal Holes Strontium-90 Treatment System ....5-4
5.14 HFBR Tritium Pump and Recharge System ....5-5
5.15 Building 650 (Sump Outfall) Strontium-90 Monitoring ....5-5
5.16 Operable Unit VI EDB Treatment System ....5-5
5.17 Site Background Monitoring ....5-5
5.18 Current Landfill Groundwater Monitoring ....5-6
5.19 Former Landfill Groundwater Monitoring ....5-6
5.20 g-2 Tritium Source Area and Groundwater Plume ....5-6
5.21 Brookhaven Linac Isotope Producer (BLIP) Facility ....5-6
5.22 Operable Unit X Current Firehouse PFAS Treatment System ....5-6
5.23 Operable Unit X Former Firehouse PFAS Treatment System ....5-6
5.24 1,4-Dioxane in Groundwater ....5-7
5.25 Alternating Gradient Synchrotron (AGS) Complex ....5-7
5.26 Relativistic Heavy Ion Collider (RHIC) Facility ....5-7
5.27 Brookhaven Medical Research Reactor (BMRR) Facility ....5-7
5.28 Sewage Treatment Plant (STP) Facility ....5-7
5.29 Motor Pool Area ....5-7
5.30 Major Petroleum Facility (MPF) Area ....5-7
5.31 Waste Management Facility (WMF) ....5-7
5.32 National Synchrotron Light Source II (NSLS-II) ....5-7
5.33 Recharge Basin HN ....5-7

Reference List

# *List of Appendices*


A. Sitewide Groundwater Elevation Measurements

B. Long-Term Well Hydrographs

C. 2022 CERCLA Groundwater Results
- OU I (South Boundary)
- OU III (Bldg. 96)
- OU III (Middle Road)
- OU III (South Boundary)
- OU III (Western South Boundary)
- OU III (Industrial Park)
- OU III (North Street)
- OU III (North Street East)
- OU III (LIPA/Airport)
- OU III (Magothy)
- OU III (William Floyd Wellfield Sentinel Monitoring)
- OU III (Off-Site)
- OU III (BGRR/WCF Sr-90)
- OU III (Chemical/Animal Holes Sr-90)
- OU III (AOC 29/HFBR Tritium)
- OU IV (AOC 6 Sr-90)
- OU VI EDB
- Site Background
- Current Landfill
- g-2 Tritium Source Area and Groundwater Plume
- BLIP Facility
- OU X PFAS Source Areas and Groundwater Plumes

D. 2022 Facility Monitoring Groundwater Results
- AGS Research Areas
- Motor Pool Area
- Major Petroleum Facility
- RHIC Facility
- Service Station
- Sewage Treatment Plant
- Waste Management Facility
- NSLS II

E. Sample Collection, Tracking, and QA/QC Results

1.0 Groundwater Sampling
1.1 Sample Collection
1.1.1 Decontamination
1.2 Sample Tracking System
1.2.1 Sample Identification
1.2.2 Sample Tracking
1.2.3 Sample Packaging and Shipping
1.2.4 Sample Documentation
1.3 Analytical Methods
1.3.1 Chemical Analytical Methods
1.3.2 Radiological Analytical Methods
1.4 Quality Assurance and Quality Control
1.4.1 Calibration and Preventive Maintenance of Field Instruments
1.4.2 QA/QC Sample Collection
1.4.2.1 Equipment Blanks
1.4.2.2 Field Blanks
1.4.2.3 Duplicate Samples
1.4.2.4 Requirements for Matrix Spike/Matrix Spike Duplicate Volumes
1.4.3 Data Verification
1.4.4 Data Usability

F. Remediation System Data Tables

**OU I South Boundary System**

F-1 Extraction Wells Radiological and VOC Data

F-2 Air Stripper Influent Radiological and VOC Data

F-3 Air Stripper Effluent Radiological and VOC Data

F-4 Cumulative Mass Removal

**OU III Building 96 System**

F-5 Influent VOC Data

F-6 Effluent VOC Data

F-7 Pumpage and Mass Removal

**OU III Middle Road System**

F-8 Extraction Well VOC Data

F-9 Air Stripper Influent VOC Data

F-10 Air Stripper Effluent VOC Data

F-11 Cumulative Mass Removal

**OU III South Boundary System**

F-12 Extraction Well VOC Data

F-13 Air Stripper Influent VOC Data

F-14 Air Stripper Effluent VOC Data

F-15 Cumulative Mass Removal

**OU III Western South Boundary System**

F-16 Extraction Wells VOC Data

F-17 Air Stripper Influent Data

F-18 Air Stripper Effluent Data
F-19 Cumulative Mass Removal

**OU III Industrial Park System**

F-20 TVOC Influent, Effluent and Efficiency Performance
F-21 Cumulative Mass Recovery
F-22 Air Flow Rates
F-23 Extraction Well VOC Data

**OU III North Street System**

F-24 Cumulative Mass Removal
F-25 Extraction Wells VOC Data and Tritium Data
F-26 Carbon Influent VOC Data
F-27 Carbon Effluent VOC and Tritium Data

**OU III North Street East System**

F-28 Extraction Wells VOC Data
F-29 Carbon Influent VOC Data
F-30 Carbon Effluent VOC Data
F-31 Cumulative Mass Removal

**OU III LIPA/Airport System**

F-32 Cumulative Mass Removal
F-33 Extraction Well VOC Data
F-34 Carbon Influent VOC Data
F-35 Carbon Effluent VOC Data

**OU III BGRR/WCF Sr-90 System**

F- 36 Extraction Well Data
F- 37 System Influent Data
F- 38 System Effluent Data
F- 39 Cumulative Mass Removal

**OU III Chemical/Animal Holes Sr-90 System**

F- 40 Extraction Well Data
F- 41 System Influent Data
F- 42 System Effluent Data
F- 43 Cumulative Mass Removal

**OU VI EDB Pump and Treat System**

F- 44 Extraction Well VOC Data
F- 45 System Influent VOC Data
F- 46 System Effluent VOC Data

**OU III Tritium Pump and Recharge System**

F- 47 Extraction Wells VOC and Tritium Data

**OU X PFAS CFH System**

F- 48 Extraction Well Data

F- 49 System Influent Data

F- 50 System Effluent Data

**OU X PFAS FFH System**

F- 53 System Influent Data

F- 54 System Effluent Data

F- 55 Pumpage and Mass Removal

G. Data Usability Reports

H. Groundwater Modeling - Assessment of OU VI EDB Capture and Cleanup Timeframe (Arcadis 2022)

Groundwater Modeling - Assessment of OU VI EDB Transport Evaluation (Arcadis 2023)

# *List of Figures*


E-1 2022 Extent of Primary BNL VOC Plumes
E-2 2022 Extent of Primary BNL Radionuclide Plumes

1-1 Operable Units and Areas of Concern
1-2 Monitoring Well Locations

2-1 Generalized Geologic Cross Section in the Vicinity of Brookhaven National Laboratory
2-2 Water-Table Contours of the Shallow Glacial Zone, October 25 to October 28, 2022
2-3 Summary of Monthly Supply Well Pumpage from the BNL Eastern and Western Well Fields 2011 through 2022.
2-4 Suffolk County Water Authority Pumping Near BNL
2-5 Select Recharge Basin Flow Trends

3.0-1 Groundwater Remediation Systems
3.0-2 Summary of Laboratory Analyses Performed for the CERCLA Permanent Monitoring Well Program in 2022

3.1-1 OU I South Boundary / North Street East, TVOC Plume Distribution
3.1-2 OU I South Boundary, TVOC Hydrogeologic Cross Section (A-A')
3.1-3 OU I / Current Landfill / South Boundary / North Street East, Historical VOC Trends
3.1-4 OU I South Boundary Sr-90 Plume Distribution
3.1-5 OU I South Boundary Historical Sr-90 Trends
3.1-6 OU I South Boundary Groundwater Remediation System, Historic Total Volatile Organic Compound Trends in Extraction Wells
3.1-7 OU I South Boundary Groundwater Remediation System, Cumulative VOC Mass Removed
3.1-8 OU I South Boundary / North Street East, TVOC Plume Comparison 1997-2022

3.2-1 OU III / OU IV / North Street, TVOC Plume Distributions
3.2-2 OU III, TVOC Hydrogeologic Cross Section (B-B')
3.2-3 OU III / OU IV / North Street, TVOC Plume Comparaison 1997-2022

3.2.1-1 OU III Building 96 Area, TVOC Plume Distribution
3.2.1-2 OU III Building 96 Area, TVOC Hydrogeologic Cross Section (C-C')
3.2.1-3 OU III Building 96 Area, Historical VOC Trends
3.2.1-4 OU III Building 96 Area, Extraction Well TVOC Concentrations
3.2.1-5 OU III Building 96 Area, Extraction Well TVOC Concentrations From January 1, 2005
3.2.1-6 OU III Building 96 Area, TVOC Plume Comparison 2000-2022

3.2.2-1 OU III Middle Road Area, TVOC Plume Distribution
3.2.2-2 OU III Middle Road Area, TVOC Hydrogeologic Cross Section (E-E')
3.2.2-3 OU III and OU IV Plume(s), Historical VOC Trends
3.2.2-4 OU III Middle Road Area, TVOC Hydrogeologic Cross Section (F-F')
3.2.2-5 OU III Middle Road Groundwater Remediation System, Cumulative VOC Mass Removed
3.2.2-6 OU III Middle Road Groundwater Remediation System, Total Volatile Organic Compounds in Recovery Wells

3.2.3-1 OU III and OU IV South Boundary / Industrial Park Areas, TVOC Plume Distribution
3.2.3-2 OU III South Boundary Area, TVOC Hydrogeologic Cross Section (G-G')
3.2.3-3 OU III South Boundary Groundwater Remediation System, Total Volatile Organic Compounds in Extraction Wells
3.2.3-4 OU III South Boundary Groundwater Remediation System, Total Volatile Organic Compounds in Extraction Wells 2010 through 2022
3.2.3-5 OU III South Boundary Groundwater Remediation System, Cumulative VOC Mass Removed

3.2.4-1 OU III Western South Boundary, TVOC Plume Distribution
3.2.4-2 OU III Western South Boundary, TVOC Hydrogeologic Cross Section (H-H')
3.2.4-3 OU III Western South Boundary, Historical VOC Trends
3.2.4-4 OU III Western South Boundary Groundwater Remediation System, Historic Extraction Well Total Volatile Organic Compound Concentrations

3.2.4-5 OU III Western South Boundary Groundwater Remediation System, Cumulative VOC Mass Removed
3.2.4-6 OU III Western South Boundary, TVOC Hydrogeologic Cross Section (H1-H1')
3.2.4-7 OU III Western South Boundary, Extraction Wells and Piping Layout
3.2.4-8 OU III Western South Boundary, TVOC Plume Comparison 2018 - 2022

3.2.5-1 OU III Industrial Park Area, TVOC Plume Distribution
3.2.5-2 OU III Industrial Park and Industrial Park East, TVOC Hydrogeologic Cross Section (I-I')
3.2.5-3 OU III Industrial Park, Historical VOC Trends
3.2.5-4 OU III Industrial Park Groundwater Remediation System, TVOC Influent Concentration
3.2.5-5 OU III Industrial Park Groundwater Remediation System, TVOC Effluent Concentration
3.2.5-6 OU III Industrial Park Groundwater Remediation System, Cumulative VOC Mass Removed
3.2.5-7 OU III Industrial Park TVOC Plume Comparison 1997, 2005, 2013, 2022

3.2.6-1 North Street, TVOC Plume Distribution
3.2.6-2 North Street, TVOC Hydrogeologic Cross Section (J-J')
3.2.6-3 North Street, Historical VOC Trends
3.2.6-4 OU III North Street Groundwater Remediation System, Extraction Well TVOC Concentrations
3.2.6-5 OU III North Street Groundwater Remediation System, Cumulative VOC Mass Removed
3.2.6-6 North Street, TVOC Plume Comparison 1997-2022

3.2.7-1 OU III North Street East EDB Plume Distribution
3.2.7-2 OU III North Street East EDB Hydrogeologic Cross Section (K-K')
3.2.7-3 OU III North Street East Historical EDB Trends
3.2.7-4 OU III North Street East Groundwater Remediation System, Extraction Well TVOC Concentrations
3.2.7-5 OU III North Street East Groundwater Remediation System, Extraction Well EDB Concentrations
3.2.7-6 OU III North Street East Groundwater Remediation System, Cumulative VOC Mass Removed
3.2.7-7 OU III North Street East EDB Plume Comparison 2019 - 2022

3.2.8-1 OU III LIPA / Airport, TVOC Plume Distribution
3.2.8-2 OU III Airport West, TVOC Hydrogeologic Cross Section (L-L')
3.2.8-3 OU III LIPA Groundwater Remediation System, Extraction Well TVOC Concentrations
3.2.8-4 OU III Airport Groundwater Remediation System, Extraction Well TVOC Concentrations
3.2.8-5 OU III LIPA/Airport Groundwater Remediation System, Cumulative VOC Mass Removed
3.2.8-6 OU III LIPA/Airport, Historical VOC Trends

3.2.9-1 Magothy Well Locations and TVOC Results
3.2.9-2 Magothy Historical TVOC Trends

3.2.10-1 William Floyd Wellfield, Sentinel Monitoring, Monitoring Well Locations, PFOS/PFOA 1st Qtr 2022

3.2.11-1 OU III BGRR/WCF, Sr-90 Plume Distribution
3.2.11-2 OU III BGRR/WCF, Sr-90 Cross Section (M-M')
3.2.11-3 OU III BGRR/WCF, Sr-90 Cross Section (N-N')
3.2.11-4 OU III BGRR/WCF, Sr-90 Cross Section (O-O')
3.2.11-5 OU III BGRR/WCF, Historical Sr-90 Trends
3.2.11-6 OU III BGRR/WCF Monitoring Well 075-701, Sr-90 Concentration Comparison to Water Table Elevation
3.2.11-7 OU III BGRR/WCF, Sr-90 Cumulative MilliCuries Removed
3.2.11-8 OU III BGRR/WCF, Sr-90 Influent Concentrations For Extraction Wells
3.2.11-9 OU III BGRR/WCF, Sr-90 Influent Concentrations from April 2008 to Present
3.2.11-10 OU III BGRR/WCF, Sr-90 Plume Comparison 2004-2022

3.2.12-1 OU III Chemical/Animal Holes, Sr-90 Plume Distribution
3.2.12-2 OU III Chemical/Animal Holes, Historical Sr-90 Trends
3.2.12-3 OU III Chemical/Animal Holes, Sr-90 Hydrogeologic Cross Section (P-P')
3.2.12-4 OU III Chemical/Animal Holes, Sr-90 Extraction Well Concentrations
3.2.12-5 OU III Chemical/Animal Holes, Sr-90 Cumulative MilliCuries Removed
3.2.12-6 OU III Chemical/Animal Holes, Sr-90 Plume Comparison 2002, 2008, 2013 and 2022

3.2.13-1 OU III HFBR AOC 29 Tritium , Monitoring Well Results
3.2.13-2 OU III HFBR, Peak Tritium Concentrations in Groundwater - HFBR to Cornell Avenue

3.3.1-1 OU IV AOC 6, Sr-90 Plume Distribution
3.3.1-2 OU IV AOC 6, Historical Sr-90 Trends

3.4-1 OU VI, EDB Plume Distribution
3.4-2 OU VI, EDB Hydrogeologic Cross Section (Q-Q')
3.4-3 OU VI, Historical EDB Trends
3.4-4 OU VI, EDB Plume Comparison 1999-2022
3.4-5 OU VI EDB, EDB Concentrations in Extraction Wells

3.5.1-1 Current Firehouse and Building 170, PFAS Results for New Permanent Monitoring Wells
3.5.1-2 Current Firehouse Treatment System Influent Concentrations (ng/L)

3.5.2-1 Former Firehouse, PFAS Results for New Permanent Monitoring Wells
3.5.2-2 Detection of Sr-90 in the Vicinity of Former Firehouse Extraction Well FF-RW-A

3.7-1 Current Landfill, Monitoring Well Locations

3.8-1 Facility Monitoring Program, AOC 16T g-2 Tritium Plume, 4th Quarter 2022
3.8-2 Facility Monitoring Program, AOC 16T g-2, Historical Tritium Trends
3.8-3 Facility Monitoring Program, AOC 16T g-2 Tritium Plume, Comparison to ROD Trigger
3.8-4 Facility Monitoring Program, AOC 16T g-2 Tritium Plume. Comparison to DWS

3.9-1 Facility Monitoring Program, BLIP Facility Area, Monitoring Well Locations and Tritium Results, 2022

4.1-1 Facility Monitoring Program, AGS and BLIP Facility Area, Monitoring Well Locations and Tritium Results, 2022
4.1-2 Facility Monitoring Program, AGS Facility Area, Maximum Tritium Concentrations Downgradient of Booster Stop
4.1-3 Facility Monitoring Program, AGS Facility Area, Maximum Tritium Concentrations, Downgradient of Former AGS E-20 Catcher
4.1-4 Facility Monitoring Program, AGS Facility Area, Maximum Tritium Concentrations, Downgradient of Building 914
4.1-5 Facility Monitoring Program, AGS Facility Area, Maximum Tritium Concentrations, Downgradient of J-10 Beam Stop
4.1-6 Facility Monitoring Program, AGS Facility Area, Maximum Tritium Concentrations, Downgradient of Former U-Line Target
4.1-7 Facility Monitoring Program, AGS Facility Area, Maximum Tritium Concentrations, Downgradient of Former U-Line Beam Stop Area
4.2-1 Facility Monitoring Program, Relativistic Heavy Ion Collider, Monitoring Well Locations Tritium Results, 3rd Quarter 2022
4.3-1 Facility Monitoring Program, Brookhaven Medical Research Reactor, Monitoring Well Locations
4.3-2 Facility Monitoring Program, Brookhaven Medical Research Reactor, Monitoring Well Tritium Concentrations
4.4-1 Sewage Treatment Plant, System Sampling and Monitoring Well Locations
4.5-1 Facility Monitoring Program, Motor Pool, Monitoring Well Locations, TVOC Results 4th Quarter 2022
4.6-1 Facility Monitoring Program, Service Station
4.7-1 Facility Monitoring Program, Major Petroleum Facility, Monitoring Well Locations, TVOC Concentrations, 4th Qtr 2022
4.8-1 Facility Monitoring Program, Waste Management Facility, Monitoring Well Locations
4.9-1 Facility Monitoring Program, National Synchrotron Light Source II, Monitoring Well Locations
4.10-1 Water Supply Well Locations Downgradient of Basin HN (SPDES Outfall 002)

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# *List of Tables*


E-1 BNL Groundwater Remediation System Treatment Summary for 1997–2022
E-2 Groundwater Remediation Progress

1-1 Groundwater Standards for Inorganic Compounds
1-2 Groundwater Standards for Pesticides and PCBs
1-3 Groundwater Standards for Organic Compounds
1-4 Groundwater Standards for Radiological Compounds
1-5 BNL CERCLA Groundwater Monitoring Schedule for 2022
1-6 Summary of Environmental Surveillance Samples and Analytical Methods
1-7 Summary of Monitoring Wells and Piezometers
1-8 CERCLA Groundwater Monitoring Program – Typical Well Sampling Frequency

2-1 2022 Water Pumpage Report for Potable Supply Wells
2-2 2022 Remediation Well Pumpage Report
2-3 2022 Recharge Basin Flow Report
2-4 BNL Monthly Precipitation Summary (1949–2022)

3.0-1 2022 Summary of Existing Groundwater Remediation Systems at BNL

3.1-1 OU I South Boundary Summary of Strontium-90 Results from Vertical Profile Wells

3.2.1-1 OU III Building 96 RTW-1 Treatment Well, 2022 SPDES Equivalency Permit Levels
3.2.1-2 OU III Building 96 Area, 2022 Average VOC Emission Rates
3.2.1-3 OU III Building 96 2022 Extraction Well Pumping Rates

3.2.2-1 OU III Middle Road Air Stripping Tower, 2022 SPDES Equivalency Permit Levels
3.2.2-2 OU III Middle Road Air Stripper, 2022 Average VOC Emission Rates
3.2.2-3 OU III Middle Road 2022 Extraction Well Pumping Rates

3.2.3-1 OU III South Boundary Treatment System (Middle Road and Western South Boundary) 2022 SPDES Equivalency Permit Levels
3.2.3-2 OU III South Boundary Air Stripper, 2022 Average VOC Emission Rates
3.2.3-3 OU III South Boundary 2022 Extraction Well Pumping Rates

3.2.4-1 OU III Western South Boundary Treatment System (South Boundary and Middle Road) 2022 SPDES Equivalency Permit Levels
3.2.4-2 OU III Western South Boundary 2022 Extraction Well Pumping Rates
3.2.4-3 OU III Western South Boundary Air Stripper 2022 Average VOC Emission Rates

3.2.5-1 OU III Industrial Park 2022 Extraction Well Pumping Rates
3.2.5-2 OU III Industrial Park Treatment System, 2022 SPDES Equivalency Permit Levels

3.2.7-1 OU III North Street East Treatment System, 2022 SPDES Equivalency Permit Levels
3.2.7-2 OU III North Street East 2022 Extraction Well Pumping Rates

3.2.8-1 OU III LIPA/Airport Treatment System, 2022 SPDES Equivalency Permit Levels
3.2.8-2 OU III LIPA/Airport 2022 Extraction Well Pumping Rates

3.2.9-1 Magothy Aquifer Contamination (Historical and 2022)
3.2.9-2 Magothy Remedy

3.2.11-1 OU III BGRR Strontium-90 Results from Geoprobe Temporary Wells
3.2.11-2 BGRR Sr-90 Treatment System 2022 Extraction Well Pumping Rates
3.2.11-3 BGRR Sr-90 Treatment System, 2022 SPDES Equivalency Permit Levels

3.2.12-1 Chemical Holes Sr-90 Treatment System, 2022 SPDES Equivalency Permit Levels
3.2-12-2 OU III Chemical/Animal Holes Sr-90 Remediation System 2022 Extraction Well Pumping Rates

3.4-1 OU VI EDB Treatment System, 2022 SPDES Equivalency Permit Levels
3.4-2 OU VI EDB Pump & Treat System 2022 Extraction Well Pumping Rates

3.5.1-1 OU X Current Firehouse PFAS Treatment System 2022 SPDES Equivalency Permit Levels
3.5.1-2 Current Firehouse Treatment System 2022 Extraction Well Pumping Rates
3.5.1-3 Current Firehouse and Building 170 Permanent Monitoring Wells, Samples Analyzed by EPA Methods 537.1 (PFAS) and 8270D SIM (1,4-Dioxane), Samples Collected: May-September 2022
3.5.1-4 Current Firehouse Permanent Monitoring Wells, Samples Analyzed by EPA Method 533 (PFAS), Samples Collected: May-September 2022
3.5.1-5 Startup Testing of the Current Firehouse PFAS Treatment System, PFAS and 1,4-Dioxane Results, Sample Period: October 24 – December 31, 2022

3.5.2-1 OU X Former Firehouse PFAS Treatment System 2022 SPDES Equivalency Permit Levels
3.5.2-2 Former Firehouse Treatment System 2022 Extraction Well Pumping Rates
3.5.2-3 Former Firehouse Permanent Monitoring Wells, Samples Analyzed by EPA Methods 537.1 (PFAS) and 8270D SIM (1,4-Dioxane), Samples Collected: June 2022

3.6-1 Radiological Background Monitoring, 1996–2001

5-1 Proposed Groundwater Monitoring Well Sampling Frequency Changes

# *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 |
| µg/L | micrograms 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 |
| SIM | Selected Ion Monitoring |
| 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 |

**2022 BROOKHAVEN NATIONAL LABORATORY**

# GROUNDWATER STATUS REPORT

# *Executive Summary*

The *2022 Brookhaven National Laboratory (BNL) Groundwater Status Report* is a comprehensive summary of data collected during the 2022 calendar year supplemented with relevant investigation data collected during the first quarter 2023, an evaluation of Groundwater Protection Program performance, and recommendations for program changes. This is the 27th 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 2022, seven volatile organic compound (VOC) groundwater remediation systems were in operation, along with one strontium-90 (Sr-90) treatment system, and one per- and polyfluoroalkyl (PFAS) treatment system. In 2022, 53 pounds of VOCs were removed from the Upper Glacial and Magothy aquifers by the treatment systems. To date, 7,819 pounds of VOCs have been removed from the aquifers. The Brookhaven Graphite Research Reactor (BGRR) Sr-90 treatment system removed 0.3 milliCuries (mCi) of Sr-90 from the Upper Glacial aquifer in 2022. A total of 34 mCi for both the BGRR and Chemical Holes Sr-90 systems were removed since operations began. Since it began operation in October 2022, the PFAS groundwater treatment system removed a total of approximately 0.08 pounds of PFAS from the Upper Glacial aquifer. Approximately one billion gallons of groundwater were treated in 2022.

There were 581 monitoring wells and 34 temporary wells sampled as part of the CERCLA Groundwater Monitoring Program, comprising a total of 1,640 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; and,
- Achieve the MCL of 8 pCi/L for Sr-90 at the Chemical/Animal Holes in the Upper Glacial aquifer by 2040.
- The cleanup goals for PFAS will be determined at the completion of the forthcoming Remedial Investigation/Feasibility Study (RI/FS) and documented in the subsequent OU X Record of Decision (ROD).

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 – 2022 (Shading indicates closed systems)

| | 1997 – 2021 | | 2022 | |
|---|---|---|---|---|
| VOC 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) | 588,697,000 | 145 | 20,000,000 | 1 |
| OU III Building 452 Freon-11 (March 2012) (a) | 124,997,000 | 106 | (Closed) | 0 |
| OU III Middle Road (Oct. 2001) | 3,931,547,000 | 1,332 | 154,000,000 | 21 |
| OU III South Boundary (June 1997) | 5,376,151,000 | 3,070 | 69,000,000 | 6 |
| OU III W. South Boundary (Sept. 2002) | 2,288,555,000 | 181 | 227,000,000 | 19 |
| 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) | 1,151,798,000 | 47 | 105,000,000 | 1 |
| OU III LIPA/Airport (June 2004) | 3,977,145,000 | 495 | 190,000,000 | 5 |
| 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) | 2,657,057,000 | (d) | 172,000,000 | (d) |
| Totals | 29,764,549,000 | 7,766 | 937,000,000 | 53 |

| | 2003 – 2021 | | 2022 | |
|---|---|---|---|---|
| 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) | 208,603,000 | 29.4 | 10,000,000 | 0.3 |
| Totals | 274,266,000 | 34.34 | 10,000,000 | 0.3 |

| | 2022 | |
|---|---|---|
| PFAS Remediation (start date) | Water Treated (gallons) | PFAS Removed (lbs) |
| OU X Current Firehouse (Oct 2022) | 33,000,000 | 0.08 |
| Totals | 33,000,000 | 0.08 |

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 2022, 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 2022, 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 2022b) 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 declined the Department of Energy's (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 owner of the Industrial Park Treatment System property to access 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 below (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. Twelve temporary wells were installed to supplement monitoring of the high concentration segments of the plume downgradient of the source area. The migration of the high concentration plume segments continues to be consistent with the 2020 groundwater model predictions.
- **OU III Building 96 Treatment System –**
  - Extraction well RTW-1 is currently in a pulsed pumping mode and total volatile organic compound (TVOC) concentrations have remained below the 50 micrograms per liter (μg/L) system capture goal since 2015. TVOCs in the source area monitoring well 085-379 continued to exceed the capture goal in 2022, with a maximum concentration of 89 μg/L recorded in July.
  - As per a recommendation in the 2021 CERCLA Five-Year Review Report (BNL 2021b), 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/South Boundary Treatment Systems –**

- Deep Upper Glacial aquifer VOC concentrations in this area of the site are not declining at a rate that will meet the ROD cleanup goal of MCLs by 2030. As per the 2021 CERCLA Five-Year Review Report (BNL 2021b) recommendations, perform groundwater modeling simulations to evaluate the best locations, extraction rates, and number of extraction wells to design a system modification. The regional groundwater model will be reviewed prior to this groundwater modeling effort and updated as necessary to accurately represent the Upton Unit and its lower hydraulic conductivity.

§ **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. The 2022 Groundwater Status Report (BNL 2022c) recommendations include placing the four newer extraction wells (WSB-3, WSB-4, WSB-5, and WSB-6) along with original extraction well WSB-1 in pulsed pumping mode. WSB-2 remains in standby as TVOC concentrations in this well remain below the system capture goal.

§ **OU III North Street East Treatment System –**

- Continue operation of the two extraction wells installed as part of the 2020 system modification to remediate the EDB plume. The new extraction wells have 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 Long Island Power Authority (LIPA) System, submit a petition for closure of the system to the regulators in 2023.

§ **BGRR/WCF Sr-90 Treatment System –**

- Maintain extraction well SR-3 (downgradient of BGRR source area) in standby mode. The well will be placed back in operation in the event of a significant rise in water table elevation that results in a significant Sr-90 concentration increase in upgradient (source area) monitoring well 075-701.
- Extraction well SR-9 will be placed in standby mode in May 2023 since Sr-90 concentrations in this well have remained below the Drinking Water Standard (DWS) since June 2020.
- Obtain another round of samples from existing monitoring wells 075-809, 075-810, 075-811, 075-415, 075-417, 075-419, 085-171, 085-285, 085-286, 085-287, 085-01, 085-406, 085-407, 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.
- Increase sampling frequency in well 065-169 to semi-annual to evaluate the October 2022 Sr-90 concentration increase in the vicinity of Building 801.

§ **Operable Unit VI EDB Treatment System –**

Based on updated groundwater flow and transport modeling it has been determined:

- Submit a system design modification to the regulators in mid-2023 for the addition of two deeper extraction wells immediately adjacent to the existing wells EW-1E and EW-2E. These

wells are planned to be installed in 2023 and will replace the existing extraction wells, which will no longer be operated. This will establish capture of the deep portions of the EDB plume in this area and enhance remediation of the high concentration segment of the plume.

- **g-2 Tritium Source Area –**
  - During 2022, tritium concentrations in g-2 source area monitoring wells were below the 20,000 pCi/L DWS, with a maximum concentration of 6,480 pCi/L.
- **BLIP Facility –**
  - Tritium concentrations in Brookhaven Linac Isotope Producer (BLIP) facility monitoring wells have been less than the 20,000 pCi/L DWS since 2006. During 2022, tritium was not detected in the monitoring wells.
- **Operable Unit X PFOS, PFOA, and 1,4-Dioxane –**
  - During 2022, BNL completed the construction of two PFAS groundwater treatment systems. The Current Firehouse Treatment System began startup testing in October 2022 (BNL 2023d). Monitoring results indicate the granular activated carbon (GAC) filters are effectively removing PFAS from the extracted groundwater. Monitoring results indicate that the effluent complies with the NYS discharge standards for perfluorooctanesulfonic acid (PFOS), perfluorooctanoic acid (PFOA) and 1,4-dioxane. The Former Firehouse Treatment System began start-up testing in January 2023.
  - During 2022, 66 new wells were used to monitor the Current Firehouse and Building 170 PFAS plumes, and 29 new wells were used to monitor the Former Firehouse PFAS plume. The monitoring results were consistent with data from the temporary wells that had been used to characterize the plumes.
  - 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 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 13.4 ng/L and 9.7 ng/L, respectively.

## 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 2022, groundwater samples were collected from 95 wells during 149 individual sampling events.

Highlights of the Facility Monitoring Program are as follows:

- Monitoring conducted at BNL's major accelerator facilities (e.g., Alternating Gradient Synchrotron (AGS), Relativistic Heavy Ion Collider (RHIC), National Synchrotron Light Source-II (NSLS-II), and BLIP) has not identified any new impacts to groundwater quality.
- Monitoring conducted at BNL's major support facilities (e.g., Waste Management Facility (WMF), Major Petroleum Facility (MPF), Sewage Treatment Plant (STP), and Motor Pool) has not identified any new impacts to groundwater quality.

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 | VOCs and metals are detected at low levels immediately downgradient of 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 | Continue to track higher Sr-90 concentrations migrating south from FHWMF into the LI Solar Farm area. |
| 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. Monitoring indicates no significant rebound of Sr-90 concentrations. |
| 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. | 2025 | RTW-1 continued in pulsed pumping mode during 2022. Evaluate in-situ treatment of source area using liquid carbon with zero valent iron. |
| 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 | 2029 (Under Evaluation) | Extraction well EW-17 is capturing deep VOCs at site boundary and is the only operational extraction well. Deeper VOC concentrations continue to exhibit little change. A system modification was recommended in 2021 CERCLA 5-Year Review in order to meet cleanup goals. |
| Middle Road | VOCs | Operational (RW-1, RW-4, RW-5, and RW-6 on standby) | P&T with AS | 2029 (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<br>EDB | Closed (VOCs)<br>Operational (EDB) | P&T with carbon | 2014 (Actual for VOCs) 2025 (EDB) | VOC system closed in 2020. Two new extraction wells became operational in July 2020 and are effectively remediating EDB plume. |
| 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) 2028 Airport | LIPA extraction wells in standby mode. Submit a petition for closure in 2023 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 2022 and SR-9 will be placed in standby mode in May 2023. Elevated Sr-90 detected in well 065-169 (10/22) immediately south of Building 801. |
| 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 degrade and 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 | 2030 (Under Evaluation) | Planning for a system modification in 2023 to establish capture of deeper EDB at leading edge of the plume and reduce cleanup timeframe as per a 2021 CERCLA 5-Year Review recommendation. |
| g-2 and BLIP | | | | | |
| g-2 Tritium Plume | Tritium | Long Term Monitoring & Maintenance | MNA | NA | Tritium concentrations in source area were below the DWS in 2022. |
| BLIP Tritium Plume | Tritium | Long Term Monitoring & Maintenance | MNA | NA | Tritium concentrations continue to be less than DWS. |
| OU X | | | | | |
| Current Firehouse | PFOS and PFOA | Operational | P&T with carbon | TBD | Treatment system began start-up testing in October 2022 and routine operations in February 2023. |
| Former Firehouse | PFOS and PFOA | Constructed | P&T with carbon | TBD | Consists of three extraction wells. System start-up testing initiated January 2023. |

# 1.0 INTRODUCTION AND OBJECTIVES

The mission of BNL's 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 2022 Groundwater Status Report* is a comprehensive summary of groundwater data collected in the calendar year 2022 that provides an interpretation of information on the performance of the Groundwater Protection Program. This is the 27th annual groundwater status report issued by BNL. This document examines the 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 (IAG), the Department of Energy's (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 2022, 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 2022. 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 groundwater modeling reports prepared during 2022

and March 2023. 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 DOE Orders.

*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 IAG, was finalized and signed by these parties in May 1992, and included 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 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 2021d).

BNL's 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 STP'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); and considers the best usage of Class GA groundwater as a source of potable water. Accordingly, in establishing the goals for protecting and remediating groundwater, BNL follows federal 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 MCLs are set forth in 40 CFR (Code of Federal Regulations) 141 (for primary MCLs) and 40 of the Code of Federal Regulations (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 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 PFOS and PFOA and 1.0 µg/L for 1,4-dioxane.

BNL evaluates the potential impact of radiological and non-radiological levels of contamination by comparing analytical results to NYS and DOE reference levels. Non-radiological 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, 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

Groundwater monitoring for the CERCLA program is conducted for the following:

§ 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 2022 Environmental Monitoring Plan* (BNL 2022a). 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. 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 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.

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* (BNL 2022a).

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 – Typical 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

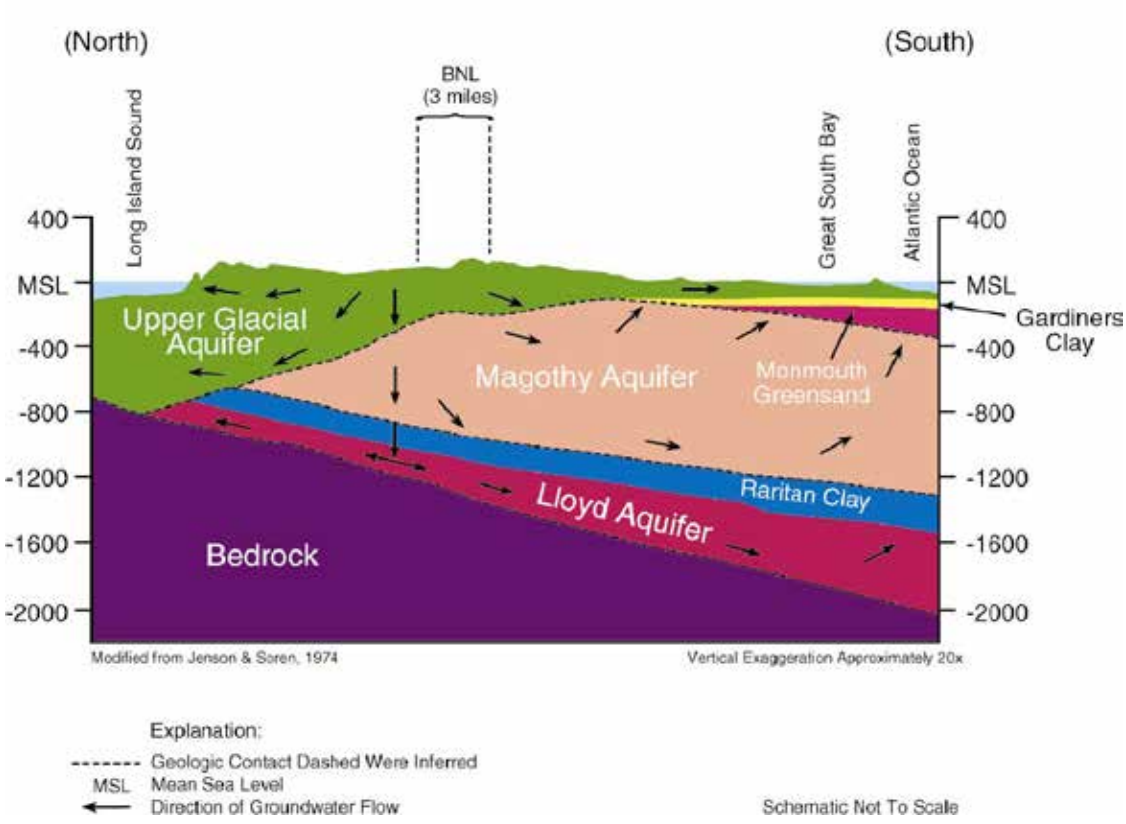
In accordance with the OU III and OU VI RODs, DOE formally offers the property owners that previously declined DOE's offer of public water hookups, free testing of their private drinking water wells on an annual basis. SCDHS coordinates and performs the sampling and analysis. During 2022, there were 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 December 2022, 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 PFAS compounds and 1,4-dioxane. The SCDHS transmitted the analytical results to the homeowners in March 2023.

## 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 2022, 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 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 2022 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 25-28, 2022 using approximately 225 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 overall water table elevation declined by approximately two feet during 2022 as the annual precipitation was slightly below average.

### 2.1.2 Pumpage of On-Site Water Supply and Remediation Wells

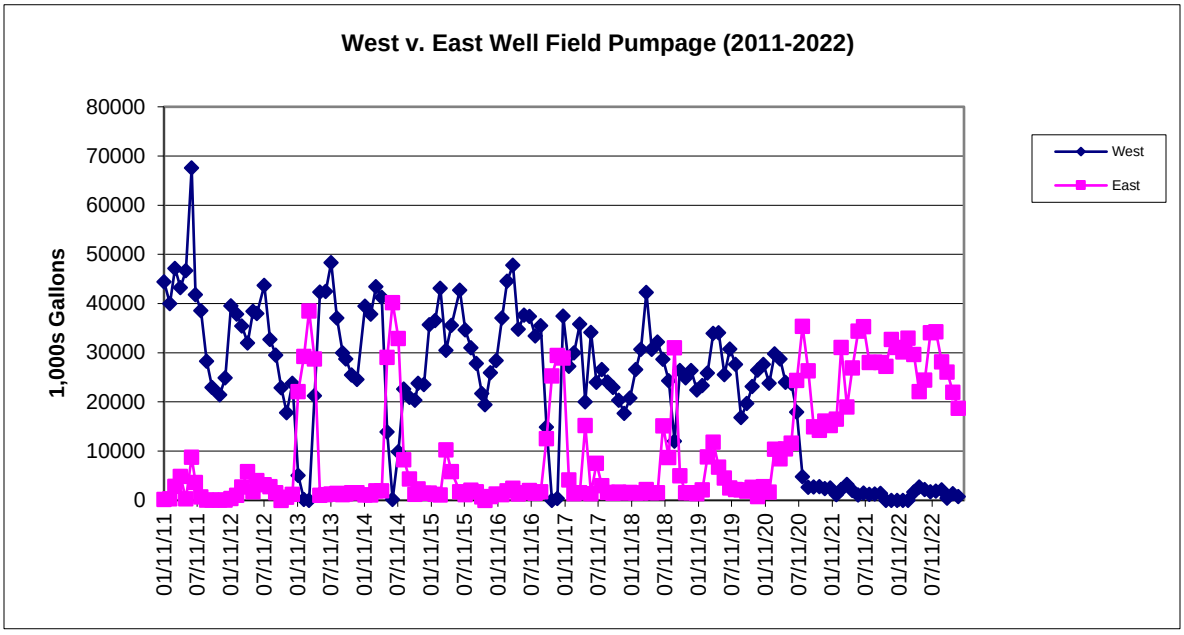
BNL has six water supply wells to provide potable and process cooling water, and 80 treatment wells used for the remediation of contaminated groundwater. All six water supply wells are screened entirely within the Upper Glacial aquifer. Thirty-one of the 80 treatment wells were in operation at some period in 2022 either in full-time operation or in pulsed pumping mode (**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 2022 for potable supply wells BNL-7, BNL-10, BNL-11 and BNL-12. 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, BNL-11 and BNL-12. 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 proximity to BNL's firehouse, which has been identified as a significant source of PFAS contamination. In June 2018, the use of supply well BNL-6 was also suspended due to the detection of PFAS chemicals PFOS and PFOA, with PFOS concentrations exceeding the NYS drinking water standard of 10 ng/L that was established in August 2020.

**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 2022.




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 2022, a total of 349 million gallons of water were withdrawn from the aquifer by BNL's potable supply wells. **Table 2-2** summarizes the 2022 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 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 2022 is provided as **Figure 2-4** below**.** In 2022, the William Floyd Parkway and Country Club Drive Well Fields produced

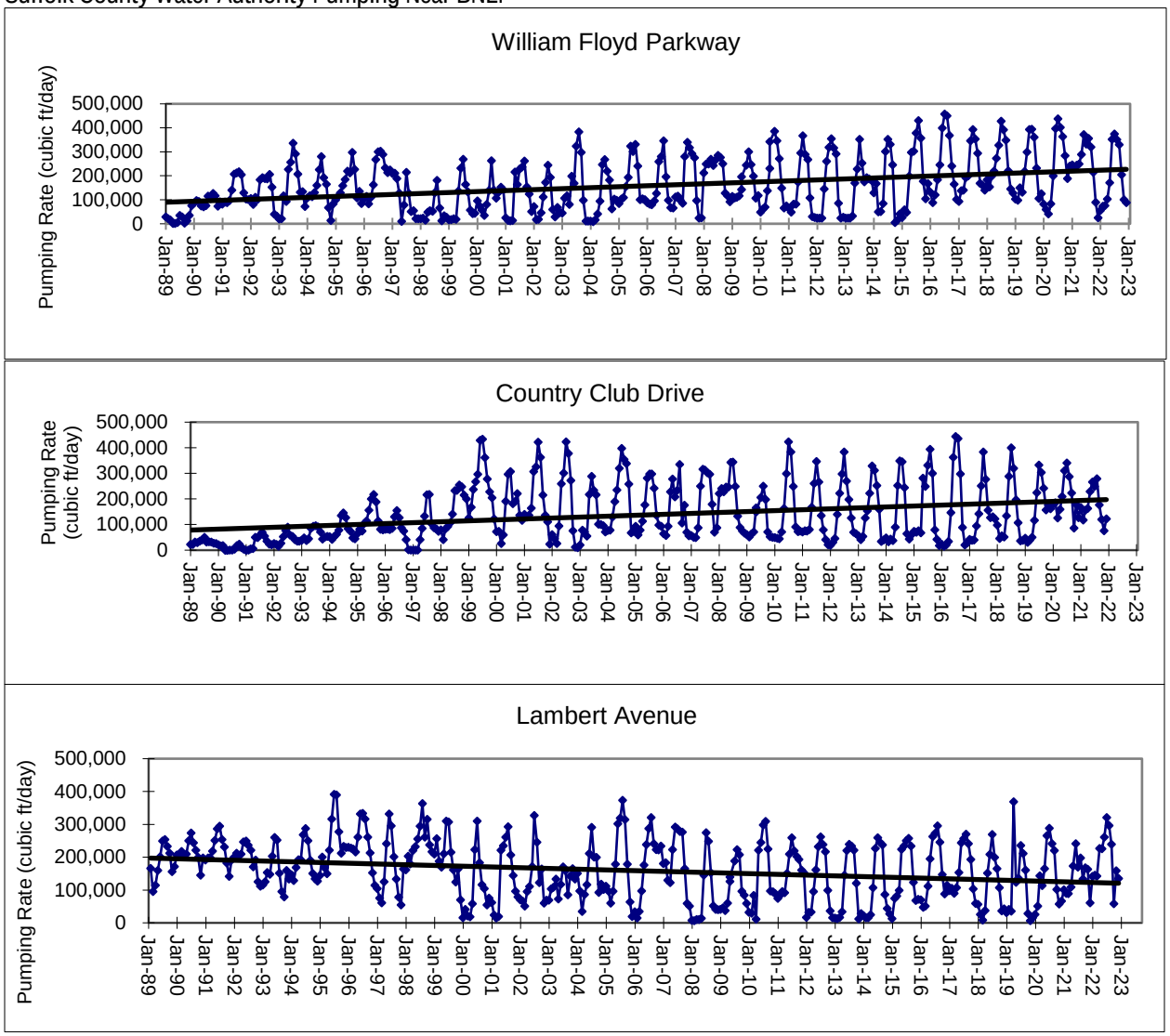
519 and 445 million gallons for the year, respectively. The Lambert Avenue Well Field, located south of BNL, produced 267 million gallons for the year.

### 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 11 on-site recharge basins during 2022. 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 SPDES permit requirements. 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 (RAV), OU III, and the HP basins, recharge water processed through several of the groundwater remediation systems. As discussed below, recharge basin WSB did not receive flow during 2022. **Figure 2-5** provides a comparison of monthly flow rates for basins HO, RA V, OU III, HP, and HS over the period of 1999 through 2022. 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. With the startup of the new Current Firehouse/Building 170 PFAS Groundwater Treatment System in late October 2022, treated water from the system is being discharged to the HP basins. Furthermore, with the startup of the Former Firehouse PFAS Groundwater Treatment System in late January 2023, treated water is being discharged to the RA V basin. The impact of these changes in treated water discharge to groundwater flow will not be measured until the 2023 synoptic groundwater elevation measurements are obtained. **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 2022, it is estimated that the recharge at BNL was approximately 23.1 inches. **Table 2-4** summarizes monthly and annual precipitation results from 1949 to 2022 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 2022 was 46.24 inches, which was below the long-term yearly average of 49.00 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 25-28, 2022. 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 2022 was generally consistent with historical flow patterns. As described in **Section 2.1.2**, the water supply well 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 from 2020 through 2022, 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 1950–2022) 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: https://waterdata.usgs.gov/monitoring-location/405149072532201/#parameterCode=72019&period=periodOfRecord.

### 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 2022, a total of 95 monitoring wells were installed to monitor the Current Firehouse/Building 170 PFAS plumes (**Figure 3.5.1-1**) and Former Firehouse PFAS plume (**Figure 3.5.2-1**). Geological materials encountered during the installation of the wells were consistent with earlier observations. Water level data collected from the new wells have improved BNL's understanding of the effects that the William Floyd well field is having on groundwater flow directions (**Figure 2-2**).

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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 2022. The section is organized first by OU, 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 2022 analytical results for each monitoring well sample. Due to the large volume of data, these appendices are included on a USB flash drive; significantly reducing 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., VOCs, semi-volatile organic compounds (SVOCs), 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 BNL, 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 EDB plume, the OU VI EDB plume, and the OU X PFOS, PFOA and 1,4-dioxane plumes. TVOC concentrations are a summation of the individual concentrations of VOCs analyzed by EPA Method 8260 Low Level. In June 2021, BNL switched from using EPA Method 524.2 to EPA 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 EPA Method 8260 Low Level for groundwater samples and EPA Method 524.2 for drinking water samples. In addition, EPA Method 8260 Low Level can meet the low detection limits identified in Method 524.2. During 2022, groundwater samples were analyzed using EPA Method 537.1 for PFAS, and EPA Method 8270D Selected Ion Monitoring (SIM) for 1,4-dioxane.

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 new groundwater treatment system that addresses the PFAS plumes downgradient of the Current Firehouse and Building 170 was added to **Figure 3.0-1**. Although it was constructed in 2022, the new Former Firehouse PFAS treatment system is not shown since the system did not begin operations until January 2023.

Starting with the *2021 Groundwater Status Report* (BNL 2022c), individual posting of the data on the plume figures is represented to the nearest tenth for TVOCs, 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 Appendix 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.

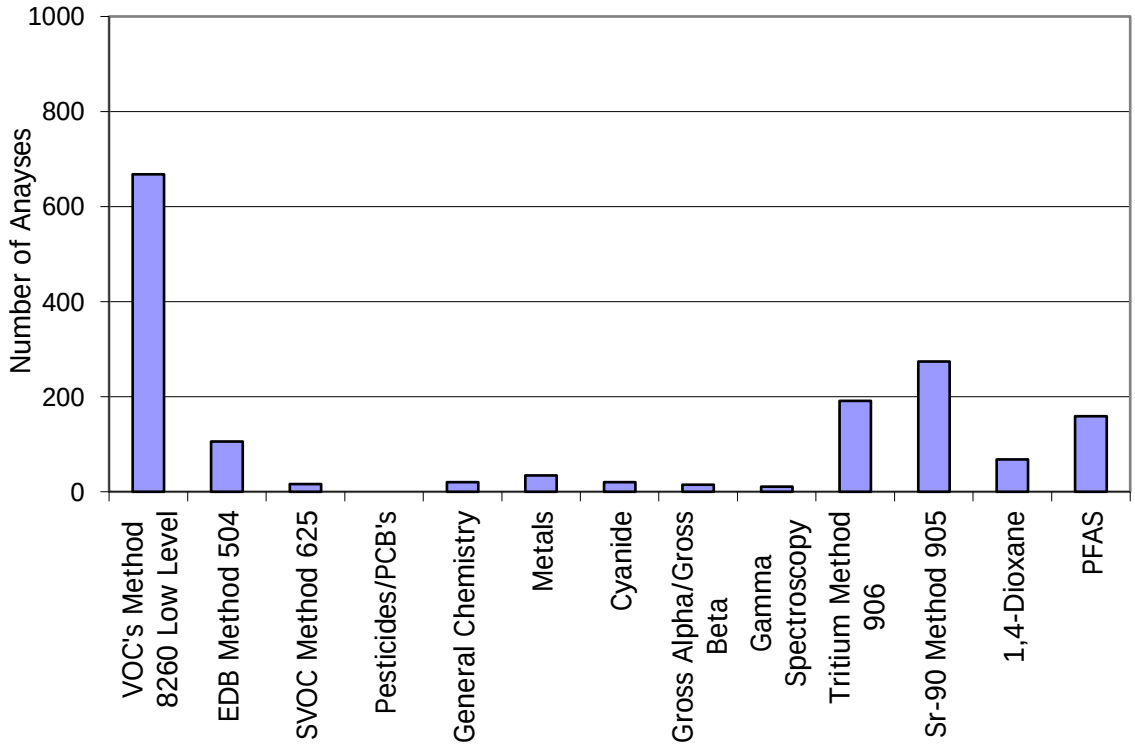
Additionally, BNL's ability to accurately depict these plumes has been enhanced over the years by:

- 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 2022, 1,216 groundwater sampling events from 581 on-site and off-site permanent monitoring wells were used to track the contaminant plumes. Due to scheduling delays, the fourth quarter 2022 samples for a few projects completed their collection in mid-January 2023. From May 1, 2022, through mid-May 2023, 34 temporary profile wells were installed, and 424 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 2022 data from permanent monitoring wells. Contaminant plumes associated with BGRR Sr-90, OU I Former Hazardous Waste Management Facility Sr-90, and Building 170 PFAS characterization were further defined in 2022 and early 2023 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 2022.




## 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 (HWMF). 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 nine groundwater remediation systems in operation (as of December 2022). 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 NSE EDB plume. Furthermore, the HFBR carbon filtration units have been 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 were constructed in 2022 for the treatment of PFAS. The Current Firehouse treatment system is treating PFAS contaminated

groundwater originating from the Current Firehouse and Building 170 source areas, whereas the Former Firehouse treatment system will treat PFAS contaminated groundwater originating from the former firehouse area. The Current Firehouse PFAS system became operational in October 2022 and the Former Firehouse PFAS system became operational in January 2023. **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 remediations 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 2022, 740 treatment system samples were obtained from 97 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 filtration. Treated water is then introduced back into the aquifer via recharge basins, injection wells, or dry wells. Beginning in 2022, treatment of PFAS was initiated also using GAC. 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 GAC, 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. 2022 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 2022[f] | Years in Operation | Recharge Method | Pounds VOCs Removed in 2022/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 | 1 | 25 | Basin | 6/3076 |
| 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: 7 | Recirc. Well | 0/1066 |
| | P&T (Carbon) | VOC | 2 | 0 | Operate: 4 Standby: 3 | Inj. Wells | 0/11 |
| Building 96[d] | Recirc. Well (AS/Carbon) | VOC | 4 | 1 | Operate: 18 Standby: 3 | Recirc. Well | 1/146 |
| Middle Road | P&T (AS) | VOC | 7 | 3 | 21 | Basin | 21/1352 |
| Western South Boundary[e] | P&T (AS) | VOC | 6 | 5 | 20 | Basin | 19/200 |
| Chemical Holes | P&T (IE) | Sr-90 | 3 | 0 | Operate: 15 Standby: 4 | 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:12 Standby: 6 | Inj. Wells | 1/48 |
| LIPA/Airport | P&T and Recirc. Wells (Carbon) | VOC | 10 | 3 | 18 | Inj. Wells and Recirc. Well | 5/501 |
| BGRR/WCF | P&T (IE) | Sr-90 | 9 | 5 | 17 | Dry Wells | 0.3[b]/29.7 |
| 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 | 18 | Inj. Wells | NA[c] |
| Operable Unit X | | | | | | | |
| Current Firehouse/ Bldg. 170 | P&T (Carbon) | PFAS | 9 | 9 | 0.2 | Basin | NA[h] |
| | | Total Wells | 80 | 31 | | | |

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
P&T = Pump and Treat
a = Approved for Closure in 2019
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.
g = Approved for Closure in 2020.
h = No cumulative PFAS calculations are performed.
Recirculation = Double screened well with discharge of treated water back to the same well in a shallow recharge screen

## 3.1 Operable Unit I

The two sources of VOC groundwater contamination contained within the OU I project are the HWMF and the Current Landfill. The former HWMF was BNL's central RCRA receiving facility for processing, neutralizing, and storing hazardous and radioactive wastes for off-site disposal until 1997, when a new Waste Management Facility (WMF) 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. TVOC concentrations from post-closure and Current Landfill monitoring 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 (NSE 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 NSE 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 25 permanent wells are used to monitor the former HWMF Sr-90 plume supplemented by twelve temporary wells installed February through May 2023.

*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 posted TVOC data for the OU I post-closure monitoring program based on samples collected in the fourth quarter of 2022. 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 Current Landfill was capped in November 1995. A detailed discussion of the landfill monitoring well data is provided in the *2022 Environmental Monitoring Report, Current and Former Landfill Areas* (BNL 2023c). 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 NSE 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 2022 analytical results. Significant findings for 2022 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. TVOC concentrations in this well have been below 50 µg/L since June 2020. The 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 Current Landfill 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 5 µg/L since November 2021. 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 former HWMF VOC plume, approximately 500 feet north of the site boundary. The last individual VOC detected above the AWQS in this well was 1,1-dichloroethylene (1,1-DCE) in 2017.

### 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-five permanent wells are monitored for Sr-90 contamination from the former HWMF **(Figure 3.1-4)**. A total of twelve temporary wells were installed between March and May 2023 to supplement the monitoring well network. The highest Sr-90 detected in 2022-2023 was from temporary well OU I -SR-90-GP-71 where a concentration of 144 pCi/L was observed in April 2023 **(Table 3.1-1)**. Monitoring well 098-100 is located just downgradient of the source area. The Sr-90 concentration in this well was 79 pCi/L in 2022 and has demonstrated an increasing trend since it was installed in 2019 (**See Figure 3.1-5)**. 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 38 pCi/L and 63 pCi/L. The Sr-90 concentrations in 098-104 was 197 pCi/L in September 2022. 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-69, through OU I-Sr-90-GP-74). The April 2023 Sr-90 concentrations in temporary well GP-71 continued the increasing trend that began in 2021. A transect consisting of six temporary wells (OU I Sr-90-GP-97 through OU I-Sr-90-GP-102) were installed approximately 400 feet further south, just outside the solar farm boundary. The highest Sr-90 concentration observed in these wells was 14 pCi/L in OU I-Sr-90-GP-98 which is an indication that the leading edge of the plume (as defined by the 8 pCi/L DWS) has reached this location. 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 2022, 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 increased over the past two years. The September 2022 concentration was 79 pCi/L. The previous maximum concentration in this well was 39 pCi/L in 2020. The highest plume concentrations are located between the southern boundary of the former HWMF yard and the southern boundary of the LI Solar Farm. The increase in Sr-90 trends in the wells are due to several potential reasons including the removal of paved areas that were acting as a cap. The migration of residual soil contamination is due to precipitation flushing soil contamination areas that were previously capped and water table flushing.

*2. Were unexpected levels or types of contamination detected?*

No unexpected VOC or radionuclide results were observed.

*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 just south of the LISF, approximately 2,500 feet to the south. This plume is migrating slowly to the south as verified by monitoring data obtained over the past several years. The leading edge of the plume was first observed in monitoring well 098-30 in 2010. Based on the detection of Sr-90 at 14 pCi/L in GP-98 in 2013 it has taken the leading edge of the plume approximately 13 years to migrate the 300-foot distance between the two monitoring points. This data indicates a Sr-90 migration rate of approximately 23 feet per year which is similar to migration rates calculated for other BNL Sr-90 plumes and the value utilized for groundwater modeling simulations.

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 2022 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 2022. 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 2022.

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.
- Discontinue sampling for gamma spectroscopy for wells 087-21, 088-13, 088-14, 088-20, 107-24, 107-40, 115-03, 115-13,115-14, 115-15, 115-16, 115-28, 115-29, 115-30, 115-31, 115-41, 116-05, 116-06, 088-26, 098-21, 098-30, 099-04, 108-08, 108-12, 108-13, 108-14, and 108-17. There have been no significant gamma detections during the 20-30 year monitoring period for these wells.
- Discontinue sampling for tritium for wells 107-23 and 115-36.
- 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 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 2022. 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.
- Deep Upper Glacial Aquifer VOC contamination was identified in the *2021 CERCLA Five-Year Review* (BNL 2021b) as requiring additional remedial action in order to meet groundwater cleanup goals.
- 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 (WSB) 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 VOC plume was addressed under OU III, it is the off-site portion of the OU I South Boundary plume. The plume comparison is included in **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 2022 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 submersible well pumps in wells that are screened 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, 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 eliminated following a decline in hexavalent chromium concentrations below the AWQS. The ion exchange treatment was decommissioned in 2018 following regulatory approval. In June 2019 a new pump and motor was installed in RTW-1 and the well was connected (via pipe) to the former Freon-11 treatment building. This building houses a larger air stripper to handle the increased flow. RTW-1 was restarted in June 2020 and the pumping rate was increased from 30 gallons per minute (gpm) to 60 gpm to increase 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*

A 25 by 25 feet square by 16 feet deep area of primarily PCE contaminated soil was excavated in 2010. This soil removal resulted in a positive impact on downgradient groundwater quality as described below. **Figure 3.2.1-1** shows the location of the excavated soil contamination source area in relation to the 2022 VOC groundwater plume. **Figure 3.2.1-2** shows the plume on a hydrogeologic cross section of the area.

#### *3.2.1.3 Groundwater Monitoring*

A network of 34 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**. Wells 085-282 and 085-283 were incorporated from the former Building 452 Freon-11 monitoring program following closure of that system. These wells are monitoring primarily for Freon-11.

#### *3.2.1.4 Monitoring Well Results*

Complete VOC results are provided in **Appendix C**. The fourth quarter 2022 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 2022 is as 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. There was a dramatic decline in TVOC concentrations in the two to three-year period following the source

area soil excavation. Subsequently the trend has slowed considerably. TVOC concentrations in this well have ranged between 21 µg/L and 135 µg/L since 2016 (**Figure 3.2.1-3**) with a maximum 2022 concentration of 89 µg/L.

- 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 with one exception, well 095-325 (**Figure 3.2.1-1**). The TVOC concentration in well 095-325 was 51 µg/L during July 2022. 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 20 µg/L to 34 µg/L during 2022. 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 15 µg/L since 2017 with no individual VOCs exceeding AWQS in 2022. These wells monitor the slightly deeper VOC contamination that was 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. RTW-1 was placed in a pulsed pumping mode in May 2022. TVOC concentrations in 2022 ranged between 3 µg/L and 48 µg/L.
- TVOC concentrations in plume bypass well 095-162 have been slightly above detectable levels since 2019 ranging from ND to 1.7 µg/L. These data support the continued 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 from 2019-2022. 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 2022 was 1.6 µg/L in April. TVOC concentrations in this well have been largely below 5 µg/L since 2015.

**Freon-11:**

Building 96 extraction well RTW-1 was also being used to address the remaining low-level Freon-11 concentrations from the Building 452 plume. Wells 085-382, 085-383, and 085-386 were 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. All three of these wells were located just upgradient of the former EW-18 extraction well. The Freon-11 concentration in well 085-382 was 38,800 µg/L in 2011. Concentrations in this well have remained below 5 µg/L since 2017 with a maximum concentration of 0.6 µg/L in 2022. The concentration in well 085-383 was 960 µg/L in 2011. Freon-11 concentrations have been below 5 µg/L in this well since 2015. The maximum concentration for this well in 2022 was 0.2 µg/L The maximum historical Freon-11 concentration in well 085-386 was 9,860 µg/L in 2012. The maximum 2022 result for Freon-11 from this well was 0.6 µg/L.

### 3.2.1.5 System Operations

*Operating Parameters*

Extraction well RTW-1 operated full-time until May 1, 2022 when it began a one month on, one month off pulsed pumping schedule. Extraction well RTW-2 was placed back in stand-by mode in June 2020 following a brief period of operation. Extraction wells RTW-3 and RTW-4 have remained in stand-by mode since January 2016 and October 2012, respectively

*January – September 2022*

The system operated normally during this period. On May 1. 2022, the system began operating on a one month on, one month off pulsed pumping schedule. The system treated approximately 15 million gallons of water during this period.

*October – December 2022*

The system operated normally during this period. The system treated approximately 5 million gallons of water.

During 2022 the system treated approximately 20 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 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 1.4 µg/L and 3.3 µg/L during 2022 which is a slight decrease from 2021 levels. **Figures 3.2.1-4 and 3.2.1-5** show the TVOC concentrations in the extraction 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. A renewed SPDES permit was issued by NYSDEC on September 1, 2022 for this system. The system met all equivalency parameters for operation in 2022. See **Table F-6** for RTW-1 effluent detections. RTW-1 was also used to capture lower levels of Freon-11 from the Building 452 area that migrated beyond extraction well EW-18 (approved for closure in 2019). Freon-11 concentrations in RTW-1 have declined from a peak of 38 µg/L in 2013 to non- detectable levels in 2022. RTW-1 TVOC concentrations have remained below 10 µg/L since 2019.

**Table 3.2.1-1**

**OU III Building 96 RTW-1 Treatment Well, 2022 SPDES Equivalency Permit Levels**

| Parameter | Permit Level (µg/L) | Max. Measured Value (µg/L) |
|---|---|---|
| pH range | 5.0–8.5 SU | 5.5 – 8.0 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 |
| 1,2-Dichloroethane | 0.6 | <0.5 |
| Perfluorooctanesulfonic acid (PFOS) | Monitor | <1.73 ng/L |
| Perfluorooctanoic acid (PFOA) | Monitor | <1.73 ng/L |

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 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.

*Air Discharge*

In 2022, no air sampling was performed from the GAC vessels because wells RTW-2, RTW-3 and RTW-4 remained in stand-by mode. Although the vapor phase granular activated carbon vessels were not used nor sampled in 2022, **Table 3.2.1-2** was updated to include mass balance calculations for the emissions using influent groundwater concentrations.

*Cumulative Mass Removal*

**Table 3.2.1-3** shows the monthly extraction well pumping rates. The annual average pumping rate for the system was 39 gpm. The pumping and mass removal data are summarized on **Table F-7**. In 2022, approximately 0.7 pounds of VOCs were removed. Since February 2001, the system has removed approximately 146.3 pounds of VOCs.

**Table 3.2.1-2**
**OU III Building 96 Area**
**2022 Average VOC Emission Rates**

| Parameter | Allowable ERP* (lb/hr) | Actual** ER (lb/hr) |
|---|---|---|
| dichlorodifluoromethane | 0.0000187 | 0 |
| acetone | 0.000674 | NA |
| methylene chloride | 0.000749 | 0 |
| 2-butanone | 0.000187 | NA |
| benzene | 0.000112 | 0 |
| tetrachloroethylene | 0.000165 | 0.00007 |
| m,p-xylene | 0.0000116 | 0 |
| isopropylbenzene | 0.000243 | 0 |
| n-propylbenzene | 0.0000599 | 0 |
| 1,3,5-trimethylbenzene | 0.000375 | 0 |
| 1,2,4-trimethylbenzene | 0.000225 | 0 |
| 4-isopropyltoluene | 0.00000749 | 0 |
| naphthalene | 0.0000225 | 0 |
| carbon disulfide | 0.0000487 | NA |
| styrene | 0.00000637 | 0 |
| trans-1,3-dichloropropane | 0.0000157 | NA |

Notes:
NA = Not Analyzed
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. Mass balance calculations were used to calculate the emissions using influent groundwater concentrations.

### *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 source area soil removal but have been fluctuating from 21 µg/L to 135 µg/L in well 085-379 since 2016. TVOC concentrations in this well during 2022 ranged from 46 µg/L to 89 µg/L. RTW-1 is capturing VOCs migrating from the source area.

*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, RTW-1 is capturing the leading edge of the VOC plume. See **Figure 3.2.1-6** for a comparison of the plume from 2000 to 2022. 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. RTW-1 was placed in a pulsed pumping mode (one month on, one month off) in May 2022. Influent TVOC concentrations in downgradient recirculation wells RTW-3 and RTW-4 have been below 50 µg/L since 2008. The only TVOC concentration in RTW-2 above the capture goal since operations began

was a detection of 65 µg/L in 2018. Due to the consistently low TVOC levels, extraction wells RTW-2, 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 (085-379 and 095-325) were above 50 µg/L in 2022.

*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 due to the continued TVOC concentrations in well 085-379 above 50 µg/L.

*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 2022 was 89 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 1 µg/L in December 2022. This well will continue to operate in a pulsed pumping mode. RTW-1 and area wells will be monitored for any rebound of concentrations over the system capture goal.
- Sampling frequencies in the following monitoring wells will be reduced from semi-annual to annually:
  - 095-165 – TVOCs below capture goal since 2010, maximum 2022 concentration was 11 µg/L
  - 095-166 - TVOCs below capture goal since 2001, maximum 2022 concentration was 2 µg/L
  - 095-168 - TVOCs below capture goal since 2001, maximum 2022 concentration was 1. µg/L
  - 095-169 – TVOCs below capture goal since 2008, maximum 2022 concentration was 1 µg/L
  - 095-170 - TVOCs below capture goal since 2000, maximum 2022 concentration was 0.2 µg/L
- Sampling frequencies for the following monitoring wells will be reduced from quarterly to semi-annually:
  - 085-349 – TVOCs below capture goal since 2014, maximum 2022 concentration was 14 µg/L
  - 085-350 – TVOCs below capture goal since 2015, maximum 2022 concentration was 11 µg/L
  - 085-351- TVOCs below capture goal since 2015, maximum 2022 concentration was 6 µg/L
  - 085-352 – TVOCs below the capture goal since 2018, maximum 2022 concentration was 30 µg/L
  - 085-354 – TVOCs below the capture goal since 2015, maximum 2022 concentration was 13 µg/L
  - 085-335 – TVOC below capture goal since 2017, maximum 2022 concentration was 24 µg/L
- 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.

- 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.

## 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 2022 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 has 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. The locations of these wells are shown on **Figure 3.2.2-1**. The wells are sampled and analyzed for VOCs as shown in **Table 1-5**.

### *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 2022 was 206 µg/L in well 105-66 during the July sampling round. This monitoring well is located approximately 400 feet north of extraction well RW-2.

**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 and shallow 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 November 2022 was 101 µg/L. TVOC concentrations in this well were much higher historically, followed by a significant decline. They have remained at the 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 196 µg/L in January 2022. The data from this location along with data from monitoring wells 104-37 and 121-53 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 near EW-17 (**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 2022, with maximum values during July of 206 µg/L and 120 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 2022. 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 2022 of 33 µg/L and 19 µg/L, respectively. The TVOC concentrations in these wells have remained relatively stable since 2014.

### *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. In addition, samples from the influent are analyzed for tritium with each sampling event. Tritium from these samples continues to be non-detect. Approximately 154 million gallons of water were treated in 2022 by the Middle Road Treatment System. The Middle Road, South Boundary and Western South System treated a combined total of approximately 450 million gallons. 203 million gallons of this treated water was transferred to the RAV recharge basin while the remainder was discharged to the OU III recharge basin.

Table 3.2.2-1.
OU III Middle Road Air Stripping Tower
2022 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.

The following is a summary of the Middle Road System operations for 2022.

*January – September 2022*

The system operated normally with RW-3 and RW-7 operating full time, and RW-1, RW-4, RW-5 and RW-6 in standby mode. The system was shut down for one week in April for the installation of a new blower assembly on one of the air stripper towers. RW-2 was off for repairs mid-August through September. Approximately 125 million gallons of water were treated.

*October – December 2022*

During the fourth quarter the system operated normally and treated approximately 29 million gallons of water. RW-7 however, was off for repairs from November through December 2022.

### *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 in **Table F-8.** The influent VOC concentrations showed slight

variations with values ranging from 7 µg/L to 21 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 of VOCs removed from the aquifer by the extraction wells. Average flow rates for each monthly monitoring period were used, in combination with the TVOC concentrations in the air-stripper influent, to determine the pounds removed. Flow averaged 297 gpm during 2022 (**Table 3.2.2-3**, and **Table F-11**), and approximately 21 pounds of VOCs were removed. Approximately 1,352 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 2022 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 F-9**). The concentration of each constituent was averaged for 2022, and those values were used in determining the emissions rate. The air emissions for the Middle Road system were below permitted limits. The emissions on **Table 3.2.2-2** are from the Middle Road system. However, the Middle Road/South Boundary and Western South Boundary systems are being co-treated via air stripping and the cumulative total emissions are also 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 2022 with a maximum concentration of 10 µg/L in well RW-6 in April. The maximum concentration observed in the operating wells in 2022 was in well RW-7 with a peak TVOC concentration of 44 µg/L in April. 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.

Table 3.2.2-2.
OU III Middle Road Air Stripper
2022 Average VOC Emission Rates

| Parameter | Allowable ERP* | MR Actual** ER | MR/SB/WSB Total ER*** |
|---|---|---|---|
| carbon tetrachloride | 0.016 | 0.0002 | 0.0003 |
| chloroform | 0.0031 | 0 | 0.0002 |
| chloroethane | 10*** | 0 | 0 |
| 1,1-dichloroethane | 10*** | 0 | 0.0001 |
| 1,2-dichloroethane | 0.008 | 0 | 0 |
| 1,1-dichloroethylene | 0.034 | 0 | 0.001 |
| cis-1,2-dichloroethylene | 10*** | 0 | 0 |
| trans-1,2-dichloroethylene | 10*** | 0 | 0 |
| tetrachloroethylene | 0.387 | 0.0020 | 0.0026 |
| 1,1,1-trichloroethane | 10*** | 0 | 0.0006 |
| trichloroethylene | 0.119 | 0 | 0.0001 |

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.

### *3.2.2.6 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.
*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 2022 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 there has not been a rebound in the monitoring wells in this area.

*4. Has the groundwater cleanup goal of meeting MCLs been achieved?*
Groundwater contaminant concentrations and overall 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 VOCs 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.
- Discontinue sampling for tritium on the influent of Middle Road Treatment System as tritium has not been detected for over 20 years.
- Install permanent monitoring wells at locations of vertical profile locations installed during 2021 (MR-VP-01-2021 and MR-VP-02-2021).
- Deep Upper Glacial aquifer VOC concentrations in this area of the site are not declining at a rate that will meet the ROD cleanup goal of MCLs by 2030. As per the 2021 CERCLA Five-Year Review Report (BNL 2021d) recommendations, perform groundwater modeling simulations to evaluate the best locations, extraction rates, and number of extraction wells to design a system modification. The regional groundwater model will be reviewed prior to this groundwater modeling effort and updated as necessary to accurately represent the Upton Unit and its lower hydraulic conductivity.

### 3.2.3 OU III South Boundary Treatment System

This section summarizes the operational data from the South Boundary Treatment System for 2022 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 one extraction well EW-17 during 2022. 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* (BNL 2021c) wells 121-40, 121-44 and 122-41 were removed reducing the network from 36 to 33. During 2022, the monitoring wells were sampled and analyzed for VOCs at frequencies detailed in **Table 1-5.**

#### *3.2.3.3 Monitoring Well Results*

The South Boundary segment of the OU III VOC plume continues 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 2022.

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 the extraction wells are shown on **Figure 3.2.2-3** and **Figure 3.2.2-4.** 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. 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 398 µg/L in 2008 to 1.4 µg/L in November 2022 (**Figure 3.2.3-1**).

§ Three additional 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 decreasing TVOC concentrations in 2022 with the highest concentration in May at 19.4 µg/L. TVOC concentrations in well 121-49 have shown an overall decreasing trend from 740 µg/L in 2017 to 18.8 µg/L in November 2022 (**Figure 3.2.2-3)**. Although 121-49 has seen a reduction of TVOC concentrations, data suggests that due to the proximity to EW-17 and the similarities in screen zone depths, drawdown effects play a role in the concentrations observed

within 121-49. Recent data collected during March 2023 show a rebound in concentrations to 130 µg/L during a time when EW-17 was off for maintenance.

§ Monitoring well 121-45 was installed to monitor the plume between the Middle Road and South Boundary. TVOC concentrations were at 6 µg/L in November 2022. 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 79 µg/L and 250 µg/L since 2014 with a concentration of 79 µg/L in November 2022. Well 121-53 was also installed upgradient of EW-17, and it showed a historic high TVOC concentration of 175 µg/L in 2022.

§ Well 122-05 is a Magothy monitoring well west of EW-8. TVOC concentrations in this well showed a slight increase to 19 µg/L in November 2022.

### *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 2022, approximately 69 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 450 million gallons. 203 million gallons of this treated water was transferred to the RAV recharge basin while the remainder was discharged to the OU III recharge basin.

Table 3.2.3-1.
OU III South Boundary Treatment System (Middle Road and Western South Boundary) 2022 SPDES Equivalency Permit Levels

| Parameters | Permit Limit* (µg/L) | Max. Observed Value (µg/L) |
|---|---|---|
| pH range (SU) | 6.5 – 8.5 | 6.71–7.90 |
| 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.

The following is a summary of the South Boundary System operations for 2022.

*January – September 2022*

The system operated normally with only well EW-17. The system was shut down for one week in April for the installation of a new blower assembly on one of the air stripper towers. In the first three quarters the OU III South Boundary System pumped and treated approximately 50 million gallons of water.

*October – December 2022*

The system operated normally with only well EW-17. The OU III South Boundary System pumped and treated approximately 19 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 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 2022 total was approximately 6 pounds. Cumulatively, the system has removed approximately 3,076 pounds since it was started in June 1997.

*Air Discharge*

**Table 3.2.3-2** shows the air emissions data from the OU III South Boundary system for 2022 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 2022, 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 also provided and are still well below permitted levels.

Table 3.2.3-2.
OU III South Boundary Air Stripper
2022 Average VOC Emission Rates

| Parameter | Allowable ERP* | SB Actual** ER | MR/SB/WSB Total ER*** |
|---|---|---|---|
| carbon tetrachloride | 0.016 | 0.0001 | 0.0003 |
| chloroform | 0.0031 | 0 | 0.0002 |
| chloroethane | 10*** | 0 | 0 |
| 1,1-dichloroethane | 10*** | 0 | 0.0001 |
| 1,2-dichloroethane | 0.008 | 0 | 0 |
| 1,1-dichloroethylene | 0.034 | 0 | 0.001 |
| cis-1,2-dichloroethylene | 10*** | 0 | 0 |
| trans-1,2-dichloroethylene | 10*** | 0 | 0 |
| tetrachloroethylene | 0.387 | 0.0006 | 0.0026 |
| 1,1,1-trichloroethane | 10*** | 0 | 0.0006 |
| trichloroethylene | 0.119 | 0 | 0.0001 |

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.

*Extraction Wells*

Only extraction well EW-17 operated during 2022. EW-17 showed a maximum TVOC concentration during January with a result of 15 µg/L. 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 132 gpm in 2022.

### 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.

*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 1.4 µg/L in November 2022 (**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 two plume core wells 121-53, and 121-54 with persistent TVOC concentrations above 50 µg/L in the capture zone of well EW-17.

*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. Extraction well EW-17 is 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 in TVOC from 1,265 µg/L TVOCs in November 2011 to less than 30 µg/L in 2022. However, similar to the Middle Road Treatment System, monitoring well 121-53 and 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 extraction EW-17 on a full-time basis.
- Discontinue sampling for tritium on the influent of South Boundary Treatment System as tritium has not been detected for over 20 years.
- Install a permanent monitoring well at the location of a vertical profile installed during 2021 (SB-VP-01-2021).
- Deep Upper Glacial aquifer VOC concentrations in this area of the site are not declining at a rate that will meet the ROD cleanup goal of MCLs by 2030. As per the 2021 CERCLA Five-Year Review Report (BNL 2021b) recommendations perform groundwater modeling simulations to evaluate the best locations, extraction rates, and number of extraction wells to design a system modification. The regional groundwater model will be reviewed prior to this groundwater modeling effort and updated as necessary to accurately represent the Upton Unit and its lower hydraulic conductivity.

## 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 2018c) 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 continued to be TCA, DCE and Freon-12.

**Figure 3.2.4-1** presents fourth quarter 2022 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 2022 follows:

§ Upgradient monitoring wells 103-18 and 103-19 are located near Princeton Avenue. Well 103-18 had a concentration of up to 38 µg/L in December 2022. This was a significant increase from the previous sample results of around 10 µg/L. The July 2022 results were 10 µg/L and the March 2023

result was 9 µg/L. This appears to just have been a slug of contamination passing through this area. TVOC concentrations in well 103-19 have remained stable around 6 µg/L.

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 concentrations of elevated Freon-12 are 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 south boundary near wells WSB-5 and WSB-6 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 2022 of 9 µg/L in July. 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. TVOC concentrations in this well were < 2 µg/L in 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 TVOC concentrations below AWQS in 2022. 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 lower concentration 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 10 µg/L and 21 µg/L in 2022. 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.
- Well 126-16 had TVOC concentrations of 18 µg/L and all individual VOCs were below MCLs.
- Three off-site monitoring wells located on the west end of Carleton Drive are identified as wells 000-558, 000-559, 000-560. The maximum TVOC concentration in these wells was 26 µg/L in well 000-560 in July with the highest individual VOC being Dichlorodifluoromethane at 9.7 µg/L in July.

### *3.2.4.4 System Operations*

During 2022, extraction well WSB-1 continued full-time operation. Extraction well WSB-2 was in standby mode in 2022 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 2022. 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 2022. The Middle Road, South Boundary and Western South System treated a combined total of

approximately 450 million gallons. 203 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 system operations are summarized below.

Table 3.2.4-1
OU III Western South Boundary Treatment System (South Boundary and Middle Road) 2022 SPDES Equivalency Permit Levels

| Parameter | Permit Level (µg/L) | Max. Measured Value (µg/L) |
|---|---|---|
| pH range | 6.5–8.5 SU | 6.71-7.90 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

*January – September 2022*

The system operated normally with WSB-1 and WSB-4 through WSB-6 operating full time through April. The system was shut down for one week in April for the installation of a new blower assembly on one of the air stripper towers. WSB-3 was off for pump repairs August through September. During the first three quarters, the system treated approximately 171 million gallons of water.

*October – December 2022*

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-November for pump repairs. The system treated approximately 56 million gallons of water.

### *3.2.4.5 System Operational Data*

*Extraction Wells*

During 2022, the WSB System treated approximately 227 million gallons of water, with an average flow rate of approximately 424 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 15 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 11 µg/L. The only individual VOC above the AWQS during the year, was DCE at 5.5 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 2022, nineteen pounds of VOCs were removed. A total of 200 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 2022 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 2022, 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.
OU III Western South Boundary Air Stripper
2022 Average VOC Emission Rates

| Parameter | Allowable ERP* | WSB Actual** ER | MR/SB/WSB Total ER*** |
|---|---|---|---|
| carbon tetrachloride | 0.016 | 0 | 0.0003 |
| chloroform | 0.0031 | 0.0002 | 0.0002 |
| chloroethane | 10*** | 0 | 0 |
| 1,1-dichloroethane | 10*** | 0.0001 | 0.0001 |
| 1,2-dichloroethane | 0.008 | 0 | 0 |
| 1,1-dichloroethylene | 0.034 | 0.001 | 0.001 |
| cis-1,2-dichloroethylene | 10*** | 0 | 0 |
| trans-1,2-dichloroethylene | 10*** | 0 | 0 |
| tetrachloroethylene | 0.387 | 0 | 0.0026 |
| 1,1,1-trichloroethane | 10*** | 0.0006 | 0.0006 |
| trichloroethylene | 0.119 | 0.0001 | 0.0001 |

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.

*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 continue to remain below MCLs indicating the system is controlling the plume.

*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. Based upon the current low concentrations in this plume a recommendation to begin pulse pumping of these five extraction wells will be made in this report.

*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. There has been a significant reduction in VOC concentrations in the monitoring wells and the overall plume concentrations since the start of the new extraction wells in March 2019. See **Figure 3.2.4-8** for comparison of the plume from 2018 to 2022.

### *3.2.4.7 Recommendations*

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

- 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.
- Only three core monitoring wells are currently above the 20 µg/L TVOC concentration capture goal. To enhance the remaining cleanup, begin pulse pumping of the five operating extraction wells. The pulsed pumping should help address areas of groundwater stagnation between the extraction wells. The pulsed pumping should be done with wells WSB-1, WSB- 3 and WSB-5 on one month while wells WSB-4 and WSB-6 are off. The following month, wells WSB-4 and WSB-6 should be on while wells WSB-1, WSB-3 and WSB-5 are off.
- 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 2022 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 within the boundary of this property. A new access agreement is under negotiation with the property owner.

### *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.

*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 remained below AWQS during 2022. 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 2022 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 **Figures 3.2.2-2 and 3.2.5-3.** Significant findings for 2022 include:

*Plume Core Wells*

§ The only monitoring wells showing TVOC concentrations above the capture goal of 50 µg/L since 2019 are 000-541 and 000-537. The maximum plume core well TVOC concentration in 2022 was 63 µg/L in well 000-541 during November. TVOC concentrations in well 121-43 rapidly declined and have remained at low concentrations since 2012. This decline in TVOC concentrations resulted from the installation of OU III South Boundary deep Upper Glacial aquifer extraction well EW-17 (located approximately 400 feet north of 121-43) in 2012. TVOC concentrations in well 121-43 have been less than 5 µg/L since 2018. TVOC concentrations in well 127-08 (located approximately 400 feet south of 121-43) are also showing a steady decline, from 171 µg/L in 2015 to 22 µg/L in November 2022.

§ Well 000-548 is located approximately 600 feet north of extraction well IP-EW-9. TVOC concentrations in this well ranged between 19 µg/L and 21 µg/L during 2022. There has been a slow decline in TVOC concentrations at this well over the past seven years.

§ Well 000-529 is located 300 feet south of 000-548. TVOC concentrations in this well have ranged between 12 µg/L and 21 µg/L since 2019.

§ TVOC concentrations in well 000-541, located approximately 1,000 feet south of well 127-08 and upgradient of IPE-EW-8, increased above the capture goal to 54 µg/L in November 2021 followed by a 62 µg/L detection in November 2022. Based on the position of 000-541 downgradient of 127-08 (discussed above), a similar decline in TVOC concentrations is anticipated. The February 2023 TVOC concentration in 000-541 decreased to 39 µg/L.

*Plume Bypass Wells*

§ Wells 000-432 and 000-544 provide bypass monitoring points downgradient of extraction wells IP-EW-8 and IP-EW-9 (not operational during 2022), respectively. TVOC concentrations have been slightly above detectable levels in 000-432 over the past 10 years. The maximum TVOC concentration in 2022 well 000-544 was 27 µg/L.

### 3.2.5.4 System Operations

In 2022, recirculation wells UVB-1 through UVB-7 and extraction wells IP-EW-8 and IP-EW-9 remained in standby mode. 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 samples of the effluent water were obtained.

### 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 2022, TVOC concentrations in the extraction wells were below the capture goal of 50 µg/L (**Figure 3.2.5-4**) with a maximum TVOC concentration of 12 µg/L for UVB-5 in July. The historical influent and effluent concentrations are shown on **Figures 3.2.5-4 and 3.2.5-5**. The removal efficiencies for the air strippers in the extraction wells UVB-1 through UVB-7 for 2022 were not calculated since the wells were 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
2022 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 2022. The cumulative mass total of VOCs removed from the aquifer is a total of 1,076 pounds since 1999 (**Figure 3.2.5-6**).

*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 2022.

*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 2022. A comparison of the plume from 1997 to 2022 is provided on **Figure 3.2.5-7.** There were several TVOC concentrations observed in wells 000-537 and 000-541 during 2022 just above the 50 µg/L system capture goal. These wells monitor the deeper VOC plume first characterized at the Industrial Park in 2013 and are the only two wells exceeding the system capture goal in 2022.

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

The UVB wells have been on 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 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. The extraction wells will remain in standby mode.

*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 2022 as discussed above. First quarter 2023 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 rebound of concentrations in the plume core wells associated with the recirculation wells UVB-1 through UVB-7 in 2022. 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 Groundwater Monitoring Program addresses a VOC plume that originated at the Former Landfill/Chemical Holes area. The remnants of the VOC plume are 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 2013b) 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 consisted 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 was 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**).

*Cumulative Mass Removal*

The mass of VOCs removed from the aquifer by the North Street Treatment System during system operations 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. Extraction well TVOC concentrations during the operation of the system are shown on **Figure 3.2.6-4**. 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**.

### *3.2.6.1 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 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, and 000-474. In 2022 six of seven wells were sampled. Well 000-212 was not sampled due to an access issue. 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 2022 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 2022 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 2022 the concentration was 5 µg/L.
- Well 000-472, located in close proximity to extraction well NS-2, had a TVOC concentration of 16 µg/L in December.
- TVOC concentrations in core well 000-474, located approximately 500 feet upgradient of extraction well NS-2, were 19 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.
- In 2022 only two wells showed individual VOC concentrations above AWQS. Well 000-474 had PCE at 8.3 µg/L and 000-472 had PCE at 7.7 µg/L .
- Well 000-212 was not sampled due to an access issue.
- **Figure 3.2.6-6** compares the TVOC plume from 1997 to 2022. 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.

### 3.2.6.4 Groundwater Monitoring 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 2022.

*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 2022, two of the seven remaining wells had VOCs above the MCL, with a concentration of 7.7 µg/L of tetrachlorethylene in well 000-472 and 8.3 µg/L of PCE in well 000-474 being the highest concentrations detected. MCLs are expected to be achieved in all wells by 2030.

#### *3.2.6.5 Recommendations*

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

- NS-1 and NS-2 will remain shut down until the OU X RI/FS 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 OU X RI/FS characterization at the BNL site.

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## 3.2.7 North Street East Ethylene Dibromide Treatment System

This section summarizes the 2022 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).

### *3.2.7.2 Groundwater Monitoring*

The monitoring network for the EDB plume consists of 12 wells (See **Figure 3.2.7-1)**. The sampling frequency for the EDB plume monitoring wells is quarterly, except for upgradient perimeter well 115-42 which is sampled semi-annually. As part of the post-closure monitoring for the original VOC treatment system, 10 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 extraction wells NSE-EDB-EW-3 and NSE-EDB-EW-4. 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 several years. **Appendix C** contains a complete set of 2022 analytical results for the NSE program wells. A summary of key monitoring well data for 2022 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 2017. From late 2017 through 2019, EDB concentrations in this well have declined and have remained steady since 2019 with concentrations ranging near the DWS to a maximum concentration of 0.13 µg/L in the third quarter of 2022. 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 two of the 12 plume monitoring wells in 2022 (000-552 and 000-554). The maximum EDB concentration in these two wells in 2022 was 0.29 µg/L in well 000-554 in the first quarter. As seen on **Figure**

**3.2.7-3**, EDB concentrations in this well had been trending upward since late 2020, then began to decline in early 2022. This well is located in the center of the plume between NSE-EDB-EW3 and NSE-EDB-EW-4. EDB concentrations in upgradient plume well 000-552 have remained relatively stable since 2020, with concentrations consistently above the DWS. However, it should be noted that the March 2023 sample detected EDB below the DWS for the first time since mid-2020. Continued sampling will determine if the trailing edge of this plume is migrating south of this area.

§ Two of the three bypass wells detected EDB in 2022. Wells 000-565 and 000-566 showed detections in 2022 with a maximum concentration of 0.024 µg/L in the second quarter in well 000-566. EDB was first detected in wells 000-565 and 000-566 in 2020. As discussed in **Section 3.2.7.6**, the low level detections in these wells since 2020 indicates that these concentrations were already downgradient of extraction well NSE-EDB-EW-3 prior to system start-up.

§ EDB has never been detected in the two upgradient perimeter wells (115-42 and 000-138).

§ VOCs were detected in nine of the 10 downgradient plume wells in addition to EDB during 2022. However, no VOCs exceeded the AWQS. The maximum VOC detected was PCE at 5.0 µg/L in well 000-552. See Figure 3.1-1 for the TVOC concentrations in these wells. PCE has been detected historically in several wells up to a maximum concentration of 8 µg/L in well 000-394 in 2017.

### *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 2022. In April 2020, NYSDEC renewed the 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 105 million gallons of water were treated in 2022 by the North Street East Treatment System.

Table 3.2.7-1.
OU III North Street East Treatment System
2022 SPDES Equivalency Permit Levels

| Parameters | Permit Limit (µg/L) | Max. Observed Value (µg/L) |
|---|---|---|
| pH range | 5.5–8.5 SU | 5.55-7.04 |
| carbon tetrachloride | 5 | <0.5 |
| chloroform | 5 | 1.2 |
| 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 2022*

The system operated normally with NSE-EDB-EW-3 and NSE-EDB-EW-4 operating full time. Approximately 77 million gallons of water were pumped and treated.

*October through December 2022*

The system operated normally with NSE-EDB-EW-3 and NSE-EDB-EW-4 operating full time. Approximately 28 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 2022. The maximum EDB concentration detected was 0.026 µg/L in NSE-EDB-EW-4 in July. EDB concentrations in NSE-EDB-EW-3 and NSE-EDB-EW-4 did not exceed the 0.05 µg/L DWS in any of the monthly samples collected during 2022. The maximum concentration of EDB in NSE-EDB-EW-3 during 2022 was 0.019 µg/L. No other VOCs were detected in these extraction wells above AWQS. Sampling of NSE-1 and NSE-2 was 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 195 gpm in 2022. **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 2022.

*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 48 pounds of VOCs were removed from the aquifer during system operation (**Table F-31**). Due to the low concentrations of EDB in the system influent, presentation of a specific mass removal graph for EDB is not appropriate.

### *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 EDB 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 of EDB detected in the monitoring and extraction wells.

*2. Has the downgradient migration of the EDB 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 in 2022 (maximum concentration of 0.024 µg/L), these low levels were 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. See **Figure 3.2.7-7** for a comparison of the EDB plume remediation progress from 2019 to 2022.

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

No. Although EDB concentrations in the extraction wells were below the DWS in 2022, three plume core monitoring wells continue 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 three of the seven plume core monitoring wells in 2022.

*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 or pulsed pumped.

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

No, EDB continues to be detected above the DWS in the monitoring wells. None of the 10 monitoring wells sampled annually using Method 8260 Low Level detected VOCs above AWQS in 2022.

#### 3.2.7.7 Recommendations

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

- Continue full time operation of the EDB treatment system and reduce the sampling frequency of extraction wells NSE-EDB-EW-3 and NSE-EDB-EW-4 from monthly to quarterly.
- 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 2022 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 quarterly and an 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 2022 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 2022, TVOC concentrations for the Magothy extraction well EW-4L on Stratler Drive were between 5 µg/L and 8 µg/L, with all individual VOCs below MCLs. 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 2022.

§ All of the LIPA monitoring wells were below MCLs during 2022

§ All four LIPA extraction wells had VOC concentrations below MCLs in 2022. **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 2022, well 800-94 had a maximum TVOC concentration of 57 µg/L in January 2023 and well 800-95 had a maximum concentration of 15 µg/L. Both of these wells have had persistently elevated TVOC concentrations (**Figure 3.2.8-6**).

§ **Figure 3.2.8-4** plots the TVOC trends for the airport extraction wells. All six airport extraction wells had TVOC concentrations below the capture goal of 10 µg/L in 2022.

§ Well 800-96 detected a maximum TVOC concentration of 58 µg/L in the fourth quarter of 2022. (**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 2022 the maximum TVOC concentration was 3 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 and appears to have emigrated past this well.

§ Well 800-101, located directly upgradient of extraction well RTW-4A, has shown TVOC concentrations above the capture goal for the past several years. The concentration ranged up to 43 µg/L in 2022. 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 3.2.8-1)**.

§ 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 2022.

### 3.2.8.4 System Operations

In 2022, the Airport and LIPA extraction wells were sampled quarterly. The influent, midpoint, and effluent of the carbon units were sampled monthly throughout 2022. All system samples were analyzed for VOCs. Three of the Airport extraction wells (RTW-2A, RTW-3A and RTW-5A) remained in standby as per the recommendation in the *2019 Groundwater Status Report* (BNL 2020c). Throughout 2022, 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 2022:

*January – September 2022*

The Airport/LIPA System was operational in the first three quarters with RTW-1A, 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. Extraction well RTW-4A was down for repairs June through August. The system was down for two days in January for a scheduled carbon change out.

*October – December 2022*

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

*Extraction Wells Operational Data*

During 2022, approximately 190 million gallons of groundwater were treated by the Airport/LIPA system, with an average flow rate of 355 gpm (**Table 3.2.8-2)**. **Table F-32** summarizes the system's mass removal. VOC concentrations for the Airport and LIPA extraction 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 2022 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 five pounds of VOCs were removed during 2022, with a total of 501 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 2022. However, PFOA and 1,4-dioxane were detected above the MCLs in 2020. See **Section 3.5** of the *2020 Groundwater Status Report*(BNL 2021c).

*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.

*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.

Table 3.2.8-1
OU III LIPA/Airport Treatment System
2022 SPDES Equivalency Permit Levels

| Parameters | Permit Level (µg/L) | Max. Measured Value (µg/L) |
|---|---|---|
| pH | 5.5–7.5 SU | 5.55-7.21 SU |
| carbon tetrachloride | 5 | <0.5 |
| chloroform | 7 | 0.95 |
| 1,1-dichloroethane | 5 | <0.5 |
| 1,1-dichloroethylene | 5 | <0.5 |
| methylene chloride | 5 | <0.5 |
| 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

*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 2022. 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 58 µg/L. Well 800-130 located between well RW-6A and RTW-1A had TVOC concentrations of up to 20 µg/L in June. Wells 800-94 and 800-95 showed maximum TVOC concentrations of 57 µg/L and 15 µg/L, respectively. Well 800-101 is located immediately upgradient of well RTW-4A and showed a peak TVOC concentration of 43 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 2022.

*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 may 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 to the regulators. All of the monitoring wells for the LIPA system were below MCL's in 2022 for individual VOCs.

§ No changes to the current monitoring schedule are recommended at this time for the Airport System. Reduce the sampling frequency for 17 LIPA monitoring wells from quarterly to semiannual.

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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 original forty-five monitoring wells and nine extraction wells used to monitor the Magothy are shown on **Figure 3.2.9-1**. Fifteen of these wells are no longer sampled as VOC concentrations are below the MCLs. 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. 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 2022).

| Location | Max. TVOC (in µg/L) | | Primary VOCs | Results |
|---|---|---|---|---|
| | 2022 | 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 0.3 µg/L in 2022. |
| William Floyd Well Field Sentinel | NS | 3.9 | DCA | Wells 109-12 and 109-13 served as outpost sentinel wells for the William Floyd Well Field Magothy well. Since the SCWA Magothy supply well is now out of service and all data from these wells are below MCLs they are no longer sampled based upon the 2021 recommendation in the Groundwater Status Report. |
| Middle Road to South Boundary | 76 | 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 76 µg/L TVOC in April, and well 113-19 had 31 µg/L in January 2022. VOCs not detected at the South Boundary beneath the Magothy Brown clay. |
| Industrial Park | 63 | 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 57 µg/L in May and well 000-541 at 63 µg/L in November. |
| North Street to Airport | 43 | 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 43 µg/L TVOC in well 800-101 in June, 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 6 µg/L was detected in well 000-343 in December. |
| South Boundary to Industrial Park East | 19 | 570 | TCA, $CCl_4$ | TVOC concentrations were up to 19 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. |
| 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 0.3 µg/L in December. 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 which is 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. Continue operation of well WSB-6. |
| 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 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.

§ Discontinue sampling wells 000-459, 000-458, 000-428, 000-102, 000-105 as these wells have been below MCLs for over five years.

§ Wells no longer sampled are being kept for potential future use for PFAS and 1,4-dioxane as part of OU X and will be evaluated as part of the RI/FS.

### 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 aquifer 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 a third Upper Glacial aquifer well (Well 3A). The pumping for these three supply wells is discussed in **Section 2.0**. Because the source water contributing area for this wellfield extends into the BNL property, two Upper Glacial aquifer wells were installed 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 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 3.2.10-1** for the groundwater flow directions).

Starting in late 2021, the monitoring program was modified to include six wells: existing wells 109-03, 117-01, 117-02 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. The approximate depth to water in this area is 75 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. These data were presented in the *2021 Groundwater Status Report* (BNL 2022c).

#### *3.2.10.1 Groundwater Monitoring*

*Well Network*

Starting in the first quarter of 2022, the joint BNL-SCDHS monitoring program was modified to consist of six wells, 109-03, 117-01, 117-02, 117-04, 117-05, and 117-06. See **Figure 3.2.10-1.** They are sampled on a quarterly basis for VOCs, Sr-90, tritium, gamma spectroscopy, 1,4-dioxane and PFAS. As recommended in the *2021 Groundwater Status Report*, wells 109-04, 109-12 and 109-13 were removed from the program since these were used to monitor impacts to the SCWA former Magothy aquifer supply well.

*Sampling Frequency and Analysis*

All six monitoring wells were jointly sampled by BNL and the SCDHS on a quarterly basis in 2022 for VOCs, gamma spectroscopy, tritium, Sr-90, 1,4-dioxane and PFAS (**Table 1-5**). Due to scheduling delays, the fourth quarter samples were not obtained until early January 2023. In addition, well 109-04 was also inadvertently sampled in the first quarter. Complete monitoring results are presented in **Appendix C**.

#### *3.2.10.2 Monitoring Well Results*

Monitoring results for 2022 are summarized below:

In 2022, the only parameter detected above standards was PFOS in well 117-01 at 13.4 ng/L in the first quarter sample. The State MCL for PFOS and PFOA is 10 ng/L. PFOS and PFOA were detected below the MCL in two of the six wells with the maximum concentration of PFOA at 9.7 ng/L also in well 117-01. 1,4-Dioxane was detected twice at estimated concentrations of 0.1 µg/L and 0.14 µg/L in well 117-06 in February and September 2022, respectively. Trace levels of

bromodichloromethane, bromoform, chloroform, methylene chloride and dibromochloromethane were detected in several of the wells in 2022 with a maximum concentration of 1.5 µg/L of chloroform.

#### *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 2022, no VOCs or radionuclides were detected at concentrations exceeding the MCLs. However, PFOS was detected above the MCL in well 117-01 at 13.4 ng/L in a February 2022 sample. PFOS and PFOA were below 10 ng/L for the remaining three quarterly samples.

#### *3.2.10.4 Recommendations*

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

- Maintain quarterly sampling of the six wells for VOCs, 1,4-dioxane and PFAS.
- Due to historical low radionuclide concentrations in these wells, reduce the sampling frequency from quarterly to annual for gamma spectroscopy, Sr-90 and tritium.

### 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 former facilities. Specifically, these plumes are located:

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 from 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 former 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. SR-7 operated on a one month on, one month off pulsed pumping schedule. In October 2018 this well was placed in stand-by mode and well SR-8 was placed in a one month on, one month off pulsed pumping mode. SR-8 was placed in standby mode and SR-9 was changed to a pulsed pumping mode in May 2022. SR-3 has been in both operating and standby modes over the past several years as a result of fluctuating source area Sr-90 concentrations. This well was placed back in standby mode in May 2022.

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 65 monitoring wells is used to monitor the Sr-90 plumes associated with the BGRR, former WCF, and PFS/Building 801 areas. As recommended in the *2021 Groundwater Status Report* (BNL 2022c), an additional fourteen monitoring wells (075-809, 075-810, 075-811, 075-415, 075-417, 075-419, 085-171, 085-285, 085-286, 085-287, 085-01, 085-406, 085-407, and 085-290) were sampled in 2022 to obtain Sr-90 data upgradient of Former Firehouse extraction well FF-RW-A. These were all shallow wells in the area that were not part of the routine BGRR/WCF/PFS monitoring program. Thirteen temporary wells were installed from May-July 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 2022, 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 historic high water table conditions.

### *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 2022 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 2022 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 supplementary temporary well program designed to enhance the permanent monitoring network was initiated in March 2022 (**Table 3.2.11-1**). Data that were obtained in the summer of 2022, following the finalization of the *2021 Groundwater Status Report* (BNL 2022c), is included in this report. The following is a summary of the 2022 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 56 pCi/L observed during October 2022 **(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. This effort was the final phase of source area soil cleanup. Groundwater monitoring of the source area (065-175) has shown a slight increase in Sr-90 levels since 2019. Little change in Sr-90 concentrations have been observed in well 065-174, located approximately 40 feet to the west of 065-175, 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 (see **Figure 3.2.11-1**) has decreased in extent since the previous supplemental characterization effort in 2018.
- Nine shallow wells that were part of the HFBR monitoring program were sampled in 2022 to characterize Sr-90 in the area adjacent and upgradient of Former Firehouse extraction well FF-RW-A as shown on **Figure 3.2.11-1. Figure 3.2.11-4** illustrates that these wells are too shallow to be useful in defining the downgradient portion of the WCF Sr-90 plume.
- Five newly installed Former Firehouse wells were sampled for Sr-90 in 2022.

*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 the 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 (S 6431) with 075-701 Sr-90 concentrations over time. The data shows a correlation between high water table events and increased Sr-90 concentrations in well 075-701. The above average water table elevation of almost 47 feet msl in 2019 resulted in a historical high Sr-90 concentration of 1,170 pCi/L 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 in 075-701 dropped below 5 pCi/L. The water table has fluctuated within a two foot range since 2021, and Sr-90 concentrations have remained low in well 075-701. The Sr-90 concentration during 2022 ranged from 0.2 pCi/L to 5 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 during that time. Sr-90 concentrations in both wells were <MDA in 2022.
- The downgradient segment of the Building 701 Sr-90 plume continues to attenuate as it migrates south. This is demonstrated by the decrease in Sr-90 concentrations in well 085-403 from a maximum of 35 pCi/L in October 2019 to 7 pCi/L in November 2022 (**Figure 3.2.11-5**).

*Former Pile Fan Sump/Building 801 Plume*

- Sr-90 concentrations in well 065-325 remained stable in 2022 with a maximum concentration of 24 piC/L. The highest Sr-90 concentration observed historically in well 065-325 (**Figure 3.2.11-5**) was 186 pCi/L in January 2020. The Sr-90 concentration in well 065-169 increased to 157 pCi/L in the October 2022 sample. This well is located immediately downgradient of Building 801. There were no significant concentration changes in other wells in this area in 2022.
- Based on the Sr-90 results from temporary well BGRR-GP-139 obtained in July 2021 and April 2022 along with data from monitoring wells 085-399 and 085-402, a higher concentration segment of the plume is located beneath the footprint of Building 725 (**Figure 3.2.11-1**). Monitoring well 085-402, located approximately 150 feet south of Building 725, may be too shallow to monitor the plume when it reaches this location.

### *3.2.11.4 System Operations*

In accordance with the SPDES equivalency permit, the required frequency for Sr-90 and VOC sampling is monthly for wells that are operational and quarterly if they are in standby mode. The pH measurement is monthly. The influent was also analyzed for tritium. Extraction well Sr-90 concentrations from 2022 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 2022:

*January – September 2022*

From January to September 2022, wells SR-4, SR-5, SR-6, and SR-7 were in stand-by mode. On May 1, wells SR-3 and SR-8 were placed in stand-by mode. Well SR-9 was placed in a one month on, one month off pulsed pumping schedule on May 1. In January, the system was off for 4 days due to electrical issues. Well SR-9 was off from August 1 to October 20 to replace the pump and motor. Well SR-2 was off from August 15 to October 20 to replace the pump and motor. The system treated approximately 8 million gallons of water during this period.

*October – December 2022*

From October to December 2022, wells SR-3 through SR-8 were in stand-by mode. Well SR-9 operated in a one month on, one month off pulsed pumping schedule. Wells SR-2 and SR-9 were repaired and re-started October 20. The system ran normally for the remainder of the period. The system treated approximately 2 million gallons of water during this period.

*Extraction Well Operational Data*

During 2022, approximately 10 million gallons of water were treated by the remediation system, with an average flow rate of 19 gpm. **Table 3.2.11-2** shows the monthly extraction well pumping rates while **Table F-36** shows Sr-90 concentrations.

### *3.2.11.5 System Operational Data*

During 2022, system influent Sr-90 concentrations ranged from 4.3 pCi/L to 10.4 pCi/L. Tritium was detected at a maximum concentration of 1,080 pCi/L in the October sample during 2022. During 2022, Sr-90 was detected in the effluent at a maximum concentration of 2.8 pCi/L. There were no VOCs or Sr-90 detected above the SPDES Equivalency Permit discharge limits in the 2022 effluent samples (**Table 3.2.11-3**).

*Extraction Wells*

Maximum Sr-90 concentrations in each of the extraction wells during 2022 were as follows:

- SR-1 15.6 pCi/L in January
- SR-2 12.7 pCi/L in January
- SR-3 5.1 pCi/L in January
- SR-4 3.0 pCi/L in July
- SR-5 12.5 pCi/L in October
- SR-6 2.5 pCi/L in July
- SR-7 3.4 pCi/L in January
- SR-8 3.5 pCi/L in January
- SR-9 6.5 pCi/L in January

**Table 3.2.11-3**
**BGRR Sr-90 Treatment System**
**2022 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 | 2.8 |
| 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, VOCs, and pH.

*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 2022, the flow averaged 19 gpm. Approximately 0.28 mCi of Sr-90 were removed during 2022, for a total of 29.7 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. This work marked the final phase of source area soil remediation. Sr-90 concentrations in source area monitoring well 065-175 ranged from 45 pCi/L to 56 pCi/L in 2022. The maximum Sr-90 detection in this well was 821 pCi/L in 2000. It appears that there is some residual Sr-90 in the source area soils although the current groundwater concentrations are well below historic values. 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, the water table decreased to normal long term average levels. Sr-90 concentrations in source area well 075-701 remained below 2 pCi/L throughout 2022. Monthly monitoring will continue in this area until the inventory of Sr-90 in the unsaturated zone beneath Building 701 and the below ground ducts has been depleted and flushing of Sr-90 (due to water table elevation increases) no longer results in significant concentrations in groundwater. 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. There continue to be periodic increases in Sr-90 groundwater concentrations in area wells. In November 2022, the Sr-90 concentration in well 065-169 showed a significant increase to 157 pCi/L. This maximum previous Sr-90 concentration in this well since the initial monitoring in 1999 was 14 pCi/L in 2009. The concentration detected in the April 2023 sample was 15 pCi/L. The Sr-90 concentrations in the other wells located in this area were stable during 2022.

*2. Were unexpected levels or types of contamination detected?*

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

BGRR Plume: No unexpected or types of contamination were detected.

PFS/Building 801 Area Plume: Yes, the November 2022 Sr-90 detection was significantly higher than expected.

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

WCF Plume: Yes, Sr-90 concentrations in the downgradient segment of this plume are naturally attenuating to levels well below the capture goal of 175 pCi/L.

BGRR Plume: Yes. Extraction well SR-3 is positioned to capture the migration of periodic slugs of Sr-90 from the source area. This well was placed in stand-by mode in May 2022 following the decrease in 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 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, SR-8, and SR-9 are all below DWS. Extraction well SR-6, SR-7, and SR-8 are currently in stand-by mode. SR-9 is in a pulsed-pumping mode and Sr-90 concentrations have remained below the DWS in this well since June 2020.

BGRR Plume: SR-3 is currently in 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-3, SR-4, SR-5, SR-6, SR-7, and SR-8 in standby mode.
- Resume of operation of SR-3 if significant Sr-90 concentration increases are observed in source area monitoring well 075-701.
- Place extraction well SR-9 in standby mode in May 2023 as Sr-90 concentrations in this well have remained below the DWS since June 2020.
- Maintain a source area monitoring frequency of monthly for BGRR source area wells 075-701 and 075-664.
- Increase sampling frequency in well 065-169 to semi-annual to evaluate the October 2022 Sr-90 concentration increase in the vicinity of Building 801.
- Install a temporary vertical profile well to a depth of 140 feet below ground surface adjacent to 085-402 to monitor for the high concentration segment of the PFS plume migrating beneath Building 725. Following review of the data from the installation of the vertical profile, a permanent monitoring well may be installed in this area.
- Obtain another round of samples from existing monitoring wells 075-809, 075-810, 075-811, 075-415, 075-417, 075-419, 085-171, 085-285, 085-286, 085-287, 085-01, 085-406, 085-407, 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. See **Figure 3.2.11-1** for these well locations.

- Discontinue quarterly extraction well tritium sampling and monthly system influent tritium sampling as tritium is no longer a concern in this area of the site.

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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 2022 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 2018a) 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 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. **Figure 3.2.12-1** shows the monitoring well locations.

*Sampling Frequency and Analysis*

The sampling frequency for the monitoring wells was annual (standby phase) in 2022, except for three upgradient wells (097-313, 097-314 and 097-315) 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 2022 monitoring well data. Overall, Sr-90 concentrations in monitoring wells have been significantly reduced over the last 14 years.

The area of highest Sr-90 concentration is located in the former source area upgradient of extraction well EW-1. Strontium-90 was detected in August 2022 at a concentration of 41 pCi/L in monitoring well 097-314. Overall, the plume concentrations have significantly decreased since 2008 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**.

A summary of key monitoring well data for 2022 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 have since dropped off in 2022 to a maximum of 41 pCi/L. The Sr-90 concentration in 097-314 was 21 pCi/L in the first quarter of 2023. Well 097-313, also located in the former source area, detected Sr-90 slightly above the DWS in 2022 at a maximum concentration of 12 pCi/L. Well 097-315, located immediately to the east of 097-314 has not detected Sr-90 above the DWS since 2015. 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.

§ Monitoring well 106-103, located immediately downgradient of EW-1 detected Sr-90 at 32 pCi/L in August 2022. This is the first detection in this well above the DWS in 15 years.

§ All remaining plume monitoring wells were less than the DWS in 2022.

### *3.2.12.4 System Operations*

The system remained in standby mode in 2022. 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 2022 was 36 pCi/L in EW-1. Sr-90 was not detected in EW-2 or EW-3 above the DWS in 2022.

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

Table 3.2.12-1.
Chemical Holes Sr-90 Treatment System
2022 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 from 2009 through 2018. Beginning in 2019, Sr-90 concentrations began increasing slightly to a maximum of 36 pCi/L in October 2022. However, concentrations dropped off in the first quarter 2023 to 19 pCi/L. Sr-90 concentrations in EW-2 since start-up have decreased as expected. Sr-90 concentrations in EW-2 have been below the DWS since April 2020. 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 2022. 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 and Table F-43**).

### *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 has been significantly reduced 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 14 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 2019 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. Strontium-90 concentrations in this well have since dropped off in 2022.

*2. Were unexpected levels of Sr-90 contamination detected?*
No. There were no unexpected levels of Sr-90 detected in 2022.

*3. Has the downgradient migration of the plume been controlled?*
Yes. While in operation, the system was effective in remediating the extent and migration of the Sr-90 plume.

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 eight of 21 core wells were above 8 pCi/L in 2022 with a maximum of 41 pCi/L in well 097-314.

*4b. Is there a significant concentration rebound in core wells and/or extraction wells following shutdown?*
As noted above, Sr-90 concentrations began increasing slightly in source area monitoring well 097-314 as well as extraction well EW-1 following system shutdown in July 2018. In the fourth quarter of 2022, there was a slight increase in Sr-90 in extraction well EW-1 to 36 pCi/L, but dropped back to 19 pCi/L in January 2023. 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?*
No. 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.
- Since Sr-90 concentrations have not been detected historically above the DWS in monitoring wells 106-14, 106-46 and 106-96, sampling of these wells will be discontinued.
- Since there have been no Sr-90 detections above the DWS in EW-3 since 2014 and bypass monitoring wells 106-120, 106-121 and 106-122 have never detected Sr-90 since they were installed, discontinue sampling of these three wells. Well 106-119 will now be used as the new bypass monitoring well (downgradient of EW-2).
- Sampling of the following monitoring wells will be discontinued due low Sr-90 concentrations:
  - 106-102 and 106-47 - last detection above DWS in 2007
  - 106-13 - last detection above DWS in 2012
  - 106-135 - last detection above DWS in 2013
  - 106-48 – last detection above DWS in 2010
  - 106-50 - last detection above DWS in 2005

### 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 ensure capture the leading edge of the tritium 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 plume 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 approximately 500 feet north of Princeton Avenue to supplement the three existing 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 2013c) was submitted to the regulatory agencies in March 2013 based on satisfaction of the criteria established in the *2008 Groundwater Status Report* (BNL 2009c) 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 2018b) of this system was submitted to the regulators in July 2018 and approved in March 2019. The extraction wells are now shut down and the program consists of groundwater monitoring of natural attenuation.

#### *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 3.2.13-1**).

*Sampling Frequency and Analysis*

In 2019, the plume monitoring was reduced 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 2022 monitoring well data are posted on **Figure 3.2.13-1**. The highest tritium concentration observed in 2022 was 7,449 pCi/L in well 075-805 in October, 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 magnitude and frequency of peak tritium concentrations has diminished over the 25 years of monitoring. The water table fluctuated approximately 1.5 feet in 2022 and remained close to the long-term average elevation. Monitoring of the HFBR tritium plume has now surpassed two tritium half-lives (a half-life equals 12.3 years). Based on the decreasing tritium concentration trends in groundwater, the inventory of tritium present in soils beneath the HFBR appears to have significantly decreased over the past 25 years of monitoring.

### *3.2.13.4 Monitoring Program 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, however 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 2022 was 7,449 pCi/L in monitoring well 075-805. 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 levels of tritium observed in the monitoring wells during 2022.

*3. Is the plume attenuating as expected?*

Yes. Tritium concentrations in monitoring wells have not exceeded the 20,000 pCi/L DWS since 2020. **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 not been exceeded since 2020. The area immediately downgradient of the HFBR remained below the 20,000 pCi/L MCL in 2022.

### *3.2.13.5 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. Consider reducing the sampling frequency to semi-annual if tritium concentrations remain below 20,000 pCi/L in 2023.
- 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 Building 650 and Building 650 Sump Outfall Area (**Figure 3.3.1-1**). During 2022, the monitoring wells were sampled either annually or semiannually, and the samples were analyzed for Sr-90 (**Table 1-5**).

### *3.3.1.2 Monitoring Well Results*

The complete monitoring well radionuclide sampling results can be found in **Appendix C**. The Sr-90 monitoring results indicate that the 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.

*Building 650*

The Demolition and Decommissioning (D&D) of Building 650 was completed in 2021. The removal of Building 650 and the surrounding paved areas resulted in the exposure of soil areas from the surrounding paved areas. Wells 076-420 and 076-421 were installed prior to (D&D) of Building 650 to monitor potential impacts to groundwater from the D&D activities.

- Sr-90 concentrations in monitoring wells 076-420 and 076-421 during 2022 were 2.5 pCi/L and 2.0 pCi/L respectively.
- Monitoring well 076-25 located approximately 160 feet to the south-southeast of Building 650 has shown fluctuating Sr-90 concentrations from a high of 12 pCi/L in 2018 to 2.9 pCi/L in 2021 and then to 10.1 pCi/L in March of 2022.
- Monitoring well 076-28 located immediately north of the Building 650 location and adjacent to the former decontamination pad continues to show fluctuating Sr-90 concentrations. The results obtained in March and September 2022 were both below the DWS with concentrations of 1.1 pCi/L and 3.4 pCi/L respectively. Historical Sr-90 concentrations in this well and others have fluctuated due to plume shift and fluctuating groundwater elevations.

*Building 650 Sump Outfall Area*

Over the past several years there has been a shift in the groundwater flow direction to the southeast **(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 Sr-90 concentrations in some 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 will occur due to increased discharges to the RAV basin due to the operation of the Former Firehouse PFAS Treatment System which now discharges to this basin **(Figure 2-5).** Furthermore, due to operation of the Current Firehouse which discharges to the HP/OUIII recharge basin area, additional flow from the OUIII Middle Road/South Boundary/Western South Boundary treatment systems are now being redirected through the wet well transfer pump to the RAV basin. This is due to groundwater modeling indicating the need to reduce groundwater flow directional impacts to the Current Firehouse plume.

§ 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. The high Sr-90 concentrations obtained during 2022 were 11.2 pCi/L and 16.3 pCi/L respectively. The Sr-90 concentrations in these wells have remained relatively stable since they were installed in 2020.

§ Sr-90 concentrations in source area wells 076-13 and 076-168 have remained below DWS since 2016. (**Figure 3.3.1-2**). This data indicates the source area Sr-90 inventory is decreasing as anticipated.

§ Well 076-184, located to the east of wells 076-182 and 076-416, remains just below its historical high of 52.6 pCi/L in August of 2021 with a result of 50.6 pCi/L in September 2022. These Sr-90 concentrations may still be the result of fluctuating groundwater elevations and plume shift in the area.

### *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?*

Building 650: No. The source area was remediated in 2002, yet there still are detections of Sr-90 near Building 650 at levels near the DWS. Based on the Sr-90 concentrations in the monitoring wells, residual contamination that may remain at depth in the unsaturated zone above the water table appears to be minimal.

Building 650 Sump Outfall Area: No. The source area was remediated in 2002. Detections of Sr-90 in monitoring wells near the Sump Outfall Area have not exceeded the DWS since 2016. 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. Based upon the results for 2022 the Sr-90 detections were within the expected concentration range. Monitoring well 076-184 had a near historic high value of 50.6 pCi/L however this is not unexpected as the plume continues to migrate and attenuate downgradient.

*3. Is the plume naturally attenuating as expected?*

Yes. 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.

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

No. There were three monitoring wells exceeding the MCL in 2022 (076-184, 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:

§ Reduce the sampling frequency from semi-annual to annual for monitoring wells 076-06, 076-13, 076-24, 076-25, 076-28, 076-168, 076-169, 076-184, 076-415, 076-416, 076-418, 076-419, 076-420, 076-421. All 24 monitoring wells in this the program shall be sampled on an annual basis.

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## 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**).

*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 2022 is shown on **Figure 3.4-1**. Based on the characterization and geologic data obtained in 2020 and 2021, the plume is deeper in the Upper Glacial aquifer than originally understood. It was also determined at that time that the Gardiners Clay unit was not present south of well 000-209. In addition, a local silt and clay layer was identified in the deep Upper Glacial aquifer south of well 000-284. 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 2022 follows:

§ The maximum EDB concentration detected in the plume in 2022 was 1.8 µg/L in well 000-571. This well was installed in July 2021 to monitor elevated EDB concentrations in the deeper portion of the aquifer immediately upgradient of eastern extraction well EW-2E, which is screened approximately 45 feet shallower. The highest concentration segment of the plume (greater than 1.0 µg/L) is located between well 000-571 and well 000-568 (approximately 700 foot distance) .

§ The western portion of the plume, upgradient of EW-1E, contains lower concentrations of EDB, although they still exceed the DWS. Monitoring well 000-572 was also installed in July 2021 to monitor EDB in the deeper portion of the plume immediately upgradient of EW-1E, which is screened approximately 65 feet shallower. The maximum EDB concentration detected in well 000-572 in 2022 was 0.68 µg/L in June.

- EDB concentrations have declined significantly in upgradient perimeter well 000-173 as shown in **Figure 3.4-3**. The 2022 sample detected EDB at 0.05 µg/L. EDB concentrations in this well have been at or below the DWS since 2016. 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 2022. 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 0.03 µg/L in 2022.
- Monitoring wells 000-567 and 000-568, installed in October 2020, have consistently detected EDB above the DWS with a maximum EDB concentration of 0.66 µg/L in 000-568 in December 2022. These wells were installed as a cluster and monitor the centerline of the plume.
- Core well 000-520, located on the eastern edge of the plume near the OS-6 treatment building, had shown a slight increasing trend in EDB concentrations starting in 2019. Concentrations have stabilized since 2021 with a December 2022 detection of 0.2 µg/L.
- The three bypass monitoring wells have not detected EDB since they were installed in 2005. The two temporary wells installed in 2020 and 2021 to determine the presence of deeper EDB downgradient of EW-1E and EW-2W did not detect EDB in any of the sample intervals. These data were discussed in the *2020 and 2021 Groundwater Status Reports* (BNL 2021c and BNL 2022c).

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 2022 (**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 1.8 µg/L in 2022 (in 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 2022, equivalency permit limits were not exceeded.

*January – September 2022*

The system was off from January 12th to January 20th for repairs to replace a broken pipe valve on one of the carbon tanks. Well EW-1E was off from April 6th to April 15th to replace a broken flow meter. Well EW-1E was off from September 8th to September 22nd to repair a leaking pipe. The system treated approximately 126 million gallons of water during this period.

*October – December 2022*

The system ran normally for this period. The system treated approximately 46 million gallons of water for this period.

*Extraction Wells*

During 2022, the system treated approximately 172 million gallons of water, with an average flow rate of approximately 335 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 2022, EDB was detected in all four quarterly samples in

EW-2E and in one quarterly sample in EW-1E. In 2022, the extraction wells had a maximum EDB detection of 0.053 µg/L in EW-2E in July, 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 been near or slightly above the DWS since 2020.

*System Influent and Effluent*

EDB was detected during ten of the twelve monthly sampling events of the system influent throughout 2022. The maximum influent concentration was 0.048 µg/L. During 2022, 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.

Table 3.4-1
OU VI EDB Treatment System
2022 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 | 1.0 |
| 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

### 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?*

No. The EDB concentrations identified in the new monitoring wells are consistent with the levels identified in the temporary wells installed in the deeper portion of the Upper Glacial aquifer in 2020 and 2021.

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

The detection of EDB in temporary and permanent wells in the vicinity of the extraction wells installed in 2020/2021 indicates 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), 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. Additional Groundwater modeling was performed by Arcadis in the EDB Capture Evaluation (Arcadis September 2022) and the Transport Evaluation (Arcadis March 2023) and the detailed reports are in **Appendix H.** The first evaluation in 2022 indicated the need for additional remedial action to meet the cleanup goals of additional pumping wells, but was inconclusive on whether the time frame of 2030 would be met. The second memo in 2023 further evaluated this and recommended two deeper extraction wells near the location of the existing extraction wells coupled with additional aquifer testing once these wells are operational to better define the aquifers hydraulic conductivity values in this deeper zone. This would be followed by additional groundwater modeling of the cleanup time frame using the updated hydraulic conductivities. The two new extraction wells will prevent the migration of the deeper portions of EDB plume from migrating beyond this area.

*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 2022, a modification to the remediation system is planned.

*4a. Are EDB concentrations in plume core wells above or below 0.05 µg/L?*

In 2022, 10 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 updated groundwater flow and transport modeling it has been determined:
  - Submit a system design modification to the regulators in mid-2023 for the addition of two deeper extraction wells immediately adjacent to the existing wells EW-1E and EW-2E. These wells are planned to be installed in 2023 and will replace the existing extraction wells, which will no longer be operated.

- This modification will establish capture of both the deep and slightly shallower portions of the EDB plume in this area and enhance remediation of the high concentration segment of the plume.
- Additional deep bypass monitoring wells will be installed to monitor the effectiveness of the new extraction wells.

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## 3.5 OPERABLE UNIT X

Per- and Polyfluoroalkyl Substances (PFAS) and the chemical 1,4-dioxane are emerging contaminants of concern across the United States. PFAS have been used in a wide variety of common household and commercial products, and in Aqueous Film Forming Foam (AFFF) used for fighting Class B fires. 1,4-Dioxane has been broadly used in numerous commercial products, including as a chemical stabilizer for the chlorinated solvent 1,1,1-trichloroethane (TCA). PFAS chemicals have impacted groundwater quality at numerous sites across the nation, especially in areas where firefighting foam was used for training, fire suppression systems, and emergency response. In 2017, water samples from BNL's five active potable water supply wells were analyzed for the six PFAS compounds that were evaluated under the Third Unregulated Contaminant Monitoring Rule (UCMR3) program. PFAS were detected in samples from three of the five supply wells (BNL-6, BNL-10, and BNL-11). The combined concentrations of perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) were less than the 2016 EPA Lifetime Health Advisory Level (HAL) of 70 ng/L (USEPA 2016). In August 2020, NYS established individual drinking water standards (referred to as Maximum Contaminant Levels or MCLs) of 10 nanograms per liter (ng/L) for PFOS and PFOA, and 1.0 microgram per liter (µg/L) for 1,4-dioxane. On June 15, 2022, the EPA proposed revised HALs for PFOA at 0.004 ng/L and PFOS at 0.02 ng/L (USEPA 2022). The EPA also proposed establishing HALs for HFPO-DA (GenX) at 10 ng/L and PFBS at 2,000 ng/L. In early 2023, the EPA is expected to proposed National Primary Drinking Water Standards of 4 ng/L for PFOS and PFOA, and an MCL based upon a Hazard Index for four other PFAS.

At BNL, PFAS have impacted groundwater quality in areas where firefighting foam was used for training and fire suppression systems, the landfilling of PFAS-containing wastes, and discharges to the sanitary system, whereas 1,4-dioxane has impacted groundwater quality in solvent spill areas.

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 2021 were summarized in the *2018 through 2021 BNL Groundwater Status Reports* (BNL 2019, BNL 2020c, BNL 2021c, and BNL 2022c). Results for characterization efforts conducted during 2020 through 2022 were also presented in the *Phase 4 Characterization Report* (BNL 2021a), the *Time Critical Removal Action Characterization Report* (BNL 2023b). Data collected during 2022 are summarized in **Section 3.5.1**, **Section 3.5.2.** and **Section 3.5.3** 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 in 2021. BNL is preparing an Operable Unit (OU) X Remedial Investigation/Feasibility Study (RI/FS) Work Plan. The AOCs identified below are now included under Operable Unit 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
- Sub-AOC 33K Current Landfill
- Sub-AOC 33L Water Treatment Plant

**AOC 34** – 1,4-Dioxane groundwater contamination

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## 3.5.1 Operable Unit X Current Firehouse PFAS Treatment System

The Current Firehouse Treatment System was installed as a Time Critical Removal Action (TCRA) to address PFAS-contaminated groundwater associated with the Current Firehouse and Building 170 firefighter training areas (sub-AOC 33D and sub-AOC 33-J, respectively).

### *3.5.1.1 System Description*

The groundwater remediation system constructed to remediate the PFAS plumes originating from the Current Firehouse and Building 170 source areas began startup testing on October 24, 2022. Following the successful completion of the startup period, routine operations of the system started February 1, 2023. PFAS-contaminated water is withdrawn from the aquifer using nine extraction wells. Following treatment using granular activated carbon (GAC) filters, the treated water is returned to the aquifer using the HP recharge basins that had previously been used to recharge cooling water from the former Medical Research Reactor. A complete description of the system is included in the *Operations and Maintenance Manual for the Current Firehouse Groundwater Treatment System* (BNL 2023d).

### *3.5.1.2 Groundwater Monitoring*

*Well Locations*

During 2022, eleven temporary wells were installed to characterize the Building 170 PFAS plume, and four temporary wells were installed to characterize groundwater upgradient of the Building 170 source area. The locations and monitoring results for these temporary wells are presented in the *Time Critical Removal Action Characterization Report* (BNL 2023b). Following plume characterization, a network of 66 new wells was installed for long-term monitoring of the PFAS plumes from the Current Firehouse and Building 170 source areas to the area immediately south of West Princeton Avenue (**Figure 3.5.1-1**).

*Sampling Frequency and Analysis*

The initial sampling of the 55 new wells used to monitor the Current Firehouse plume was conducted during May and June 2022, whereas the initial sampling of the 11 wells used for the Building 170 plume was conducted in September 2022 (**Table 1-5**). Samples from all monitoring wells, extraction wells, system influent and effluent were analyzed for PFAS using EPA Method 537.1 (**Table 3.5.1-3**). For method comparison purposes, a subset of the monitoring well samples were also analyzed for PFAS using EPA Method 533 (**Table 3.5.1-4**) (also see BNL 2023b). Furthermore, samples from 25 wells were analyzed for 1,4-dioxane using EPA Method 8270D SIM (**Table 3.5.1-3**).

### *3.5.1.3 Monitoring Well Results*

**Appendix C** contains the complete analytical results for the Current Firehouse and Building 170 plume monitoring wells that were sampled during 2022. The distribution of the PFOS/PFOA plume is shown on **Figure 3.5.1-1**. Key monitoring results are summarized below:

§ At the Current Firehouse, the highest concentrations of PFAS were detected in well 073-31, which was installed downgradient of the eastern (main) training area. In split samples collected from well 073-31, PFOS was detected at 5,550 ng/L and PFOA at 222 ng/L in the sample analyzed by EPA Method 537.1, whereas in the second sample analyzed by EPA Method 533, the PFOS and PFOA concentrations were 9,500 ng/L and 323 ng/L, respectively. High concentrations of other PFAS were also detected in well 073-31 including: PFHxS at 2,510 ng/L, PFHxA at 571 ng/L, PFBS at 142 ng/L, FBSA at 186 ng/L, 6:2 FTS at 117 ng/L, PFPeS at 236 ng/L and PFPeA at 296 ng/L.

§ In the western training area monitoring well 073-26, PFOS and PFOA concentrations were 1,560 ng/L and 6.6 ng/L, respectively.

§ When comparing the plume distribution based upon the permanent well data to that based upon the temporary well data from the TCRA characterization effort (BNL 2023), there appears to be a slight easterly shift in the downgradient portion of the Current Firehouse plume segments. A possible cause for this easterly shift is BNL's decision in June 2018 to suspend the use of supply well BNL-6 due to PFAS contamination, which has resulted in a more southerly direction of groundwater flow.

§ In the Building 170 area, the highest PFOS and PFOA concentrations were detected in downgradient well 093-94 at 4,090 ng/L and 39 ng/L, respectively. High concentrations of other PFAS were also detected in well 093-94 including: PFHxS at 392 ng/L, PFHpS at 139 ng/L, PFBS at 18 ng/L, FBSA at 43 ng/L, and PFPeS at 37 ng/L.

#### *3.5.1.4 System Operational Data*

During the first week of the startup period, the sampling frequency for the treatment system influent, effluent and extraction wells was daily. Following the first week, influent, effluent, and extraction well samples were collected weekly. In conformance with the SPDES equivalency permit, the sampling frequency for the influent and effluent is monthly. During the startup period, the system influent, effluent, and extraction well samples were analyzed for PFAS using EPA Method 537.1, 1,4-dioxane using EPA Method 8270D SIM and for VOCs using EPA Method 8260. Furthermore, the treatment system effluent was analyzed monthly for pH. **Table 3.5.1-1** provides the effluent limitations for meeting the requirements of the SPDES equivalency permit. During the October – December 2022 operational period, equivalency permit limits were not exceeded.

*January – September 2022*

The treatment system was not in operation during this period.

*October – December 2022*

Startup testing of the treatment system began on October 22, 2022, and ended February 1, 2023 (see BNL 2023). During the period of October 24 through December 31, 2022, the system ran normally except for the need to perform backflushes of the lead GAC vessel due to pressure build up in the lead carbon vessel. The backflushing operations were performed on 11/2/22, 11/17/22, 12/9/22, 12/19/22, and 12/28/22.

*Extraction Wells Operational Data*

From October 24 through December 31, 2022, the system treated approximately 33 million gallons of water. The system flow rates during October – December were typically between 300 and 350 gpm. **Table 2-2** contains the monthly pumping data for the extraction wells, and **Table 3.5.1-2** shows the monthly pumping rates. During the startup period, PFOS and PFOA were detected in all samples from all nine extraction wells (CF-RW-A through CF-RW-I) (**Table 3.5.1-5**). The maximum PFOS concentration was detected in extraction well CF-RW-A at 1,100 ng/L, whereas the maximum PFOA concentration was detected in extraction well CF-RW-E at 22 ng/L. Furthermore, 1,4-dioxane was detected in extraction wells CF-RW-C, CF-RW-E and CF-RW-H at concentrations up to 0.73 µg/L. Low levels of chloroform were detected in eight of the nine extraction wells, with the highest concentration of 2.6 µg/L in CF-RW-A, well below the 7.0 µg/L AWQS. Data for the extraction wells are presented in **Table F-48**.

*System Influent and Effluent*

PFOS and PFOA were detected in the system influent during all the October-December sampling events. The maximum influent concentrations for PFOS and PFOA were 324 ng/L and 9.6 ng/L, respectively. Furthermore, the maximum influent concentration for 1,4-dioxane was 0.2 µg/L. During the period of October 24 through December 31, PFOS and PFOA were not detected in the

system effluent, and 1,4-dioxane concentrations were below the 0.35 µg/L regulatory limit specified in the SPDES equivalency permit (**Table 3.5.1-1**). Influent and effluent results for PFAS and 1,4-dioxane are shown on **Table 3.5.1-5, Table F-49, and Table F-50**. A summary of influent concentrations for PFOS, PFOA and total PFAS is presented on **Figure 3.5.1-2**.

*Cumulative Mass Removal*

From October 24, 2022, through December 31, 2022, the treatment system removed approximately 0.08 lbs. of total PFAS.

### *3.5.1.5 System Evaluation*

The Current Firehouse PFAS Treatment 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?*

Yes. Groundwater monitoring results indicate that PFAS continues to be released from the source area soils associated with the Current Firehouse and Building 170 foam training areas.

*2. Were unexpected levels or types of contamination detected?*

No. The concentrations and types of PFAS detected in the monitoring wells and treatment system samples were consistent with those observed during plume characterization.

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

No. The treatment system has not been in operation long enough to make this determination.

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

No. The system is in its early stages of operation and has not met all shutdown requirements.

Table 3.5.1-1
OU X Current Firehouse PFAS Treatment System
2022 SPDES Equivalency Permit Levels

| Parameters | Permit Limit | Max. Measured Value |
|---|---|---|
| pH (range) | 5.0 – 8.5 SU | 5.0 – 6.1 SU |
| PFOS | 2.7 ng/L | ND |
| PFOA | 6.7 ng/L | ND |
| 1,4-Dioxane | 0.35 µg/L | 0.21 µg/L |
| Chloroform | 7.0 µg/L | ND |
| Carbon Tetrachloride | 5.0 µg/L | ND |
| Methylene Chloride | 5.0 µg/L | ND |
| Methyl Chloride | 5.0 µg/L | ND |

Notes:
Required sampling frequency following startup testing is monthly .
SU = Standard Units
ND = Not detected

*4a. Are PFOS and PFOA concentrations in plume core wells above or below the 100 ng/L capture goal?*

In 2022, thirty (30) plume core wells had PFOS concentrations greater than the 100 ng/L capture goal. One plume core well had a PFOA concentration >100 ng/L.

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

The Current Firehouse PFAS treatment system is in its early stage of operation and has not been pulsed pumped or shut down.

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

The MCLs for PFOS and PFOA have not been achieved.

#### *3.5.1.6 Recommendations*

The following recommendations are made for the Current Firehouse PFAS Treatment System and groundwater monitoring program:

- Maintain full time operation of the treatment system.
- Continue collecting treatment system influent and effluent samples two times per month and collect monthly samples from the extraction wells.
- Starting in 2023, all 66 new monitoring wells and 11 previously installed wells that are appropriately located to assist in monitoring the plumes will be sampled. Sixty-four (64) of the wells will be sampled semiannually, whereas 13 of the wells that are located near the Current Firehouse and Building 170 source areas will be monitored quarterly. All samples will be analyzed for PFAS using EPA Method 1633, and a select number of wells analyzed for 1,4-dioxane using EPA Method 8270D SIM.
- When the analytical laboratories can provide turnaround times that allow for compliance with required SPDES report submission dates, transition from EPA method 537.1 to EPA Method 1633 for the PFAS analysis of treatment system influent and effluent samples. Continue analyzing 1,4-dioxane samples using EPA Method 8270D SIM.

## 3.5.2 Operable Unit X Former Firehouse PFAS Treatment System

The Former Firehouse Treatment System was installed as a Time Critical Removal Action (TCRA) to address PFAS-contaminated groundwater associated with the Former Firehouse firefighter training areas (sub-AOC 33E). Construction of the system was completed by late 2022, and startup testing began on January 26, 2023. Results of the startup and subsequent full-time operations will be presented in the treatment system *Startup Report* and the *2023 Groundwater Status Report*.

### *3.5.2.1 System Description*

A groundwater remediation system to address the PFAS plume from the Former Firehouse initiated start-up testing and sampling on January 26, 2023. PFAS-contaminated water is withdrawn from the aquifer using three extraction wells. Following treatment using granular activated carbon (GAC) filters, the treated water is returned to the aquifer using the existing RA V recharge basin. A complete description of the system is included in the *Operations and Maintenance Manual for the Former Firehouse PFAS Source Areas Groundwater Treatment System* (BNL 2023a).

### *3.5.2.2 Groundwater Monitoring*

*Well Locations*

A network of 29 new wells were installed to monitor the PFAS plume from the Former Firehouse source areas to the area immediately south of East Princeton Avenue (**Figure 3.5.2-1**).

*Sampling Frequency and Analysis*

The initial sampling of the 29 new wells used to monitor the Former Firehouse plume was conducted in June 2022 (**Table 1-5**). Samples from all of the monitoring wells were analyzed for PFAS using EPA Method 537.1 (**Table 3.5.2-3**). Samples from nine wells were analyzed for 1,4-dioxane using EPA Method 8270D SIM (**Table 3.5.2-3**). Furthermore, due to the proximity of the leading edge of the BGRR/WCF Sr-90 plume and new treatment extraction well FF-RW-A, the extraction well and twelve nearby shallow monitoring wells were analyzed for Sr-90 (**Figure 3.5.2-2**).

### *3.5.2.3 Monitoring Well Results*

**Appendix C** contains the complete analytical results of the Former Firehouse monitoring wells that were sampled during 2022. The distribution of the PFOS/PFOA plume is shown on **Figure 3.5.2-1**. Key monitoring results are summarized below:

- High concentrations of PFAS were detected in three shallow wells (075-809, 075-810 and 075-811) installed immediately downgradient of the Former Firehouse area. The highest PFOS concentration was detected in well 075-810 at 2,380 ng/L. The highest PFOA concentration was detected in well 075-811 at 758 ng/L. High concentrations of other PFAS were also detected in well 075-811 including: PFHxS at 10,400 ng/L, PFHxA at 1,670 ng/L, PFBS at 61 ng/L, FBSA at 123 ng/L, PFBA at 53 ng/L, PFOSAm at 183 ng/L, PFPeS at 56 ng/L and PFPeA at 164 ng/L.
- The plume distribution map based upon the permanent well data is consistent with the plume map prepared using the temporary well data presented the *Time Critical Removal Action for PFAS in Groundwater Downgradient of the Current Firehouse, Former Firehouse, and Building 170 Firefighter Training Areas, Revised Characterization Report* (BNL 2023b).
- Strontium-90 (Sr-90) originating from the former Waste Concentration Facility has been tracked to the Former Firehouse area. Samples from twelve wells were tested to determine whether Sr-90 is present in the shallow groundwater near extraction well FF-RW-A (**Figure 3.5.2-2**). Sr-90 was not detected in any of the wells.

### 3.5.2.4 System Operational Data

Startup testing of this treatment system began on January 26, 2023, and is anticipated to continue into May 2023. During the startup period, the sampling frequency for the treatment system influent, effluent and extraction wells will be weekly. In conformance with the SPDES equivalency permit, following startup testing, the sampling frequency for the influent and effluent will be monthly. The system influent, effluent and extraction well samples will be analyzed for PFAS using EPA Method 537.1, 1,4-dioxane using EPA Method 8270D SIM and for VOCs using EPA Method 8260. Furthermore, the treatment system effluent will be analyzed monthly for pH. **Table 3.5.2-1** provides the effluent limitations for meeting the requirements of the SPDES equivalency permit.

*January – December 2022*

The treatment system was not in operation during this period.

*Extraction Wells Operational Data*

The treatment system was not in operation during 2022 (**Table 3.5.2-2**).

*System Influent and Effluent*

The treatment system was not in operation during 2022.

*Cumulative Mass Removal*

The treatment system was not in operation during 2022.

Table 3.5.2-1
OU X Former Firehouse PFAS Treatment System
2022 SPDES Equivalency Permit Levels

| Parameters | Permit Limit | Max. Measured Value |
|---|---|---|
| pH (range) | 5.0 – 8.5 SU | NA |
| PFOS | 2.7 ng/L | NA |
| PFOA | 6.7 ng/L | NA |
| 1,4-Dioxane | 0.35 µg/L | NA |
| Chloroform | 7.0 µg/L | NA |
| Methylene Chloride | 5.0 µg/L | NA |

Notes:
Required sampling frequency is monthly following startup testing.
SU = Standard Units
NA = Not analyzed, system was not active during 2022

### 3.5.2.5 System Evaluation

The Former Firehouse PFAS Treatment 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?*

Yes. PFAS continues to be detected in Former Firehouse source area monitoring wells at concentrations exceeding NYS MCLs.

*2. Were unexpected levels or types of contamination detected?*

No. The concentrations and types of PFAS detected in the monitoring well samples were consistent with those observed during plume characterization.

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

No. The treatment system was not in operation during 2022. System startup testing began on January 26, 2023.

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

No. The treatment system was not in operation during 2022. System startup testing began on January 26, 2023.

*4a. Are PFOS and PFOA concentrations in plume core wells above or below the 100 ng/L capture goal?*

During 2022, eleven plume core wells had PFOS concentrations >100 ng/L capture goal. Four plume core wells had PFOA concentrations >100 ng/L.

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

The treatment system was not in operation during 2022. Startup testing of the treatment system started January 26, 2023.

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

The MCLs for PFOS and PFOA have not been achieved.

#### 3.5.2.6 Recommendations

The following recommendations are made for the Former Firehouse PFAS Treatment System and groundwater monitoring program:

- During system startup testing, use EPA Method 537.1 for analyzing PFAS samples. When the analytical laboratories can provide turnaround times that allow for compliance with required SPDES report submission dates, transition from EPA Method 537.1 to EPA Method 1633 for the analysis of treatment system influent and effluent samples. Use EPA Method 8270D SIM for analyzing 1,4-dioxane samples.
- Starting in 2023, all 29 new monitoring wells and 13 previously installed wells that are appropriately located to assist in monitoring the plume will be sampled. Thirty-two (32) of the wells will be sampled semiannually, whereas 10 of the wells that are located near the Former Firehouse source area will be monitored quarterly. All samples will be analyzed for PFAS using EPA Method 1633, and a select number of wells analyzed for 1,4-dioxane using EPA Method 8270D SIM.

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## 3.5.3 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 2021a and BNL 2023b). 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.

### *3.5.3.1 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 2022 BNL tested for 1,4-dioxane in several of the established monitoring areas described below.

*Sampling Frequency and Analysis*:

During 2022, BNL collected groundwater samples for 1,4-dioxane analyses in three areas: 1) Current Firehouse and Building 170 PFAS Treatment System; 2) Former Firehouse PFAS Treatment System; and 3) southwestern area of BNL within the on-site portion of the source water contributing area for the SCWA's William Floyd Well Field. The groundwater samples were analyzed for 1,4-dioxane by Method 8270D SIM.

### *3.5.3.2 Monitoring Results*

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

1) *Current Firehouse and Building 170 Areas:* Twenty-five (25) monitoring wells were sampled for 1,4-dioxane. 1,4-Dioxane was detected in nine of the wells. Only well 102-40 had a 1,4-dioxane concentration that exceeded the 1.0 µg/L MCL, with a concentration of 5.1 µg/L (**Table 3.5.1-3**).

2) *Former Firehouse Area:* Nine (9) monitoring wells were sampled for 1,4-dioxane. 1,4-Dioxane was detected in eight of the wells. None of the 1,4-dioxane concentrations exceeded the 1.0 µg/L MCL, with a concentration of 0.48 µg/L in well 105-76 (**Table 3.5.2-3**).

3) *William Floyd Well Field Sentinel Well Area:* Samples from seven 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 concentration of 0.2 µg/L.

#### *3.5.3.3 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. Monitoring conducted since 2017 indicates that 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.

#### *3.5.3.4 1,4-Dioxane Monitoring Recommendations*

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

§ Monitoring required to further characterize the extent of 1,4-dioxane contamination in on-site and off-site areas will be defined in the OU X RI/FS Work Plan. The work plan will be submitted for regulatory agency review by late March 2023.

## 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 2022 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 034-03 at a concentration of 0.59 µg/L. The AWQS is 10 µg/L. In addition, chloroform was also detected in wells 017-03, 018-01 and 018-02 at a maximum estimated value of 0.24 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 2022.

### 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 2022 Environmental Monitoring Report, Current and Former Landfill Areas* (BNL 2023c). 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 2022, the landfill had been capped for 27 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 2022:

- Benzene was detected in downgradient wells 087-11 and 087-27 at concentrations slightly above the AWQS with a maximum concentration of 1.8 µg/L in well 087-11. The other VOCs detected above the AWQS were chloroethane and 1,1-dichloroethane (DCA). DCA was detected in monitoring well 088-109 above the standard of 5 µg/L, with a maximum concentration of 7.8 µg/L. Chloroethane was detected above AWQS in well 088-109 with concentrations ranging up to 16.9 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 and 088-109 at a maximum concentration of 4 mg/L.
- During 2022, sodium in the background well, and antimony, 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 2022. Strontium-90 was detected in well 088-21 at a concentration of 3.8 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

By the end of 2022, the landfill had been capped for 26 years. From January 1997 to 2021, groundwater quality at the Former Landfill area was monitored using 14 shallow monitoring wells (three background and 11 downgradient). Based upon data collected during the past two decades as evidence, it was recommended in the *2020 Environmental Monitoring Report, Current and Former Landfill Areas* (BNL 2021e) that groundwater monitoring of the Former Landfill monitoring well network be discontinued. With NYSDEC acceptance of the *2020 Environmental Monitoring Report, Current and Former Landfill Areas* report, these changes were implemented in CY 2021.

#### *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 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 six downgradient wells (054-07, 054-124, 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, and 065-125) 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. Fourteen 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 2022, 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 2022 is depicted on **Figure 3.8-1**.

*Source Area Monitoring Results*

During 2022, tritium was not detected in any of the source area wells. However, tritium was detected in nearby beam stop area well 054-124 at a concentration of 6,480 pCi/L. The tritium detected in this well likely originates from the g-2 source area and 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 since 2021. **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 2,090 pCi/L in a sample from well 065-125.

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

The 2022 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 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. During 2021 and 2022, tritium was only detected in one source area well (054-124), with a maximum concentration of 6,480 pCi/L.

*2. Were unexpected levels of tritium detected?*

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

*3. Is the plume naturally attenuating as expected?*

Yes. Based upon monitoring data from 2021 and 2022, tritium concentrations have decreased to below the 20,000 pCi/L drinking water standard. Residual tritium detected downgradient of the source area is attenuating as expected.

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

Yes. However, the residual tritium in the source area soils and at the nearby beam stop remain a potential threat to groundwater quality. Continued periodic monitoring of the groundwater is required.

### 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 2023:

- Continue routine inspections of the g-2 cap.
- Continue semiannual monitoring of source area wells near Building 912A. Reduce sampling frequency to annually starting in 2024 if tritium concentrations remain below 20,000 pCi/L.
- Continue annual sampling of the monitoring wells located downgradient of the former beam stop and Building 912. Consider combining the g-2 plume source area and former g-2 beam stop area wells into a single “g-2 source area” monitoring program.

## 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 2022, 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 2022, tritium was not detected in any of the monitoring wells.

[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).

### 3.9.3 BLIP Groundwater Monitoring Program Evaluation

The 2022 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 are periodically 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. With effective source controls, continued reductions in tritium concentrations were expected.

*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. Continue semiannual monitoring of the downgradient wells.

# 4.0 FACILITY MONITORING PROGRAM SUMMARY

During 2022, 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 2022, 95 groundwater monitoring wells were sampled during 149 sampling events for facility surveillance required by state operating permits and DOE Orders. Ten additional wells were sampled during 19 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 2022 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. 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 (including the g-2 and BLIP areas discussed in **Sections 3.8** and **3.9** respectively), 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 former g-2 experiment area, BLIP, former U-Line beam stop, and E-20 Catcher areas.

### 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 2022, 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 2022, tritium which is likely from the g-2 plume was detected only in well 065-125, at a concentration of 2,090 pCi/L. Tritium was not detected at concentrations above minimum detection limits (MDLs) 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 2022 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 low level 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 2023, 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 2022, 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 above MDLs in these wells since that time (**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 at concentrations above MDLs 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 2023, 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 2022, 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 2022, 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 2023, 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 2022, 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 2022, tritium was detected in monitoring well 064-56 at a concentration of 817 pCi/L (**Figure 4.1-3**).

#### *4.1.4.3 Former AGS E-20 Catcher Groundwater Monitoring Program Evaluation*

The 2022 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 2023, 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 2022, 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 above MDLs in the samples collected during 2022. 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 2022 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 2023, 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**). Wells 054-124 and 054-126 are also used to monitor the g-2 tritium source area **Section 3.8**.

*Sampling Frequency and Analysis*

During 2022, 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 2022, tritium was detected in the April and October samples from well 054-124 at concentrations of 6,410 pCi/L and 6,390 pCi/L. Tritium was also detected in the April sample from 054-126 at a concentration of 5,420 pCi/L.

#### *4.1.6.3 Former g-2 Beam Stop Groundwater Monitoring Program Evaluation*

The 2022 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 indicate that the cap over the former beam stop is effectively preventing rainwater from infiltrating the activated soil shielding. The tritium detected in wells 054-124 and 054-126 are 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 wells 10, 11 and 12 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 2023, 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 2022, 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 2022, tritium was not detected above MDLs in the J-10 area wells (**Figure 4.1-5**).

#### *4.1.7.3 AGS J-10 Beam Stop Monitoring Program Evaluation*

The 2022 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 2023, 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 2022, 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 2022, tritium was detected in the former U-Line Target area well 054-129 at a concentration of 2,130 pCi/L (**Figure 4.1-6**).

*Former U-Line Beam Stop Area*

Tritium was detected at a concentration of 1,010 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 2022 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 2023, 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 2022, 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 2022, tritium was not detected in any of the RHIC monitoring well samples. 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 2022 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 2023, 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. During 2022 the BMRR monitoring wells were sampled one time (**Table 1-6**).

### 4.3.2 BMRR Monitoring Well Results

Tritium was not detected in the BMRR monitoring wells during 2022. 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, 2020 and 2022 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 by natural radioactive decay.

### 4.3.4 BMRR Recommendation

The following is recommended for the BMRR groundwater monitoring program:

§ Discontinue the BMRR groundwater monitoring program.

§ Maintain the monitoring wells for potential post-decommissioning/demolition surveillance.

## 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 2022. As required by the permit, the samples are analyzed for the following metals: copper, iron, lead, nickel, silver, zinc and mercury.

With the discontinued use of the corrosion inhibitor tolyltriazole (TTA), during 2022 the STP recharge basin monitoring wells were not sampled for this chemical.

### 4.4.2 STP Monitoring Well Results

Most metals concentrations tracked under the SPDES permit were below the applicable AWQS. However, iron was detected in well 048-10 at 399 µg/L, which exceeded the 300 µg/L AWQS. As in previous years, sodium was detected at concentrations above the 20 mg/L AWQS in the STP recharge basin area wells. During 2022, sodium levels exceeded 20 mg/L in four wells, with maximum concentration of 108 mg/L in well 039-89.

### 4.4.3 STP Groundwater Monitoring Program Evaluation

The 2022 monitoring data were evaluated using the following Data Quality Objective statement.

*1. Are STP operations impacting groundwater quality?*
Sodium continues to be detected at concentrations above the 20 mg/L AWQS. Because tolyltriazole was being detected in the STP effluent at concentrations exceeding permitted limits, in 2022 BNL discontinued the use of this chemical for corrosion control. During 2022, TTA was not detected in STP discharge samples collected as part of the SPDES monitoring program.

### 4.4.4 STP Recommendation

For 2023, 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.

§ The STP effluent will continue to be tested for TTA in accordance with the SPDES permit.

## 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 two 8,000-gallong capacity underground storage tanks (USTs) for gasoline; 2) a 3,000-gallon capacity UST for No. 2 heating oil; 3) an outdoor AST used for used motor oil; 4) hydraulic fluids used for lift stations; and 5) the use of solvents for parts cleaning. The gasoline and fuel oil USTs, pump islands, and associated piping conform to Suffolk County Article 12 requirements for secondary containment, leak detection devices, and overfill alarms. The Motor Pool facility has five vehicle-lift stations. The hydraulic fluid reservoirs for the lifts and new motor oil are stored in above ground storage containers with secondary containment located inside of Building 423. Used motor oil is stored in an outdoor AST that has secondary containment. Diesel fuel is stored in three outdoor ASTs at Building 651, which is approximately 300 feet west of Building 423 (**Figure 4.5-1**). The diesel ASTs are located within a secondary containment structure.

### 4.5.1 Motor Pool Area Groundwater Monitoring

*Well Network*

The groundwater monitoring program for the Motor Pool area is used to confirm that the current engineered and institutional controls for the gasoline USTs 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 2022, 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 2022, chloroform was detected in both wells, with estimated concentrations of 0.18J µg/L in well 102-05 and 0.12J µg/L in well 102-06, which are well below the NYSAWQS of 7.0 µg/L. As in previous years, no floating product was detected in the wells.

### 4.5.3 Motor Pool Groundwater Monitoring Program Evaluation

The 2022 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 2022, there were no reported gasoline or fuel oil spills from the USTs, diesel spills, or oil spills that could affect groundwater quality. Furthermore, all waste oils and used solvents generated from current operations are being properly stored and recycled. The gasoline and fuel oil USTs have electronic leak detection systems, and for the gasoline USTs 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 drained 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 monitored 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 2022.

### 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 was discontinued in 2018. 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 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 (using EPA Method 624.1) and SVOCs (using EPA Method 625.1) and monthly monitoring for floating petroleum (**Table 1-6**).

### 4.7.2 MPF Monitoring Well Results

During 2022, tetrachloroethene (at a maximum concentration of 5.5 µg/L), trichloroethene (0.41J µg/L) and chloroform (0.49J 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 3.9 µg/L and chloroform was detected in well 076-18 at a maximum of 1.4J µg/L. The trichloroethene and chloroform concentrations were less than the 5 µg/L and 7 µg/L AWQS, respectively. Low levels of serval SVOCs (e.g., diethyl phthalate, isophorone, and di-n-octyl phthalate) were detected in upgradient well 076-25 and downgradient wells 076-18, 076-379 and 076-380, but at concentrations well below the 50 µg/L NYS guidance value for these chemicals. 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.

### 4.7.3 MPF Groundwater Monitoring Program Evaluation

The 2022 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 2023, monitoring will continue as required by the revised NYS operating permit issued March 22, 2022, with semiannual monitoring for VOCs (using EPA Method 8260) and SVOCs (using EPA method 8270), 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 2022, 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 seven 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, 056-23, 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 2022, 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.

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 160 mg/L in well 055-10, and in six downgradient wells with a maximum concentration of 61mg/L in well 066-221. The elevated sodium concentrations are likely the result of road salting operations. Trace levels of chloroform (up to 0.61 µg/L) were detected in upgradient well 055-10 which is below the 7 µg/L AWQS.

### 4.8.3 WMF Groundwater Monitoring Program Evaluation

The 2022 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 2022 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 2023:

§ 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 Major Petroleum Facility monitoring wells (076-18 and 076-19) are used as upgradient/background wells for the NSLS-II facility.

*Sampling Frequency and Analysis*

During 2022, 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**). 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 administrative and engineered controls.

### 4.9.2 NSLS-II Monitoring Well Results

As in past years, tritium was not detected in the groundwater samples collected during 2022.

### 4.9.3 NSLS-II Groundwater Monitoring Program Evaluation

The 2022 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 2022 indicate that NSLS-II beam line operations are not impacting groundwater quality.

### 4.9.4 NSLS-II Recommendations

For 2023, 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 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 (**Figure 4.10-1**). 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. This was followed by the December 2021 and January 2022 sampling of 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). The results of this effort were reported in the *2021 BNL Groundwater Status Report* (BNL 2022c).

*Sampling Frequency and Analysis*

Following the January 2022 sampling of the monitoring wells described above, pre- and post-granular activated carbon (GAC) filter samples from supply wells BNL-10, BNL-11, and BNL-12 were tested for TTA in February, August, and November of 2022.

### 4.10.2 Basin HN Area Monitoring Results

All three supply wells located downgradient of the basin HN currently have operating GAC filters. During 2022 tolyltriazole was not detected in any of the pre- and post-GAC filter samples that were collected at the three supply wells (MDL = 0.05 mg/L). Column studies performed by BNL's supplier of granular activated carbon demonstrated that GAC can effectively remove TTA. Because tolyltriazole was detected in the discharges to basin HN at concentrations exceeding permitted limits, BNL discontinued the use of this chemical for corrosion control. After stopping its use, TTA was not detected in the water discharges to basin HN during 2022.

### 4.10.3 Basin HN Area Groundwater Monitoring Program Evaluation

The 2021 and 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 has impacted groundwater quality downgradient of basin HN.

*2. Is TTA impacting water quality at supply wells BNL-10, BNL-11, and BNL-12?*

Although TTA was detected in several monitoring wells located within the source water contributing area of the supply wells at concentrations exceeding the NYS AWQS, TTA is not measurable in the pre- or post-GAC filter samples.

### 4.10.4 Recommendation

The following is recommended for 2023:

§ Collect pre- and post-GAC filter samples from supply wells BNL-10, BNL-11, and BNL-12 for TTA on an annual basis.

# 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.
- Discontinue sampling for gamma spectroscopy for wells 087-21, 088-13, 088-14, 088-20, 107-24, 107-40, 115-03, 115-13, 115-14, 115-15, 115-16, 115-28, 115-29, 115-30, 115-31, 115-41, 116-05, 116-06, 088-26, 098-21, 098-30, 099-04, 108-08, 108-12, 108-13, 108-14, and 108-17. There have been no significant gamma detections during the 20-30 year monitoring period for these wells.
- Discontinue sampling for tritium for wells 107-23 and 115-36.
- 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 1 µg/L in December 2022. This well will continue to operate in a pulsed pumping mode. 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, 2021b), 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.
- 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.
- Sampling frequencies for the following monitoring wells will be reduced from semi-annual to annual:
  - 095-165 – TVOCs below capture goal since 2010, maximum 2022 concentration was 11 µg/L
  - 095-166 - TVOCs below capture goal since 2001, maximum 2022 concentration was 2 µg/L
  - 095-168 - TVOCs below capture goal since 2001, maximum 2022 concentration was 1 µg/L
  - 095-169 – TVOCs below capture goal since 2008, maximum 2022 concentration was 1 µg/L
  - 095-170 - TVOCs below capture goal since 2000, maximum 2022 concentration was 0.2 µg/L
- Sampling frequencies for the following monitoring wells will be reduced from quarterly to semi-annual:
  - 085-349 – TVOCs below capture goal since 2014, maximum 2022 concentration was 14 µg/L
  - 085-350 – TVOCs below capture goal since 2015, maximum 2022 concentration was 11 µg/L
  - 085-351- TVOCs below capture goal since 2015, maximum 2022 concentration was 6 µg/L
  - 085-352 – TVOCs below the capture goal since 2018, maximum 2022 concentration was 30 µg/L

- 085-354 – TVOCs below the capture goal since 2015, maximum 2022 concentration was 13 µg/L
- 085-335 – TVOC below capture goal since 2017, maximum 2022 concentration was 24 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.
- Discontinue sampling for tritium on the system influent as tritium has not been detected for over 20 years.
- Install permanent monitoring wells at locations of vertical profiles installed during 2021 (MR-VP-01-2021 and MR-VP-02-2021).
- Deep Upper Glacial aquifer VOC concentrations in this area of the site are not declining at a rate that will meet the ROD cleanup goal of MCLs by 2030. As per the 2021 CERCLA Five-Year Review Report (BNL 2021b) recommendations, perform groundwater modeling simulations to evaluate the best locations, extraction rates, and number of extraction wells to design a system modification. The regional groundwater model will be reviewed prior to this groundwater modeling effort and updated as necessary to accurately represent the Upton Unit and its lower hydraulic conductivity.

## 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.
- Discontinue sampling for tritium on the system influent as tritium has not been detected for over 20 years.
- Install a permanent monitoring well at the location of a vertical profile installed during 2021 (SB-VP-01-2021).
- Deep Upper Glacial aquifer VOC concentrations in this area of the site are not declining at a rate that will meet the ROD cleanup goal of MCLs by 2030. As per the 2021 CERCLA Five-Year Review Report (BNL 2021b) recommendations, perform groundwater modeling simulations to evaluate the best locations, extraction rates, and number of extraction wells to design a system modification. The regional groundwater model will be reviewed prior to this groundwater modeling effort and updated as necessary to accurately represent the Upton Unit and its lower hydraulic conductivity.

## 5.5 Western South Boundary Treatment System

- Only three core monitoring wells are currently above the 20 µg/L TVOC concentration capture goal. To enhance the cleanup, begin pulsed pumping of the five operating extraction wells. The pulsed pumping should help address areas of groundwater stagnation between the extraction wells. The pulsed pumping should be done with wells WSB-1, WSB- 3 and WSB-5 operating one month

while wells WSB-4 and WSB-6 are off. The following month, wells WSB-4 and WSB-6 should be operating while wells WSB-1, WSB-3 and WSB-5 are off.

- 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 the current monitoring well sampling frequency 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

- Extraction wells NS-1 and NS-2 will remain shut down until the OU X RI/FS characterization is completed. After 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 OU X RI/FS characterization at the BNL site.

## 5.8 North Street East EDB Treatment System

- Continue full time operation of the treatment system and reduce the sampling frequency of extraction wells NSE-EDB-EW-3 and NSE-EDB-EW-4 from monthly to quarterly.
- 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 to the regulators. All of the monitoring wells for the LIPA system were below MCLs in 2022.
- No changes to the current monitoring schedule are recommended at this time for the Airport System. Reduce the sampling frequency for 17 LIPA monitoring wells from quarterly to semi-annual.

## 5.10 Magothy Monitoring

- 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.
- Discontinue sampling wells 000-459, 000-458, 000-428, 000-102, 000-105 as these wells have been below MCLs for over five years.
- Wells no longer sampled are being kept for potential future use for PFAS and 1,4-dioxane as part of OU X and will be evaluated as part of the RI/FS.

## 5.11 William Floyd Wellfield Sentinel Monitoring

- Maintain quarterly sampling of the six wells for VOCs, 1,4-dioxane and PFAS.
- Due to historical low radionuclide concentrations in these wells, reduce the sampling frequency from quarterly to annual for gamma spectroscopy, Sr-90 and tritium.

## 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, and SR-8 in standby mode.
- Resume of operation of SR-3 if significant Sr-90 concentration increases are observed in source area monitoring well 075-701.
- Place extraction well SR-9 in standby mode in May 2023 as Sr-90 concentrations in this well have remained below the DWS since June 2020.
- Maintain a source area monitoring frequency of monthly for BGRR source area wells 075-701 and 075-664.
- Increase sampling frequency in well 065-169 to semi-annual to evaluate the October 2022 Sr-90 concentration increase in the vicinity of Building 801.
- Install a temporary vertical profile well to a depth of 140 feet below ground surface adjacent to well 085-402 to monitor for the high concentration segment of the PFS plume migrating beneath Building 725. Following review of the data from the installation of the vertical profile, a permanent monitoring well may be installed in this area.
- Obtain another round of samples from existing monitoring wells 075-809, 075-810, 075-811, 075-415, 075-417, 075-419, 085-171, 085-285, 085-286, 085-287, 085-01, 085-406, 085-407, and 085-290 for Sr-90 analysis. These data will help to evaluate the presence of Sr-90 in the vicinity of extraction well FF-RW-A.
- Discontinue quarterly extraction well tritium sampling and monthly system influent tritium sampling as tritium is no longer a concern in this area of the site.

## 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 semi-annual.

- Since Sr-90 concentrations have not been detected historically above the DWS in monitoring wells 106-14, 106-46 and 106-96, sampling of these wells will be discontinued.
- Since there have been no Sr-90 detections above the DWS in EW-3 since 2014 and bypass monitoring wells 106-120, 106-121 and 106-122 have never detected Sr-90 since they were installed, discontinue sampling of these three wells. Well 106-119 will now be used as the new bypass monitoring well (downgradient of EW-2).
- Sampling of the following monitoring wells will be discontinued due low Sr-90 concentrations:
  - 106-102 and 106-47 - last detection above DWS in 2007
  - 106-13 - last detection above DWS in 2012
  - 106-135 - last detection above DWS in 2013
  - 106-48 – last detection above DWS in 2010
  - 106-50 - last detection above DWS in 2005

## 5.14 HFBR Tritium Pump and Recharge System

- Continue to monitor the source area with the ten wells located immediately downgradient of the HFBR at a quarterly sampling frequency. Consider reducing the sampling frequency to semi-annual if tritium concentrations remain below 20,000 pCi/L in 2023.
- 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

- Reduce the sampling frequency from semi-annual to annual for monitoring wells 076-06, 076-13, 076-24, 076-25, 076-28, 076-168, 076-169, 076-184, 076-415, 076-416, 076-418, 076-419, 076-420, 076-421. All 24 monitoring wells in this the program shall be sampled on an annual basis.

## 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 updated groundwater flow and transport modeling, the following is recommended:
  - Submit a system design modification to the regulators in mid-2023 for the addition of two deeper extraction wells immediately adjacent to the existing wells EW-1E and EW-2E. These wells are planned to be installed in 2023 and will replace the existing extraction wells, which will no longer be operated.
  - The modification will establish capture of both the deep and slightly shallower portions of the EDB plume in this area and enhance remediation of the high concentration segment of the plume.
  - Install deep bypass monitoring wells to monitor the effectiveness of the new extraction wells.

## 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. Reduce sampling frequency to annually starting in 2024 if tritium concentrations remain below 20,000 pCi/L.
- Continue annual sampling of the monitoring wells located downgradient of the former beam stop and Building 912. Consider combining the g-2 plume source area and former g-2 beam stop area wells into a single "g-2 source area" monitoring program.

## 5.21 Brookhaven Linac Isotope Producer (BLIP) Facility

- As required by the ROD, 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. Continue semiannual monitoring of the downgradient wells.

## 5.22 Operable Unit X Current Firehouse PFAS Treatment System

- Maintain full time operation of the treatment system.
- Continue collecting treatment system influent and effluent samples two times per month and collect monthly samples from the extraction wells.
- Starting in 2023, all 66 new monitoring wells and 11 previously installed wells that are appropriately located to assist in monitoring the plumes will be sampled. Sixty-four (64) of the wells will be sampled semi-annually, whereas 13 of the wells that are located near the Current Firehouse and Building 170 source areas will be monitored quarterly. All samples will be analyzed for PFAS using EPA Method 1633, and a select number of wells analyzed for 1,4-dioxane using EPA Method 8270D SIM.
- When the analytical laboratories can provide turnaround times that allow for compliance with required SPDES report submission dates, transition from EPA method 537.1 to EPA Method 1633 for the PFAS analysis of treatment system influent and effluent samples. Continue analyzing 1,4-dioxane samples using EPA Method 8270D SIM.

## 5.23 Operable Unit X Former Firehouse PFAS Treatment System

- During system startup testing, use EPA Method 537.1 for analyzing PFAS samples. When the analytical laboratories can provide turnaround times that allow for compliance with required SPDES report submission dates, transition from EPA Method 537.1 to EPA Method 1633 for the analysis of treatment system influent and effluent samples. Use EPA Method 8270D SIM for analyzing 1,4-dioxane samples.
- Starting in 2023, all 29 new monitoring wells and 13 previously installed wells that are appropriately located to assist in monitoring the plume will be sampled. Thirty-two (32) of the

wells will be sampled semi-annually, whereas 10 of the wells that are located near the Former Firehouse source area will be monitored quarterly. All samples will be analyzed for PFAS using EPA Method 1633, and a select number of wells analyzed for 1,4-dioxane using EPA Method 8270D SIM.

## 5.24 1,4-Dioxane in Groundwater

Monitoring required to further characterize the extent of 1,4-dioxane contamination in on-site and off-site areas will be defined in the OU X RI/FS Work Plan.

## 5.25 Alternating Gradient Synchrotron (AGS) Complex

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

## 5.26 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.

## 5.27 Brookhaven Medical Research Reactor (BMRR) Facility

- Discontinue the groundwater monitoring program.
- Maintain the monitoring wells for potential post-decommissioning/demolition surveillance.

## 5.28 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.
- The STP effluent will continue to be tested for tolyltriazole in accordance with the SPDES permit.

## 5.29 Motor Pool Area

The sampling frequency for the UST area wells 102-05 and 102-06 will continue to be annually.

## 5.30 Major Petroleum Facility (MPF) Area

For 2023, monitoring will continue as required by the revised NYS operating permit issued March 22, 2022, with semiannual monitoring for VOCs (using EPA Method 8260) and SVOCs (using EPA method 8270), 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 annually pre- and post-GAC filter samples from supply wells BNL-10, BNL-11 and BNL-12 for TTA.

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# APPENDIX A

# SITEWIDE GROUNDWATER ELEVATION MEASUREMENTS

**Sitewide Groundwater Elevation Measurements**

2022 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. |
|---|---|---|---|---|---|
| 083-47 | 94.02 | 53.37 | SG | 10/25/2022 | 40.65 |
| 093-93 | 93.90 | 53.35 | SG | 10/25/2022 | 40.55 |
| 093-94 | 85.68 | 45.42 | SG | 10/25/2022 | 40.26 |
| 093-96 | 89.15 | 49.22 | SG | 10/25/2022 | 39.93 |
| 093-97 | 92.57 | 53.10 | SG | 10/25/2022 | 39.47 |
| 102-37 | 91.57 | 52.68 | SG | 10/25/2022 | 38.89 |
| 102-38 | 83.57 | 44.88 | SG | 10/25/2022 | 38.69 |
| 000-100 | 103.35 | 75.00 | SG | 10/27/2022 | 28.35 |
| 000-106 | 117.03 | 87.92 | SG | 10/27/2022 | 29.11 |
| 000-109 | 68.71 | 38.40 | SG | 10/27/2022 | 30.31 |
| 000-111 | 51.67 | NA | SG | 10/28/2022 | NA |
| 000-113 | 74.35 | 43.10 | SG | 10/27/2022 | 31.25 |
| 000-115 | 93.61 | 63.80 | SD | 10/27/2022 | 29.81 |
| 000-137 | 60.94 | 29.30 | SG | 10/27/2022 | 31.64 |
| 000-147 | 42.51 | 10.44 | SG | 10/28/2022 | 32.07 |
| 000-148 | 68.32 | NA | SG | 10/28/2022 | NA |
| 000-37 | 45.32 | 9.43 | SG | 10/28/2022 | 35.89 |
| 000-99 | 99.62 | 72.61 | SG | 10/27/2022 | 27.01 |
| 007-03 | 57.63 | 18.76 | SG | 10/28/2022 | 38.87 |
| 013-01 | 71.16 | 30.92 | SD | 10/27/2022 | 40.24 |
| 017-01 | 65.14 | 19.66 | SG | 10/27/2022 | 45.48 |
| 018-01 | 55.97 | 11.48 | SG | 10/27/2022 | 44.49 |
| 021-01 | 62.73 | 23.50 | SG | 10/27/2022 | 39.23 |
| 022-01 | 60.71 | 22.60 | SG | 10/28/2022 | 38.11 |
| 025-02 | 76.63 | 30.97 | SG | 10/28/2022 | 45.66 |
| 025-06 | 57.80 | 12.81 | SG | 10/28/2022 | 44.99 |
| 029-01 | 49.93 | 6.69 | SG | 10/28/2022 | 43.24 |
| 030-01 | 54.58 | 16.02 | SG | 10/28/2022 | 38.56 |
| 034-05 | 91.94 | 47.21 | SG | 10/28/2022 | 44.73 |
| 037-01 | 68.41 | 26.61 | SG | 10/28/2022 | 41.80 |
| 037-02 | 74.58 | 34.14 | SG | 10/28/2022 | 40.44 |
| 038-01 | 56.70 | 13.59 | SG | 10/27/2022 | 43.11 |
| 038-02 | 59.98 | 16.55 | SG | 10/28/2022 | 43.43 |
| 039-06 | 49.47 | 6.54 | SG | 10/28/2022 | 42.93 |
| 039-07 | 58.67 | 20.23 | SG | 10/28/2022 | 38.44 |
| 039-08 | 60.89 | 22.44 | SG | 10/28/2022 | 38.45 |
| 039-11 | 44.67 | 2.88 | SG | 10/28/2022 | 41.79 |
| 039-89 | 50.59 | 12.75 | SG | 10/28/2022 | 37.84 |
| 040-04 | 50.03 | 13.02 | SG | 10/27/2022 | 37.01 |
| 040-05 | 50.39 | 13.04 | SG | 10/28/2022 | 37.35 |
| 042-01 | 75.51 | 30.61 | SG | 10/28/2022 | 44.90 |
| 044-13 | 84.47 | 40.15 | SG | 10/28/2022 | 44.32 |
| 046-02 | 88.27 | 48.10 | SG | 10/28/2022 | 40.17 |
| 047-01 | 63.16 | 15.69 | SG | 10/28/2022 | 47.47 |
| 048-02 | 55.28 | 17.79 | SG | 10/28/2022 | 37.49 |
| 048-08 | 57.57 | 19.04 | SG | 10/28/2022 | 38.53 |
| 048-09 | 55.29 | 17.31 | SG | 10/28/2022 | 37.98 |
| 048-10 | 51.65 | 13.99 | SG | 10/28/2022 | 37.66 |
| 049-02 | 52.18 | 14.74 | SG | 10/28/2022 | 37.44 |
| 049-04 | 49.62 | 12.96 | SG | 10/27/2022 | 36.66 |
| 053-03 | 73.45 | 29.70 | SG | 10/28/2022 | 43.75 |

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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. |
|---|---|---|---|---|---|
| 053-05 | 75.60 | 31.91 | SG | 10/28/2022 | 43.69 |
| 054-07 | 72.02 | 29.43 | SG | 10/28/2022 | 42.59 |
| 054-09 | 69.81 | 26.38 | SG | 10/27/2022 | 43.43 |
| 054-10 | 76.26 | 32.82 | SG | 10/28/2022 | 43.44 |
| 054-62 | 69.14 | 26.11 | SG | 10/27/2022 | 43.03 |
| 054-64 | 94.22 | 51.65 | SG | 10/28/2022 | 42.57 |
| 054-69 | 67.06 | 26.69 | SG | 10/28/2022 | 40.37 |
| 054-124 | 72.24 | 29.91 | SG | 10/28/2022 | 42.33 |
| 054-128 | 71.67 | 29.30 | SG | 10/28/2022 | 42.37 |
| 054-184 | 74.95 | 32.61 | SG | 10/28/2022 | 42.34 |
| 055-03 | 89.08 | 48.34 | SG | 10/27/2022 | 40.74 |
| 055-04 | 90.26 | 49.11 | SG | 10/28/2022 | 41.15 |
| 055-05 | 84.28 | 42.71 | SG | 10/27/2022 | 41.57 |
| 055-15 | 67.49 | 25.58 | SG | 10/28/2022 | 41.91 |
| 055-30 | 71.54 | 29.52 | SG | 10/28/2022 | 42.02 |
| 056-04 | 82.29 | 43.49 | SG | 10/27/2022 | 38.80 |
| 057-01 | 53.04 | 14.39 | SG | 10/27/2022 | 38.65 |
| 060-01 | 44.76 | 9.54 | SG | 10/28/2022 | 35.22 |
| 061-07 | 40.67 | 5.91 | SG | 10/27/2022 | 34.76 |
| 063-02 | 71.78 | 29.02 | SG | 10/28/2022 | 42.76 |
| 063-04 | 70.87 | 27.82 | SG | 10/28/2022 | 43.05 |
| 063-06 | 76.49 | 33.03 | SG | 10/28/2022 | 43.46 |
| 064-01 | 86.24 | 44.65 | SG | 10/28/2022 | 41.59 |
| 064-03 | 82.81 | 40.13 | SG | 10/28/2022 | 42.68 |
| 064-50 | 82.99 | 40.27 | SG | 10/28/2022 | 42.72 |
| 064-54 | 86.24 | 43.49 | SG | 10/28/2022 | 42.75 |
| 064-55 | 72.82 | 30.97 | SG | 10/28/2022 | 41.85 |
| 064-67 | 99.49 | 56.56 | SG | 10/28/2022 | 42.93 |
| 065-01 | 90.72 | 50.15 | SG | 10/28/2022 | 40.57 |
| 065-120 | 75.27 | 33.51 | SG | 10/28/2022 | 41.76 |
| 065-121 | 69.93 | 28.10 | SG | 10/28/2022 | 41.83 |
| 065-125 | 67.97 | 25.96 | SG | 10/28/2022 | 42.01 |
| 065-124 | 67.93 | 26.11 | SG | 10/27/2022 | 41.82 |
| 065-162 | 90.14 | 48.92 | SG | 10/28/2022 | 41.22 |
| 065-167 | 109.28 | 67.60 | SG | 10/28/2022 | 41.68 |
| 065-173 | 85.42 | 43.85 | SG | 10/27/2022 | 41.57 |
| 065-38 | 105.89 | 65.22 | SG | 10/28/2022 | 40.67 |
| 065-42 | 94.68 | 54.64 | SG | 10/28/2022 | 40.04 |
| 066-07 | 90.30 | 50.15 | SG | 10/27/2022 | 40.15 |
| 066-08 | 89.72 | 49.47 | SG | 10/28/2022 | 40.25 |
| 066-83 | 86.94 | 47.85 | SG | 10/27/2022 | 39.09 |
| 069-10 | 55.29 | 19.80 | SG | 10/28/2022 | 35.49 |
| 070-01 | 59.96 | 25.00 | SG | 10/27/2022 | 34.96 |
| 072-01 | 83.09 | 41.10 | SG | 10/27/2022 | 41.99 |
| 072-03 | 70.19 | 27.87 | SG | 10/27/2022 | 42.32 |
| 072-04 | 69.96 | 27.98 | SG | 10/27/2022 | 41.98 |
| 073-01 | 77.75 | 35.11 | SG | 10/28/2022 | 42.64 |
| 073-26 | 83.91 | 42.23 | SG | 10/25/2022 | 41.68 |
| 073-29 | 87.73 | 46.28 | SG | 10/25/2022 | 41.45 |
| 074-135 | 91.06 | 49.61 | SG | 10/25/2022 | 41.45 |
| 075-01 | 88.71 | 48.31 | SG | 10/28/2022 | 40.40 |

**Sitewide Groundwater Elevation Measurements**

2022 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. |
|---|---|---|---|---|---|
| 075-188 | 82.84 | 42.26 | SG | 10/28/2022 | 40.58 |
| 075-198 | 76.60 | 36.64 | SG | 10/28/2022 | 39.96 |
| 075-202 | 79.29 | 39.07 | SG | 10/28/2022 | 40.22 |
| 075-288 | 87.96 | 48.07 | SG | 10/28/2022 | 39.89 |
| 075-291 | 83.41 | 43.61 | SG | 10/28/2022 | 39.80 |
| 075-810 | 73.41 | 34.15 | SG | 10/25/2022 | 39.26 |
| 075-418 | 77.44 | 37.12 | SG | 10/28/2022 | 40.32 |
| 076-10 | 79.48 | 40.78 | SG | 10/28/2022 | 38.70 |
| 076-122 | 78.03 | 38.83 | SG | 10/28/2022 | 39.20 |
| 076-13 | 80.95 | 41.51 | SG | 10/28/2022 | 39.44 |
| 076-16 | 82.50 | 43.07 | SG | 10/28/2022 | 39.43 |
| 076-183 | 79.75 | 40.98 | SG | 10/28/2022 | 38.77 |
| 076-19 | 77.83 | 38.49 | SG | 10/28/2022 | 39.34 |
| 076-24 | 77.53 | 38.12 | SG | 10/28/2022 | 39.41 |
| 076-25 | 80.48 | 40.77 | SG | 10/28/2022 | 39.71 |
| 076-29 | 70.49 | 31.51 | SG | 10/28/2022 | 38.98 |
| 076-173 | 85.46 | 47.13 | SG | 10/28/2022 | 38.33 |
| 076-258 | 82.44 | 43.43 | SG | 10/28/2022 | 39.01 |
| 076-373 | 82.77 | 42.92 | SG | 10/28/2022 | 39.85 |
| 076-380 | 75.90 | 36.49 | SG | 10/28/2022 | 39.41 |
| 077-02 | 74.39 | 36.36 | SG | 10/28/2022 | 38.03 |
| 080-02 | 51.88 | 18.01 | SG | 10/27/2022 | 33.87 |
| 082-01 | 84.21 | 42.67 | SG | 10/27/2022 | 41.54 |
| 083-02 | 94.73 | 53.73 | MG | 10/27/2022 | 41.00 |
| 083-03 | 85.50 | 44.31 | SG | 10/27/2022 | 41.19 |
| 083-05 | 109.78 | 69.57 | SG | 10/27/2022 | 40.21 |
| 083-06 | 88.40 | 47.50 | SG | 10/27/2022 | 40.90 |
| 083-33 | 92.52 | 51.30 | SG | 10/25/2022 | 41.22 |
| 083-44 | 106.83 | 66.50 | SG | 10/25/2022 | 40.33 |
| 084-12 | 103.52 | 63.85 | SG | 10/27/2022 | 39.67 |
| 084-87 | 97.66 | 56.55 | SG | 10/25/2022 | 41.11 |
| 084-90 | 96.47 | 55.82 | SG | 10/25/2022 | 40.65 |
| 084-96 | 110.89 | 70.65 | SG | 10/25/2022 | 40.24 |
| 085-235 | 79.71 | 40.20 | SG | 10/28/2022 | 39.51 |
| 085-287 | 72.45 | 32.94 | SG | 10/28/2022 | 39.51 |
| 085-289 | 72.61 | 33.30 | SG | 10/28/2022 | 39.31 |
| 085-379 | 64.11 | 25.06 | SG | 10/28/2022 | 39.05 |
| 085-67 | 70.52 | 30.98 | SG | 10/28/2022 | 39.54 |
| 085-76 | 68.21 | 29.44 | SG | 10/28/2022 | 38.77 |
| 085-404 | 70.57 | 31.30 | SG | 10/25/2022 | 39.27 |
| 086-123 | 74.38 | 35.89 | SG | 10/28/2022 | 38.49 |
| 086-42 | 79.25 | 41.43 | SG | 10/27/2022 | 37.82 |
| 087-09 | 67.70 | 30.54 | SG | 10/27/2022 | 37.16 |
| 087-22 | 87.37 | 50.42 | SG | 10/27/2022 | 36.95 |
| 087-23 | 72.46 | 36.19 | SG | 10/27/2022 | 36.27 |
| 088-109 | 51.83 | 15.22 | SG | 10/27/2022 | 36.61 |
| 089-14 | 49.81 | 15.11 | SG | 10/27/2022 | 34.70 |
| 090-02 | 53.31 | 20.08 | SG | 10/27/2022 | 33.23 |
| 090-10 | 45.61 | 11.72 | SG | 10/27/2022 | 33.89 |
| 092-01 | 84.61 | 44.00 | SG | 10/27/2022 | 40.61 |
| 092-02 | 90.78 | 50.12 | SG | 10/27/2022 | 40.66 |

**Sitewide Groundwater Elevation Measurements**

2022 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. |
|---|---|---|---|---|---|
| 093-02 | 110.87 | 71.80 | SG | 10/27/2022 | 39.07 |
| 093-04 | 89.87 | 50.19 | SG | 10/27/2022 | 39.68 |
| 093-05 | 81.13 | 40.45 | SG | 10/27/2022 | 40.68 |
| 093-89 | 110.26 | 70.47 | SG | 10/25/2022 | 39.79 |
| 094-01 | 97.26 | 57.26 | SG | 10/27/2022 | 40.00 |
| 094-277 | 112.76 | 73.26 | SG | 10/27/2022 | 39.50 |
| 095-67 | 86.61 | NA | SG | 10/28/2022 | NA |
| 095-68 | 83.50 | 43.38 | SG | 10/28/2022 | 40.12 |
| 095-171 | 63.02 | 25.02 | SG | 10/28/2022 | 38.00 |
| 096-52 | 68.00 | 30.57 | SG | 10/27/2022 | 37.43 |
| 096-122 | 67.60 | 29.40 | SG | 10/25/2022 | 38.20 |
| 096-128 | 67.90 | 30.13 | SG | 10/25/2022 | 37.77 |
| 097-14 | 60.10 | 24.31 | SG | 10/27/2022 | 35.79 |
| 097-276 | 82.96 | 46.80 | SG | 10/27/2022 | 36.16 |
| 098-104 | 54.94 | 19.89 | SG | 10/28/2022 | 35.05 |
| 098-42 | 52.22 | 17.18 | SG | 10/28/2022 | 35.04 |
| 099-01 | 51.05 | 15.57 | SG | 10/28/2022 | 35.48 |
| 100-10 | 46.81 | 13.40 | SG | 10/27/2022 | 33.41 |
| 101-01 | 91.08 | 51.60 | SG | 10/27/2022 | 39.48 |
| 101-09 | 103.87 | 65.55 | SG | 10/27/2022 | 38.32 |
| 101-10 | 86.61 | 47.90 | SG | 10/27/2022 | 38.71 |
| 102-01 | 85.61 | 47.22 | SG | 10/27/2022 | 38.39 |
| 102-12 | 93.28 | 54.61 | SG | 10/27/2022 | 38.67 |
| 102-25 | 80.53 | 42.62 | SG | 10/27/2022 | 37.91 |
| 102-29 | 89.60 | 51.13 | SG | 10/25/2022 | 38.47 |
| 103-01 | 82.46 | 44.51 | SG | 10/27/2022 | 37.95 |
| 103-02 | 91.24 | 49.97 | SG | 10/27/2022 | 41.27 |
| 103-10 | 102.53 | 63.99 | SG | 10/27/2022 | 38.54 |
| 104-01 | 66.08 | 29.10 | SG | 10/28/2022 | 36.98 |
| 104-26 | 84.37 | 42.97 | SG | 10/28/2022 | 41.40 |
| 105-02 | 70.31 | 33.22 | SG | 10/25/2022 | 37.09 |
| 105-05 | 60.85 | 24.59 | SG | 10/25/2022 | 36.26 |
| 105-74 | 66.64 | 29.90 | SG | 10/25/2022 | 36.74 |
| 106-16 | 72.73 | 37.55 | SG | 10/25/2022 | 35.18 |
| 106-21 | 68.52 | 34.18 | SG | 10/25/2022 | 34.34 |
| 107-14 | 69.62 | 35.63 | SG | 10/27/2022 | 33.99 |
| 108-08 | 65.18 | 31.76 | SG | 10/27/2022 | 33.42 |
| 108-15 | 59.98 | 26.62 | SG | 10/27/2022 | 33.36 |
| 109-03 | 114.80 | 78.67 | SG | 10/27/2022 | 36.13 |
| 109-29 | 124.78 | 87.70 | SG | 10/27/2022 | 37.08 |
| 110-26 | 91.60 | 54.00 | SG | 10/27/2022 | 37.60 |
| 110-27 | 96.19 | 59.95 | SG | 10/27/2022 | 36.24 |
| 111-01 | 75.68 | 39.97 | SG | 10/27/2022 | 35.71 |
| 113-10 | 72.32 | 37.48 | SG | 10/25/2022 | 34.84 |
| 114-02 | 64.12 | 30.91 | SG | 10/25/2022 | 33.21 |
| 115-32 | 67.17 | 34.22 | SG | 10/27/2022 | 32.95 |
| 115-41 | 56.30 | 23.71 | SG | 10/28/2022 | 32.59 |
| 116-14 | 68.59 | 35.67 | SG | 10/27/2022 | 32.92 |
| 117-01 | 116.14 | 80.35 | SG | 10/27/2022 | 35.79 |
| 117-02 | 112.30 | 77.15 | SG | 10/27/2022 | 35.15 |
| 117-04 | 112.56 | 77.45 | MG | 10/27/2022 | 35.11 |

**Sitewide Groundwater Elevation Measurements**

2022 Sitewide Groundwater Monitoring Report
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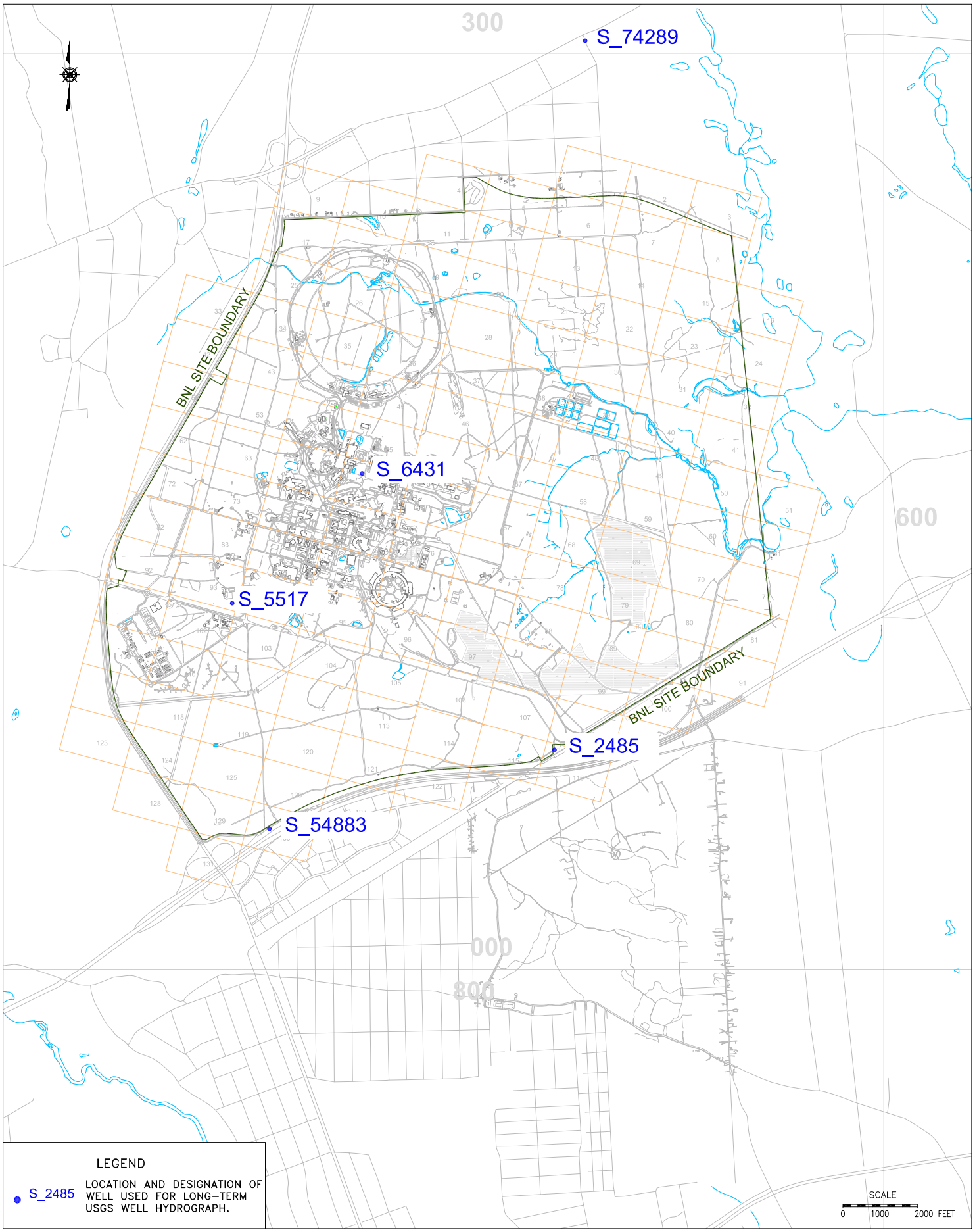
| BNL Well Id. | M.P. Elevation (ft. above m.s.l.) | Depth To Water (ft. below M.P.) | Map Aquifer | Date | Water Table Elev. |
|---|---|---|---|---|---|
| 117-05 | 111.29 | 76.13 | MG | 10/28/2022 | 35.16 |
| 117-06 | 111.73 | 76.70 | MG | 10/27/2022 | 35.03 |
| 117-07 | 105.12 | 70.10 | SG | 10/27/2022 | 35.02 |
| 118-01 | 84.86 | 49.58 | SG | 10/27/2022 | 35.28 |
| 118-04 | 113.03 | 76.75 | SG | 10/27/2022 | 36.28 |
| 119-01 | 81.85 | 48.00 | SG | 10/27/2022 | 33.85 |
| 119-03 | 82.70 | 47.75 | SG | 10/27/2022 | 34.95 |
| 121-06 | 69.00 | 36.10 | SG | 10/25/2022 | 32.90 |
| 122-01 | 61.15 | 28.69 | SG | 10/25/2022 | 32.46 |
| 124-01 | 99.26 | 65.89 | SG | 10/28/2022 | 33.37 |
| 124-04 | 117.05 | 81.18 | SG | 10/28/2022 | 35.87 |
| 126-01 | 83.61 | 51.65 | SG | 10/27/2022 | 31.96 |
| 600-18 | 47.61 | 15.01 | SG | 10/27/2022 | 32.60 |
| 600-19 | 43.27 | 12.40 | SG | 10/27/2022 | 30.87 |
| 600-25 | 43.63 | 14.00 | SG | 10/27/2022 | 29.63 |
| 800-26 | 45.54 | 21.55 | SG | 10/27/2022 | 23.99 |
| 800-29 | 55.61 | 39.30 | SG | 10/27/2022 | 16.31 |
| 800-39 | 80.25 | 57.62 | SG | 10/27/2022 | 22.63 |
| 800-42 | 78.86 | 55.74 | SG | 10/27/2022 | 23.12 |
| 800-51 | 86.90 | 62.27 | SG | 10/27/2022 | 24.63 |

NA=Not Available, NM=Not Measured

# Appendix B
# 2022 Long Term Well Hydrographs




Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

TITLE:

# LOCATIONS OF BNL AND USGS HYDROGRAPH WELLS

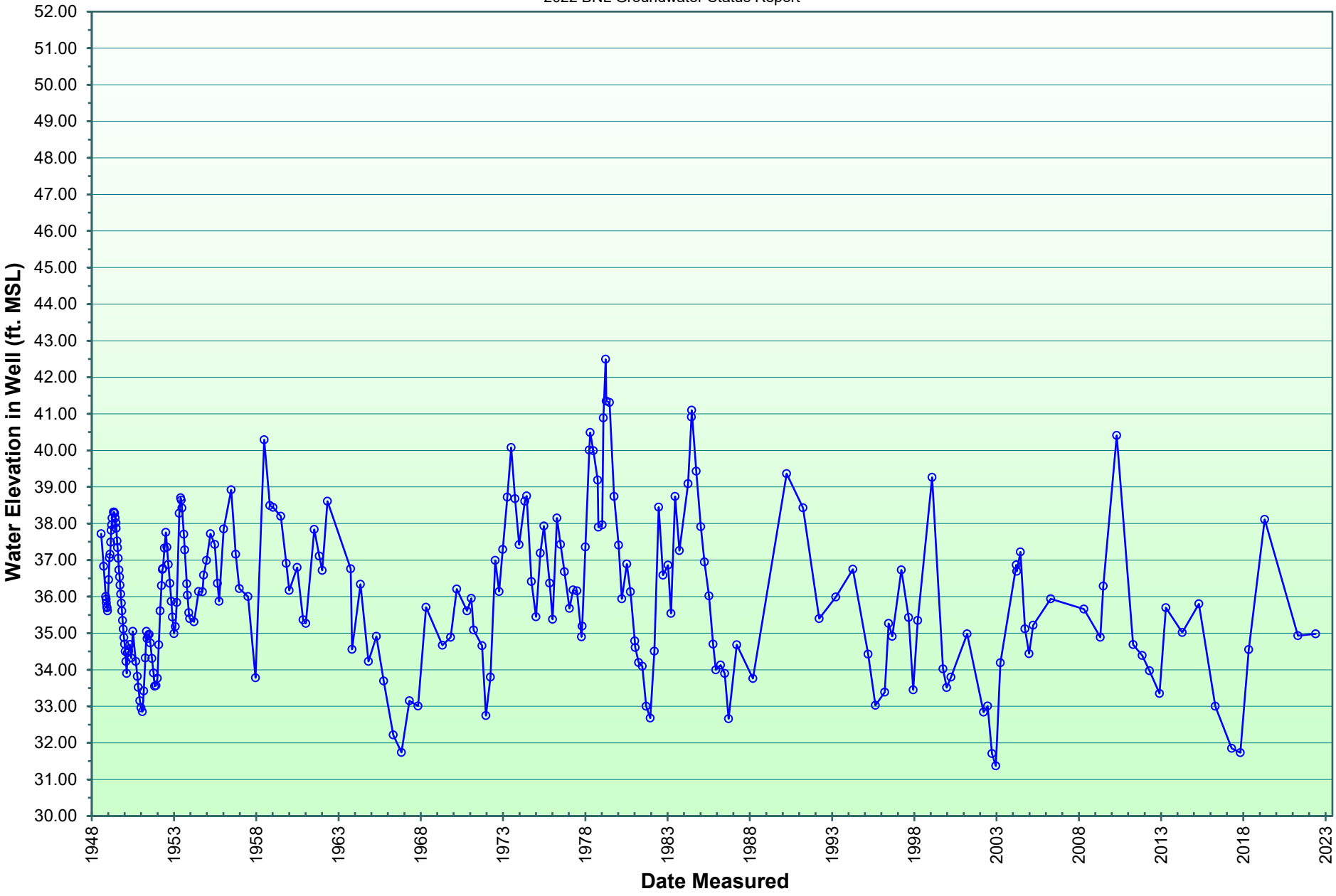
2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 03/22/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | – | – |

FIGURE NO.: B–1

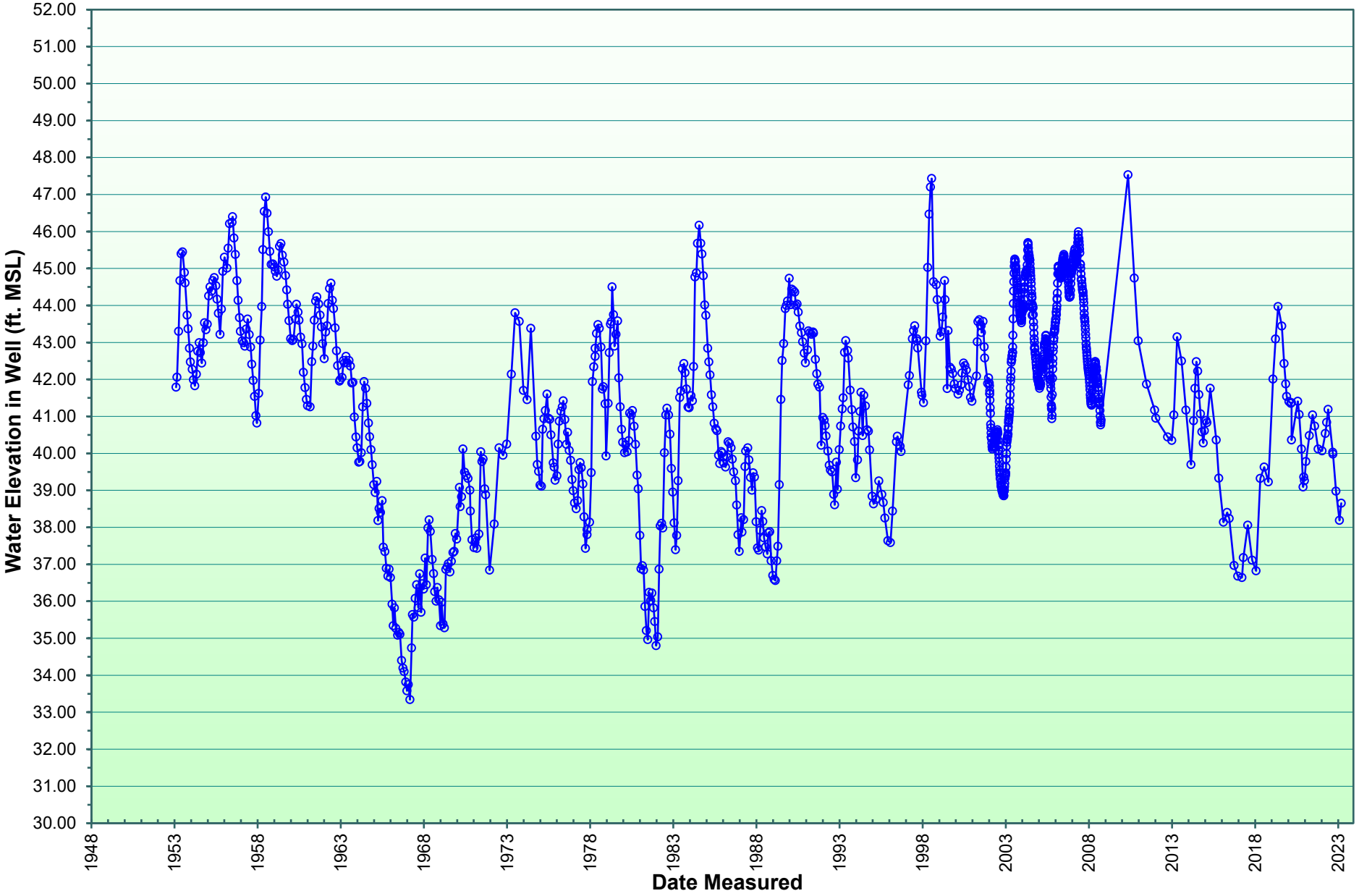
# Long Term Hydrograph
# for USGS Well No. S 2485. 1 (116-14) (Well Depth 75ft BLS)

2022 BNL Groundwater Status Report



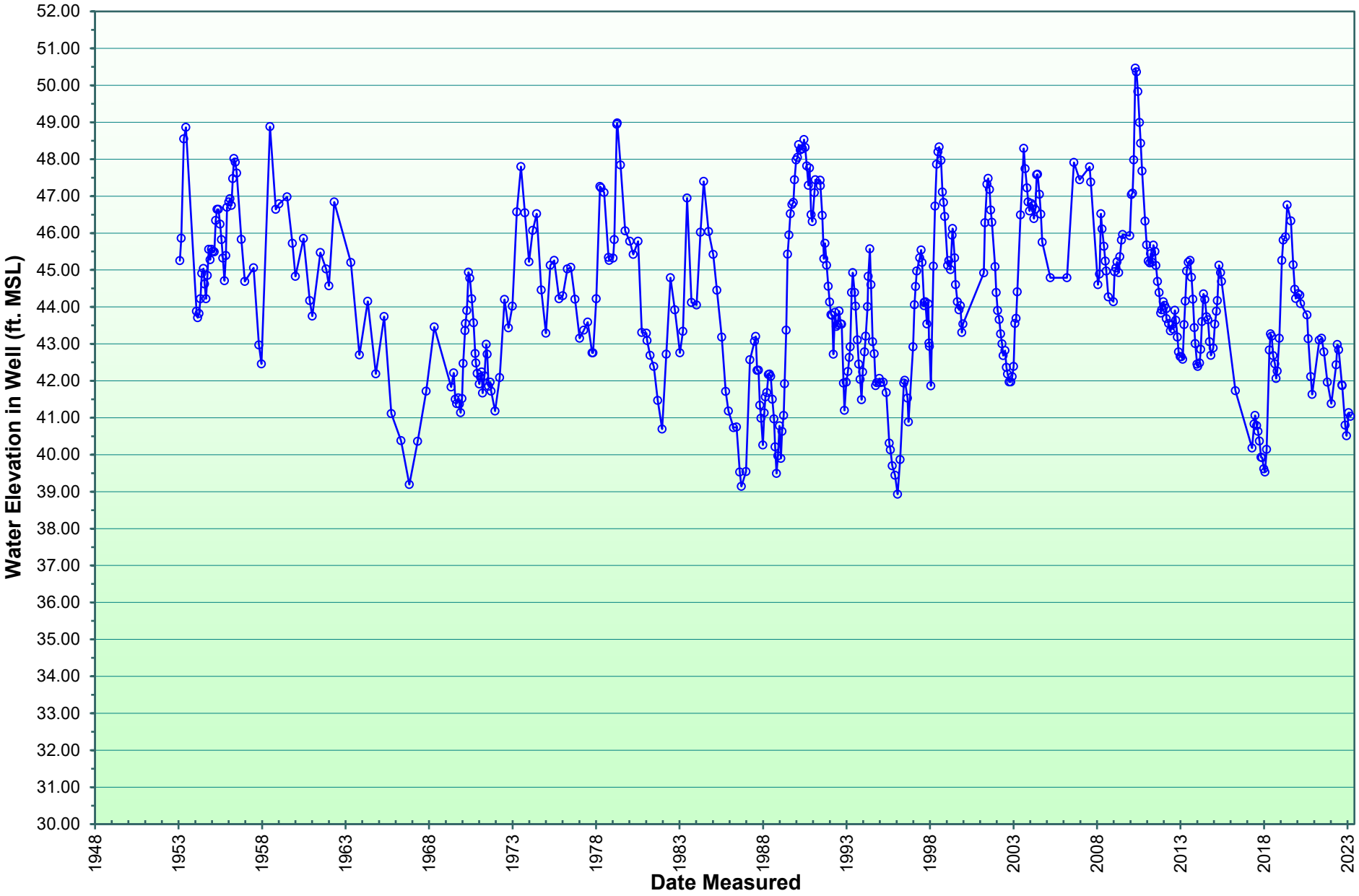
# Long Term Hydrograph
# for USGS Well No. S 5517. 1 (093-03) (Well Depth 91ft BLS)

2022 BNL Groundwater Status Report



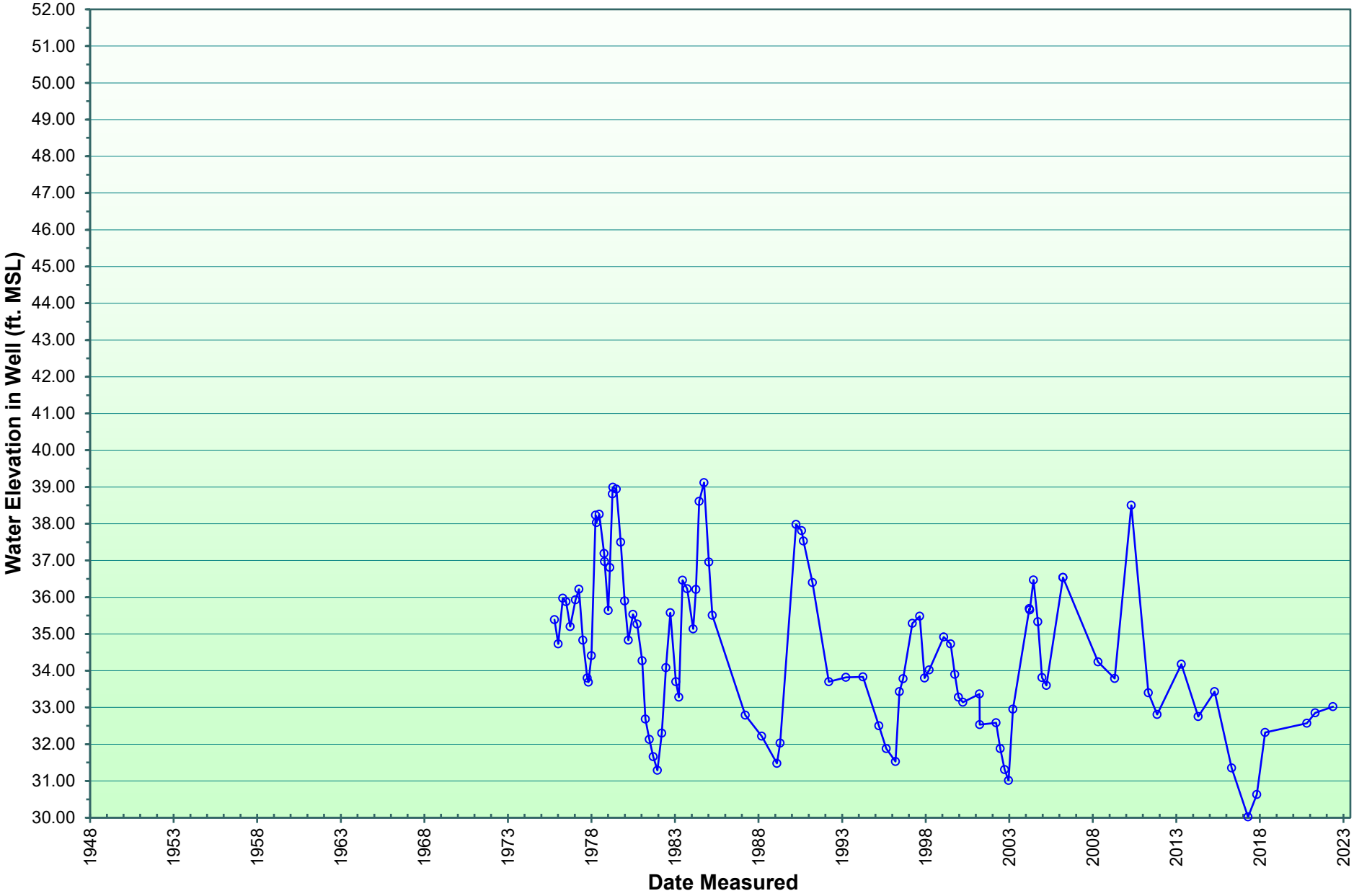
# Long Term Hydrograph
# for USGS Well No. S 6431. 1 (065-14) (Well Depth 125ft BLS)

2022 BNL Groundwater Status Report



# Long Term Hydrograph
# for USGS Well No. S 54883. 1 (130-06) (Well Depth 66ft BLS)

2022 BNL Groundwater Status Report



# APPENDIX C

# 2022 CERCLA Groundwater Results

OU I (South Boundary)

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU I (South Boundary)**

| | 107-40<br>Depth : 145.00<br>09/12/2022<br>pCi/l | | | | 115-13<br>Depth : 145.00<br>09/01/2022<br>pCi/l | | | | 115-16<br>Depth : 130.00<br>08/31/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Beryllium-7 | 8.83 | U | 26.8 | 14.1 | 8.78 | U | 20.2 | 10.2 | 17.4 | U | 18.1 | 29.5 |
| Cesium-134 | 0.746 | U | 2.81 | 1.46 | 1.22 | U | 2.54 | 1.25 | -0.412 | U | 2.02 | 1.2 |
| Cesium-137 | -0.758 | U | 2.4 | 1.59 | 0.043 | U | 2.42 | 1.32 | 1.31 | U | 2.04 | 1.86 |
| Co-60 | 0.465 | U | 2.94 | 1.47 | -0.981 | U | 2.31 | 1.33 | 0.82 | U | 2.26 | 1.13 |
| Cobalt-57 | 0.655 | U | 2.39 | 1.35 | -0.252 | U | 2.03 | 1.18 | -0.0229 | U | 1.86 | 1.12 |
| Europium-152 | 0.601 | U | 7.79 | 4.2 | 1.02 | U | 6.31 | 3.32 | -0.629 | U | 5.58 | 3.15 |
| Europium-154 | 1.38 | U | 8.54 | 4.3 | 2.8 | U | 7.38 | 3.46 | -2.08 | U | 5.75 | 3.33 |
| Europium-155 | 0.482 | U | 10.1 | 5.77 | -0.433 | U | 8.69 | 4.98 | 0.888 | U | 7.59 | 4.48 |
| Manganese-54 | -0.337 | U | 2.42 | 1.38 | 0.503 | U | 2.55 | 1.37 | 0.128 | UJ(-)B | 1.97 | 1.12 |
| Sodium-22 | 0.343 | U | 2.95 | 1.5 | 0.986 | U | 2.6 | 1.22 | -0.776 | U | 2.01 | 1.17 |
| Strontium-90 | | | | | | | | | | | | |
| Zinc-65 | -0.0932 | U | 5.78 | 3.69 | -3.62 | U | 4.69 | 4.19 | 0.472 | U | 4.27 | 2.54 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU I (South Boundary)**

| | 115-51<br>Depth : 140.00<br>03/09/2022<br>pCi/l | | | | 115-51<br>Depth : 140.00<br>09/02/2022<br>pCi/l | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | | | | |
| Beryllium-7 | | | | | | | | | | | | |
| Cesium-134 | | | | | | | | | | | | |
| Cesium-137 | | | | | | | | | | | | |
| Co-60 | | | | | | | | | | | | |
| Cobalt-57 | | | | | | | | | | | | |
| Europium-152 | | | | | | | | | | | | |
| Europium-154 | | | | | | | | | | | | |
| Europium-155 | | | | | | | | | | | | |
| Manganese-54 | | | | | | | | | | | | |
| Sodium-22 | | | | | | | | | | | | |
| Strontium-90 | **2.57** | | 0.519 | 0.386 | 0.0131 | U | 0.55 | 0.318 | | | | |
| Zinc-65 | | | | | | | | | | | | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU I (South Boundary)**

| Analyte | 098-99<br>Depth : 44.50<br>01/20/2022<br>ug/L | | 098-99<br>Depth : 44.50<br>05/11/2022<br>ug/L | | 098-99<br>Depth : 44.50<br>09/19/2022<br>ug/L | | 098-99<br>Depth : 44.50<br>12/06/2022<br>ug/L | | 107-40<br>Depth : 145.00<br>09/12/2022<br>ug/L | | 107-41<br>Depth : 133.00<br>08/30/2022<br>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 | **2.72** | | **2.42** | | **2.93** | | 0.5 | U | **1.06** | | 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 | **0.57** | J | 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 | 0.5 | 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 | **0.82** | J | 0.5 | U | 0.5 | U | 0.7 | U | 1.44 | 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 |
| 8260 TVOC | 3.54 | | 2.42 | | 2.93 | | 0 | | 1.63 | | 0 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU I (South Boundary)**

| Analyte | 115-13<br>Depth : 145.00<br>09/01/2022<br>ug/L | | 115-16<br>Depth : 130.00<br>08/31/2022<br>ug/L | | 115-51<br>Depth : 140.00<br>09/02/2022<br>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 | **1.64** | | 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 | **1.84** | | 0.5 | U | | | | | | |
| Chloroform | **1.7** | | 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 | 0.5 | U | 0.5 | U | 0.5 | 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 | 0.5 | 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 | | | | | | |
| 8260 TVOC | 1.7 | | 3.48 | | 0 | | | | | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU I (South Boundary)**

| Analyte | 098-99<br>Depth : 44.50<br>01/20/2022<br>ug/L | | 098-99<br>Depth : 44.50<br>05/11/2022<br>ug/L | | 098-99<br>Depth : 44.50<br>09/19/2022<br>ug/L | | 098-99<br>Depth : 44.50<br>12/06/2022<br>ug/L | | 107-40<br>Depth : 145.00<br>09/12/2022<br>ug/L | | 107-41<br>Depth : 133.00<br>08/30/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU I (South Boundary)**

| Analyte | 115-13<br>Depth : 145.00<br>09/01/2022<br>ug/L | | 115-16<br>Depth : 130.00<br>08/31/2022<br>ug/L | | 115-51<br>Depth : 140.00<br>09/02/2022<br>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 | | | | | | |

OU III (Building 96)

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Building 96)**

| Analyte | 085-293 Depth : 50.00 04/07/2022 ug/L | | 085-293 Depth : 50.00 10/07/2022 ug/L | | 085-335 Depth : 35.00 01/17/2022 ug/L | | 085-335 Depth : 35.00 04/07/2022 ug/L | | 085-335 Depth : 35.00 07/06/2022 ug/L | | 085-335 Depth : 35.00 10/07/2022 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 | 0.5 | 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 | **0.73** | | **0.51** | | 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 | 0.5 | 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 | **24** | | **19** | | **14** | | **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 | 0.5 | 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 | 0.73 | | 0.51 | | 24 | | 19.38 | | 14 | | 13 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Building 96)**

| Analyte | 085-347 Depth : 23.50 04/07/2022 ug/L | | 085-347 Depth : 23.50 10/10/2022 ug/L | | 085-348 Depth : 34.50 01/18/2022 ug/L | | 085-348 Depth : 34.50 04/07/2022 ug/L | | 085-348 Depth : 35.00 07/06/2022 ug/L | | 085-348 Depth : 34.50 10/10/2022 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 | 0.5 | U | 0.5 | U | 0.44 | J | 0.38 | J | 0.38 | J | 0.5 | U |
| cis-1,2-Dichloroethylene | 0.5 | U | 0.5 | U | 0.29 | J | 0.33 | J | 0.2 | J | 0.17 | 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 | 0.5 | 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 | **5.9** | | **9** | | **10** | | **17** | | **20** | | **14** | |
| 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 | 5.9 | | 9 | | 10.73 | | 17.71 | | 20.58 | | 14.17 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Building 96)**

| Analyte | 085-349<br>Depth : 24.50<br>03/31/2022<br>ug/L | | 085-349<br>Depth : 24.50<br>04/07/2022<br>ug/L | | 085-349<br>Depth : 23.00<br>07/06/2022<br>ug/L | | 085-349<br>Depth : 24.50<br>10/10/2022<br>ug/L | | 085-350<br>Depth : 34.50<br>01/17/2022<br>ug/L | | 085-350<br>Depth : 34.50<br>04/07/2022<br>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 | 0.17 | J | 0.16 | 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 | 0.5 | 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 | 0.5 | 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 | 0.5 | 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 | **6** | | **4.9** | | **14** | | **12** | | **3.2** | | **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 | 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 | 6.17 | | 5.06 | | 14 | | 12 | | 3.2 | | 6 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Building 96)**

| Analyte | 085-350<br>Depth : 35.00<br>07/06/2022<br>ug/L | | 085-350<br>Depth : 34.50<br>10/07/2022<br>ug/L | | 085-351<br>Depth : 24.50<br>03/31/2022<br>ug/L | | 085-351<br>Depth : 24.50<br>04/06/2022<br>ug/L | | 085-351<br>Depth : 24.72<br>07/11/2022<br>ug/L | | 085-351<br>Depth : 25.50<br>10/07/2022<br>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 | 0.22 | 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 | 0.5 | 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 | 0.5 | 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 | **8.2** | | **11** | | **3.2** | | **2.9** | | **6** | | **3.6** | |
| Toluene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.31 | 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 |
| 8260 TVOC | 8.2 | | 11 | | 3.2 | | 2.9 | | 6 | | 4.13 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Building 96)**

| Analyte | 085-352 Depth : 34.50 01/17/2022 ug/L | | 085-352 Depth : 34.50 04/06/2022 ug/L | | 085-352 Depth : 35.00 07/06/2022 ug/L | | 085-352 Depth : 34.50 10/07/2022 ug/L | | 085-354 Depth : 25.00 03/31/2022 ug/L | | 085-354 Depth : 24.50 04/07/2022 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 | 0.5 | 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 | **0.65** | | 0.39 | 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 | 0.5 | 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 | 0.5 | 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 | **28** | | **15** | | **15** | | **30** | | **8.7** | | **9.4** | |
| Toluene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **0.92** | | **0.63** | |
| 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 | 28.24 | | 15 | | 15 | | 30 | | 10.27 | | 10.42 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Building 96)**

| Analyte | 085-354<br>Depth : 24.50<br>07/12/2022<br>ug/L | | 085-354<br>Depth : 25.50<br>10/10/2022<br>ug/L | | 085-379<br>Depth : 17.00<br>01/17/2022<br>ug/L | | 085-379<br>Depth : 26.00<br>04/07/2022<br>ug/L | | 085-379<br>Depth : 22.89<br>07/11/2022<br>ug/L | | 085-379<br>Depth : 26.00<br>10/10/2022<br>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 | 0.2 | J | 0.5 | U | 0.5 | U | 0.34 | J | 0.31 | 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 | 0.5 | 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 | 0.5 | 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 | **13** | | **7.2** | | **62** | D | **76** | D | **89** | D | **46** | |
| Toluene | 0.5 | U | 0.4 | J | 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 | 0.18 | J | 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 |
| 8260 TVOC | 13.2 | | 7.6 | | 62 | | 76.52 | | 89.49 | | 46 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Building 96)**

| Analyte | 085-386 Depth : 47.50 04/11/2022 ug/L | | 085-386 Depth : 47.50 10/11/2022 ug/L | | 095-159 Depth : 50.00 01/14/2022 ug/L | | 095-159 Depth : 50.00 04/06/2022 ug/L | | 095-159 Depth : 50.00 07/07/2022 ug/L | | 095-159 Depth : 50.00 10/06/2022 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 | **0.78** | | **0.67** | |
| 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 | 0.23 | 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 | 0.5 | U | 0.5 | U | 0.5 | U | 0.19 | 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 | **6.6** | | **3** | | **44** | | **47** | |
| 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 | **0.57** | | **0.56** | | 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 | 0.57 | | 0.56 | | 6.6 | | 3 | | 45.2 | | 47.67 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Building 96)**

| Analyte | 095-162 Depth : 50.00 01/14/2022 ug/L | | 095-162 Depth : 50.00 04/06/2022 ug/L | | 095-162 Depth : 50.00 07/07/2022 ug/L | | 095-162 Depth : 50.00 10/06/2022 ug/L | | 095-163 Depth : 50.00 10/06/2022 ug/L | | 095-165 Depth : 50.00 04/05/2022 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 | 0.19 | 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 | **0.79** | | **0.78** | | **1** | | **0.57** | | **0.84** | | 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 | **11** | |
| Toluene | 0.34 | 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 | 0.5 | 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 | 1.32 | | 0.78 | | 1 | | 0.57 | | 0.84 | | 11 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Building 96)**

| Analyte | 095-165<br>Depth : 50.00<br>10/06/2022<br>ug/L | | 095-166<br>Depth : 50.00<br>04/05/2022<br>ug/L | | 095-166<br>Depth : 50.00<br>10/06/2022<br>ug/L | | 095-168<br>Depth : 50.00<br>04/05/2022<br>ug/L | | 095-168<br>Depth : 50.00<br>10/05/2022<br>ug/L | | 095-169<br>Depth : 50.00<br>04/05/2022<br>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 | 0.32 | J | **1.3** | | 0.48 | J | **0.69** | | **0.8** | | 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 | 0.5 | 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 | **2.4** | | 0.35 | J | 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 | 0.17 | 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 | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 2.89 | | 1.65 | | 0.48 | | 0.89 | | 0.8 | | 0.24 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Building 96)**

| Analyte | 095-169<br>Depth : 50.00<br>10/05/2022<br>ug/L | | 095-170<br>Depth : 50.00<br>04/05/2022<br>ug/L | | 095-170<br>Depth : 50.00<br>10/05/2022<br>ug/L | | 095-172<br>Depth : 50.00<br>01/14/2022<br>ug/L | | 095-172<br>Depth : 50.00<br>04/06/2022<br>ug/L | | 095-172<br>Depth : 50.00<br>07/07/2022<br>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 | 0.35 | J | 0.2 | J | 0.5 | U | **0.64** | | **0.88** | | **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 | 0.5 | 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 | 0.35 | | 0.2 | | 0 | | 0.64 | | 0.88 | | 1.4 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Building 96)**

| Analyte | 095-172<br>Depth : 50.00<br>10/06/2022<br>ug/L | | 095-294<br>Depth : 30.00<br>04/08/2022<br>ug/L | | 095-294<br>Depth : 30.00<br>10/06/2022<br>ug/L | | 095-305<br>Depth : 22.50<br>01/19/2022<br>ug/L | | 095-305<br>Depth : 22.50<br>04/08/2022<br>ug/L | | 095-305<br>Depth : 23.00<br>07/07/2022<br>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 | **1.2** | | 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 | 0.5 | 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 | **3.7** | | **1.6** | | **2.9** | | **3.8** | | **2.1** | |
| 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 | 0.5 | 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 | 1.2 | | 3.7 | | 1.6 | | 2.9 | | 3.8 | | 2.1 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Building 96)**

| Analyte | 095-305 Depth : 23.50 10/10/2022 ug/L | | 095-306 Depth : 34.50 01/18/2022 ug/L | | 095-306 Depth : 34.50 04/08/2022 ug/L | | 095-306 Depth : 35.00 07/07/2022 ug/L | | 095-306 Depth : 34.50 10/10/2022 ug/L | | 095-307 Depth : 32.50 04/11/2022 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 | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| cis-1,2-Dichloroethylene | 0.5 | U | **0.56** | | **0.55** | | 0.33 | J | 0.35 | 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 | 0.5 | 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 | **1.6** | | **26** | | **24** | | **18** | | **18** | | **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 | 0.5 | 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 | 1.6 | | 26.56 | | 24.55 | | 18.33 | | 18.35 | | 4.8 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Building 96)**

| Analyte | 095-307 Depth : 32.50 10/06/2022 ug/L | | 095-308 Depth : 37.50 10/06/2022 ug/L | | 095-312 Depth : 50.00 01/13/2022 ug/L | | 095-312 Depth : 50.00 04/06/2022 ug/L | | 095-312 Depth : 50.00 07/07/2022 ug/L | | 095-312 Depth : 50.00 10/06/2022 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 | 0.5 | U | 0.5 | U | **0.58** | | **0.56** | | **0.55** | | 0.32 | 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 | 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 | **1.9** | | **2.5** | | 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 | 1.9 | | 2.5 | | 0.58 | | 0.56 | | 0.55 | | 0.32 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Building 96)**

| Analyte | 095-313 Depth : 52.50 04/08/2022 ug/L | | 095-313 Depth : 52.50 10/11/2022 ug/L | | 095-318 Depth : 65.00 01/19/2022 ug/L | | 095-318 Depth : 65.00 04/12/2022 ug/L | | 095-318 Depth : 66.00 07/08/2022 ug/L | | 095-318 Depth : 65.00 10/11/2022 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 | 0.5 | U | 0.5 | U | **0.78** | | 0.5 | | 0.43 | J | 0.26 | 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 | 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 | **3.6** | | **2.5** | | **0.8** | | **1.1** | | **0.86** | | 0.48 | 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 | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 3.6 | | 2.5 | | 1.58 | | 1.6 | | 1.29 | | 0.74 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Building 96)**

| Analyte | 095-325 Depth : 45.00 01/18/2022 ug/L | | 095-325 Depth : 45.00 04/08/2022 ug/L | | 095-325 Depth : 45.00 07/06/2022 ug/L | | 095-325 Depth : 45.00 10/10/2022 ug/L | | 095-84 Depth : 25.00 01/17/2022 ug/L | | 095-84 Depth : 35.00 04/11/2022 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 | 0.48 | J | **0.51** | | 0.19 | J | 0.5 | U | 0.5 | U | 0.5 | U |
| cis-1,2-Dichloroethylene | 0.32 | J | 0.38 | J | **0.84** | | 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 | **16** | | **15** | | **50** | D | **10** | | **28** | | **34** | |
| 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 | 0.24 | 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 | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 16.8 | | 15.89 | | 51.27 | | 10 | | 28 | | 34 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Building 96)**

| Analyte | 095-84 Depth : 35.00 07/08/2022 ug/L | | 095-84 Depth : 35.00 10/07/2022 ug/L | | 095-85 Depth : 95.00 01/14/2022 ug/L | | 095-85 Depth : 95.00 04/11/2022 ug/L | | 095-85 Depth : 95.00 07/08/2022 ug/L | | 095-85 Depth : 95.00 10/07/2022 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 | 0.5 | U | 0.5 | U | **0.93** | | **1.3** | | **1.4** | | **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 | 0.5 | 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 | **32** | | **20** | | 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 | 32 | | 20 | | 0.93 | | 1.3 | | 1.4 | | 1.1 | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Building 96)**

| Analyte | 085-293<br>Depth : 50.00<br>04/07/2022<br>ug/L | | 085-293<br>Depth : 50.00<br>10/07/2022<br>ug/L | | 085-335<br>Depth : 35.00<br>01/17/2022<br>ug/L | | 085-335<br>Depth : 35.00<br>04/07/2022<br>ug/L | | 085-335<br>Depth : 35.00<br>07/06/2022<br>ug/L | | 085-335<br>Depth : 35.00<br>10/07/2022<br>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 | 0.21 | J | 0.5 | U | 0.5 | U |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Building 96)**

| Analyte | 085-347 Depth : 23.50 04/07/2022 ug/L | | 085-347 Depth : 23.50 10/10/2022 ug/L | | 085-348 Depth : 34.50 01/18/2022 ug/L | | 085-348 Depth : 34.50 04/07/2022 ug/L | | 085-348 Depth : 35.00 07/06/2022 ug/L | | 085-348 Depth : 34.50 10/10/2022 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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Building 96)**

| Analyte | 085-349<br>Depth : 24.50<br>03/31/2022<br>ug/L | | 085-349<br>Depth : 24.50<br>04/07/2022<br>ug/L | | 085-349<br>Depth : 23.00<br>07/06/2022<br>ug/L | | 085-349<br>Depth : 24.50<br>10/10/2022<br>ug/L | | 085-350<br>Depth : 34.50<br>01/17/2022<br>ug/L | | 085-350<br>Depth : 34.50<br>04/07/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Building 96)**

| Analyte | 085-350<br>Depth : 35.00<br>07/06/2022<br>ug/L | | 085-350<br>Depth : 34.50<br>10/07/2022<br>ug/L | | 085-351<br>Depth : 24.50<br>03/31/2022<br>ug/L | | 085-351<br>Depth : 24.50<br>04/06/2022<br>ug/L | | 085-351<br>Depth : 24.72<br>07/11/2022<br>ug/L | | 085-351<br>Depth : 25.50<br>10/07/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Building 96)**

| Analyte | 085-352<br>Depth : 34.50<br>01/17/2022<br>ug/L | | 085-352<br>Depth : 34.50<br>04/06/2022<br>ug/L | | 085-352<br>Depth : 35.00<br>07/06/2022<br>ug/L | | 085-352<br>Depth : 34.50<br>10/07/2022<br>ug/L | | 085-354<br>Depth : 25.00<br>03/31/2022<br>ug/L | | 085-354<br>Depth : 24.50<br>04/07/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Building 96)**

| Analyte | 085-354<br>Depth : 24.50<br>07/12/2022<br>ug/L | | 085-354<br>Depth : 25.50<br>10/10/2022<br>ug/L | | 085-379<br>Depth : 17.00<br>01/17/2022<br>ug/L | | 085-379<br>Depth : 26.00<br>04/07/2022<br>ug/L | | 085-379<br>Depth : 22.89<br>07/11/2022<br>ug/L | | 085-379<br>Depth : 26.00<br>10/10/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Building 96)**

| Analyte | 085-386<br>Depth : 47.50<br>04/11/2022<br>ug/L | | 085-386<br>Depth : 47.50<br>10/11/2022<br>ug/L | | 095-159<br>Depth : 50.00<br>01/14/2022<br>ug/L | | 095-159<br>Depth : 50.00<br>04/06/2022<br>ug/L | | 095-159<br>Depth : 50.00<br>07/07/2022<br>ug/L | | 095-159<br>Depth : 50.00<br>10/06/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Building 96)**

| Analyte | 095-162<br>Depth : 50.00<br>01/14/2022<br>ug/L | | 095-162<br>Depth : 50.00<br>04/06/2022<br>ug/L | | 095-162<br>Depth : 50.00<br>07/07/2022<br>ug/L | | 095-162<br>Depth : 50.00<br>10/06/2022<br>ug/L | | 095-163<br>Depth : 50.00<br>10/06/2022<br>ug/L | | 095-165<br>Depth : 50.00<br>04/05/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Building 96)**

| Analyte | 095-165<br>Depth : 50.00<br>10/06/2022<br>ug/L | | 095-166<br>Depth : 50.00<br>04/05/2022<br>ug/L | | 095-166<br>Depth : 50.00<br>10/06/2022<br>ug/L | | 095-168<br>Depth : 50.00<br>04/05/2022<br>ug/L | | 095-168<br>Depth : 50.00<br>10/05/2022<br>ug/L | | 095-169<br>Depth : 50.00<br>04/05/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Building 96)**

| Analyte | 095-169<br>Depth : 50.00<br>10/05/2022<br>ug/L | | 095-170<br>Depth : 50.00<br>04/05/2022<br>ug/L | | 095-170<br>Depth : 50.00<br>10/05/2022<br>ug/L | | 095-172<br>Depth : 50.00<br>01/14/2022<br>ug/L | | 095-172<br>Depth : 50.00<br>04/06/2022<br>ug/L | | 095-172<br>Depth : 50.00<br>07/07/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Building 96)**

| Analyte | 095-172<br>Depth : 50.00<br>10/06/2022<br>ug/L | | 095-294<br>Depth : 30.00<br>04/08/2022<br>ug/L | | 095-294<br>Depth : 30.00<br>10/06/2022<br>ug/L | | 095-305<br>Depth : 22.50<br>01/19/2022<br>ug/L | | 095-305<br>Depth : 22.50<br>04/08/2022<br>ug/L | | 095-305<br>Depth : 23.00<br>07/07/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Building 96)**

| Analyte | 095-305<br>Depth : 23.50<br>10/10/2022<br>ug/L | | 095-306<br>Depth : 34.50<br>01/18/2022<br>ug/L | | 095-306<br>Depth : 34.50<br>04/08/2022<br>ug/L | | 095-306<br>Depth : 35.00<br>07/07/2022<br>ug/L | | 095-306<br>Depth : 34.50<br>10/10/2022<br>ug/L | | 095-307<br>Depth : 32.50<br>04/11/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Building 96)**

| Analyte | 095-307<br>Depth : 32.50<br>10/06/2022<br>ug/L | | 095-308<br>Depth : 37.50<br>10/06/2022<br>ug/L | | 095-312<br>Depth : 50.00<br>01/13/2022<br>ug/L | | 095-312<br>Depth : 50.00<br>04/06/2022<br>ug/L | | 095-312<br>Depth : 50.00<br>07/07/2022<br>ug/L | | 095-312<br>Depth : 50.00<br>10/06/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Building 96)**

| Analyte | 095-313<br>Depth : 52.50<br>04/08/2022<br>ug/L | | 095-313<br>Depth : 52.50<br>10/11/2022<br>ug/L | | 095-318<br>Depth : 65.00<br>01/19/2022<br>ug/L | | 095-318<br>Depth : 65.00<br>04/12/2022<br>ug/L | | 095-318<br>Depth : 66.00<br>07/08/2022<br>ug/L | | 095-318<br>Depth : 65.00<br>10/11/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Building 96)**

| Analyte | 095-325<br>Depth : 45.00<br>01/18/2022<br>ug/L | | 095-325<br>Depth : 45.00<br>04/08/2022<br>ug/L | | 095-325<br>Depth : 45.00<br>07/06/2022<br>ug/L | | 095-325<br>Depth : 45.00<br>10/10/2022<br>ug/L | | 095-84<br>Depth : 25.00<br>01/17/2022<br>ug/L | | 095-84<br>Depth : 35.00<br>04/11/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Building 96)**

| Analyte | 095-84<br>Depth : 35.00<br>07/08/2022<br>ug/L | | 095-84<br>Depth : 35.00<br>10/07/2022<br>ug/L | | 095-85<br>Depth : 95.00<br>01/14/2022<br>ug/L | | 095-85<br>Depth : 95.00<br>04/11/2022<br>ug/L | | 095-85<br>Depth : 95.00<br>07/08/2022<br>ug/L | | 095-85<br>Depth : 95.00<br>10/07/2022<br>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 |

Building 452 Freon-11
Analytical Results

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: B452**

| Analyte | 085-382<br>Depth : 37.50<br>04/12/2022<br>ug/L | | 085-382<br>Depth : 37.50<br>10/11/2022<br>ug/L | | 085-383<br>Depth : 37.50<br>04/13/2022<br>ug/L | | 085-383<br>Depth : 37.50<br>10/11/2022<br>ug/L | | 085-386<br>Depth : 47.50<br>04/11/2022<br>ug/L | | 085-386<br>Depth : 47.50<br>10/11/2022<br>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 | 0.5 | 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 | 0.5 | 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 | 0.45 | J | **0.61** | | 0.17 | J | 0.19 | J | **0.57** | | **0.56** | |
| 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 | 0.45 | | 0.61 | | 0.17 | | 0.19 | | 0.57 | | 0.56 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: B452**

| Analyte | 095-313<br>Depth : 52.50<br>04/08/2022<br>ug/L | | 095-313<br>Depth : 52.50<br>10/11/2022<br>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 | **3.6** | | **2.5** | | | | | | | | | |
| 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 | | | | | | | | |
| 8260 TVOC | 3.6 | | 2.5 | | | | | | | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: B452**

| Analyte | 085-382<br>Depth : 37.50<br>04/12/2022<br>ug/L | | 085-382<br>Depth : 37.50<br>10/11/2022<br>ug/L | | 085-383<br>Depth : 37.50<br>04/13/2022<br>ug/L | | 085-383<br>Depth : 37.50<br>10/11/2022<br>ug/L | | 085-386<br>Depth : 47.50<br>04/11/2022<br>ug/L | | 085-386<br>Depth : 47.50<br>10/11/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: B452**

| Analyte | 095-313<br>Depth : 52.50<br>04/08/2022<br>ug/L | | 095-313<br>Depth : 52.50<br>10/11/2022<br>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 (Middle Road)

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Middle Rd)**

| Analyte | 095-322 Depth : 180.00 01/26/2022 ug/L | | 095-322 Depth : 180.00 04/29/2022 ug/L | | 095-322 Depth : 180.00 07/13/2022 ug/L | | 095-322 Depth : 180.00 11/04/2022 ug/L | | 095-323 Depth : 205.00 01/26/2022 ug/L | | 095-323 Depth : 205.00 04/29/2022 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 | **3.7** | | **3.5** | | **3.1** | | **2.5** | | **2** | | **2.1** | |
| 1,1,2,2-Tetrachloroethane | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **1** | | **1.4** | |
| 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 | **0.65** | | **0.55** | | **0.51** | | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | **6.8** | | **6.9** | | **6.6** | | **5.5** | | **0.91** | | **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 | 0.5 | 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 | 0.3 | J | **0.74** | | **0.66** | | **0.6** | | 0.21 | 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 | 0.5 | 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 | **19** | | **18** | | **20** | | **16** | | **11** | | **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 | **9.1** | | **8.6** | | **8** | | **8.2** | | **4.3** | | **4.6** | |
| 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) | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 39.13 | | 38.39 | | 38.91 | | 33.31 | | 19.42 | | 20.85 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Middle Rd)**

| Analyte | 095-323<br>Depth : 205.00<br>07/13/2022<br>ug/L | | 095-323<br>Depth : 205.00<br>11/04/2022<br>ug/L | | 095-92<br>Depth : 121.00<br>04/29/2022<br>ug/L | | 095-92<br>Depth : 121.00<br>11/04/2022<br>ug/L | | 104-11<br>Depth : 190.00<br>04/25/2022<br>ug/L | | 104-11<br>Depth : 190.00<br>11/04/2022<br>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** | | **1.7** | | 0.5 | U | 0.5 | U | 0.33 | 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 | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | **1.1** | | **1** | | 0.5 | U | 0.5 | U | 0.19 | J | 0.32 | 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-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 | **0.62** | | **0.59** | | 0.34 | J | 0.33 | J | **0.73** | | **0.8** | |
| 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 | 0.5 | 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 | 0.27 | J |
| 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 | **11** | | **10** | | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| Toluene | 0.5 | U | 0.5 | U | 0.29 | 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 | **3.9** | | **4.6** | | 0.5 | U | 0.5 | U | 0.2 | J | 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 | 1.5 | U |
| 8260 TVOC | 19.62 | | 19.19 | | 0.63 | | 0.33 | | 1.45 | | 1.88 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Middle Rd)**

| Analyte | 104-36 Depth : 136.00 04/22/2022 ug/L | | 104-36 Depth : 136.00 11/04/2022 ug/L | | 104-37 Depth : 209.00 01/21/2022 ug/L | | 104-37 Depth : 209.00 04/22/2022 ug/L | | 104-37 Depth : 209.00 07/13/2022 ug/L | | 104-37 Depth : 209.00 11/04/2022 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 | **2.1** | | **2.3** | | **2.6** | | **2.1** | |
| 1,1,2,2-Tetrachloroethane | 0.5 | U | 0.5 | U | **1** | | **1.3** | | **1.1** | | **1.2** | |
| 1,1,2-Trichloroethane | 0.5 | U | 0.5 | U | 0.5 | U | **0.7** | | 0.5 | U | **0.66** | |
| 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 | **3.3** | | **3.5** | | **4.1** | | **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 | 0.5 | 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 | **3.7** | | **3.1** | | **2.5** | | **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 | **0.51** | | 0.53 | U | **0.85** | | **0.86** | | **0.73** | | **0.7** | |
| 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 | 0.5 | 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 | 0.22 | J | 0.5 | U | **100** | D | **89** | D | **87** | D | **87** | 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 | **4.5** | | **4.5** | | **4.4** | | **4.2** | |
| 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 | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 0.73 | | 0 | | 115.45 | | 105.26 | | 102.43 | | 101.16 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Middle Rd)**

| Analyte | 104-38 Depth : 105.00 04/25/2022 ug/L | | 104-38 Depth : 205.00 11/04/2022 ug/L | | 105-23 Depth : 180.00 01/24/2022 ug/L | | 105-23 Depth : 180.00 04/22/2022 ug/L | | 105-23 Depth : 180.00 07/13/2022 ug/L | | 105-23 Depth : 180.00 11/04/2022 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** | | **1.1** | | 0.37 | J | 0.24 | J | 0.2 | J | 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 | | **0.8** | | 0.47 | J | 0.34 | J | 0.3 | 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 | **0.61** | | **0.57** | | 0.45 | J | **0.55** | |
| 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 | **0.75** | | **0.62** | | 0.42 | J | 0.38 | J | 0.32 | J | 0.32 | 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 | 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 | **1.1** | | **1.1** | | **16** | | **14** | | **14** | | **14** | |
| 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 | 0.43 | J | 0.5 | | 0.44 | J | 0.34 | J | 0.32 | J | 0.34 | 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 | 1.5 | U |
| 8260 TVOC | 3.75 | | 4.12 | | 18.31 | | 15.87 | | 15.59 | | 15.42 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Middle Rd)**

| Analyte | 105-25<br>Depth : 147.50<br>04/26/2022<br>ug/L | | 105-25<br>Depth : 142.50<br>11/14/2022<br>ug/L | | 105-42<br>Depth : 147.50<br>04/22/2022<br>ug/L | | 105-42<br>Depth : 147.50<br>11/04/2022<br>ug/L | | 105-44<br>Depth : 152.50<br>06/07/2022<br>ug/L | | 105-44<br>Depth : 152.50<br>11/14/2022<br>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 | 0.42 | 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 | 0.5 | 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 | **0.58** | | 0.5 | U | **0.67** | | **0.64** | | 0.4 | 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 | 0.4 | J | 0.47 | J | **0.7** | | **0.65** | | **0.98** | | **4.5** | |
| 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 | 0.21 | 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) | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 0.98 | | 0.47 | | 1.37 | | 1.5 | | 1.38 | | 4.92 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Middle Rd)**

| Analyte | 105-53 Depth : 175.00 04/28/2022 ug/L | | 105-53 Depth : 175.00 11/08/2022 ug/L | | 105-66 Depth : 184.00 01/25/2022 ug/L | | 105-66 Depth : 184.00 04/28/2022 ug/L | | 105-66 Depth : 184.00 07/14/2022 ug/L | | 105-66 Depth : 184.00 11/08/2022 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 | **1.2** | | **1.4** | | **1.3** | | **1.4** | |
| 1,1,2,2-Tetrachloroethane | 0.5 | U | 0.5 | U | 0.5 | U | **0.53** | | 0.45 | J | 0.49 | J |
| 1,1,2-Trichloroethane | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **1.1** | |
| 1,1-Dichloroethane | 0.5 | U | 0.5 | U | 0.5 | U | 0.26 | J | 0.22 | J | 0.24 | J |
| 1,1-Dichloroethylene | 0.5 | U | 0.5 | U | **0.98** | | **1.1** | | **1.1** | | **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 | 0.5 | 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 | **7.4** | | **7.7** | | **6.9** | | **7.8** | |
| 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 | 0.39 | J | 0.5 | U | **0.54** | | **0.9** | | **0.82** | | 0.83 | 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 | 0.19 | 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 | 0.23 | J | 0.19 | J | 0.21 | J |
| 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 | 0.44 | J | **0.67** | | **180** | D | **150** | D | **190** | 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 | **5.5** | | **5.4** | | **4.9** | | **5.6** | |
| 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) | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 0.83 | | 0.67 | | 195.81 | | 167.52 | | 205.88 | | 188.04 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Middle Rd)**

| Analyte | 105-67 Depth : 185.00 01/25/2022 ug/L | | 105-67 Depth : 185.00 04/28/2022 ug/L | | 105-67 Depth : 185.00 07/14/2022 ug/L | | 105-67 Depth : 185.00 11/08/2022 ug/L | | 105-68 Depth : 205.00 01/24/2022 ug/L | | 105-68 Depth : 205.00 04/28/2022 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** | | **4.3** | | **3.1** | | **3.7** | | **0.7** | | **0.84** | |
| 1,1,2,2-Tetrachloroethane | 0.48 | J | **0.64** | | **0.59** | | **0.57** | | **2.3** | | **2.9** | |
| 1,1,2-Trichloroethane | 0.5 | U | 0.5 | U | 0.5 | U | 0.38 | J | **1.3** | | 0.5 | U |
| 1,1-Dichloroethane | 0.5 | U | 0.25 | J | 0.5 | U | 0.21 | J | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | **3.5** | | **3.7** | | **2.7** | | **2.7** | | **0.65** | | **0.66** | |
| 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 | 0.19 | J | 0.5 | U | 0.5 | U | 0.21 | J | **8.8** | | **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 | 0.46 | J | **0.53** | | 0.48 | J | 0.5 | U | **1.1** | | **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 | 0.5 | 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 | 0.3 | J | 0.22 | J | 0.28 | J | 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 | **110** | D | **60** | D | **63** | D | **67** | D | **170** | D | **130** | 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** | | **1.5** | | **1.1** | | **1.3** | | **11** | | **12** | |
| 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 | 120.13 | | 71.22 | | 71.19 | | 76.35 | | 195.85 | | 157.1 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Middle Rd)**

| Analyte | 105-68 Depth : 205.00 07/14/2022 ug/L | | 105-68 Depth : 205.00 11/04/2022 ug/L | | 106-56 Depth : 165.00 04/26/2022 ug/L | | 106-56 Depth : 165.00 11/08/2022 ug/L | | 106-58 Depth : 205.00 04/26/2022 ug/L | | 106-58 Depth : 205.00 11/08/2022 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 | **0.67** | | **0.77** | | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1,2,2-Tetrachloroethane | **2.4** | | **2.7** | | 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 | **0.57** | | **0.61** | | 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 | **7.3** | | **7.6** | | 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 | **1.2** | | 1.3 | U | **0.71** | | 0.89 | U | 0.44 | J | 1.1 | 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 | **160** | D | **110** | D | 0.5 | U | 0.5 | U | **1.1** | | **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 | **9.3** | | **11** | | 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 | 181.44 | | 132.68 | | 0.71 | | 0 | | 1.54 | | 1.2 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Middle Rd)**

| Analyte | 106-62 Depth : 72.00 04/26/2022 ug/L | | 106-62 Depth : 72.00 11/08/2022 ug/L | | 113-07 Depth : 99.00 11/07/2022 ug/L | | 113-08 Depth : 142.00 04/25/2022 ug/L | | 113-08 Depth : 142.00 11/07/2022 ug/L | | 113-09 Depth : 222.00 04/25/2022 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 | 0.46 | 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 | 0.5 | U | 0.26 | J |
| 1,1-Dichloroethylene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **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 | 0.5 | 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 | **0.54** | |
| 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** | | 0.94 | U | 0.5 | U | 0.5 | U | 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 | 0.5 | 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 | 0.2 | J |
| 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 | **2.1** | | **2.1** | | **1.3** | | **66** | 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 | **4.4** | |
| 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 | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 1 | | 0 | | 2.1 | | 2.1 | | 1.3 | | 76.17 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 113-09<br>Depth : 222.00<br>11/07/2022<br>ug/L | | 113-11<br>Depth : 201.00<br>04/26/2022<br>ug/L | | 113-11<br>Depth : 201.00<br>11/07/2022<br>ug/L | | 113-17<br>Depth : 177.00<br>01/25/2022<br>ug/L | | 113-17<br>Depth : 177.00<br>04/26/2022<br>ug/L | | 113-17<br>Depth : 177.00<br>07/15/2022<br>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 | 1.8 | J D | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1,2,2-Tetrachloroethane | 2 | U D | 0.5 | U | 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 | **2.2** | D | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 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 | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | 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 |
| 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 | 2 | U D | 0.5 | U | 0.5 | U | 0.5 | U | 0.32 | J | 0.39 | J |
| 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 | 2.1 | U | **0.58** | | 0.51 | U | **1.2** | | **1.2** | | **1.2** | |
| 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 | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | 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 | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | 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 | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | 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 | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | 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 | **60** | D | **2.8** | | **6** | | **18** | | **14** | | **19** | |
| 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 | **4.3** | D | 0.5 | U | 0.5 | U | 0.5 | U | 0.49 | J | 0.5 | |
| 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 | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 68.3 | | 3.38 | | 6 | | 19.2 | | 16.01 | | 21.09 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Middle Rd)**

| Analyte | 113-17 Depth : 177.00 11/07/2022 ug/L | | 113-18 Depth : 152.00 11/07/2022 ug/L | | 113-19 Depth : 230.00 01/25/2022 ug/L | | 113-19 Depth : 230.00 04/26/2022 ug/L | | 113-19 Depth : 230.00 07/15/2022 ug/L | | 113-19 Depth : 230.00 11/07/2022 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 | **11** | | **9.1** | | **8.9** | | **9.6** | |
| 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 | 0.21 | J | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethane | 0.5 | U | 0.5 | U | **0.72** | | **1.2** | | **1.1** | | **1.5** | |
| 1,1-Dichloroethylene | 0.5 | U | 0.5 | U | **6** | | **5.5** | | **5.4** | | **4.8** | |
| 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 | 0.5 | 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 | 0.36 | J | 0.5 | U | **7.2** | | **6.4** | | **5.8** | | **5.2** | |
| 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 | 0.93 | U | 0.5 | U | **0.64** | | **0.88** | | **0.82** | | 1.3 | U |
| cis-1,2-Dichloroethylene | 0.5 | U | 0.5 | U | 0.5 | U | 0.44 | J | 0.41 | J | 0.38 | 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 | 0.5 | 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 | **38** | | 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 | 0.49 | J | 0.5 | U | **5.2** | | **4.7** | | **4** | | **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 | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 39.06 | | 0 | | 30.76 | | 28.22 | | 26.43 | | 24.78 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Middle Rd)**

| Analyte | 113-22 Depth : 240.00 04/28/2022 ug/L | | 113-22 Depth : 240.00 11/08/2022 ug/L | | 113-29 Depth : 190.00 01/24/2022 ug/L | | 113-29 Depth : 190.00 04/22/2022 ug/L | | 113-29 Depth : 190.00 11/04/2022 ug/L | | 113-30 Depth : 190.00 01/25/2022 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 | **0.54** | | **0.79** | | 0.2 | J | 0.5 | U | **0.59** | | 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 | 0.19 | J | 0.3 | J | 0.21 | J | 0.5 | U | **0.62** | | 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 | **1.4** | | 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 | **10** | | **13** | | **0.52** | | 0.5 | U | **2.3** | | **2.1** | |
| 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 | **0.79** | | 1.2 | U | 0.38 | J | 0.41 | J | 0.6 | U | 0.5 | |
| 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 | 0.5 | 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 | 0.91 | J | 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 | 0.32 | J | 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 | **3.4** | | 0.5 | | **10** | | **8.2** | |
| Toluene | 0.5 | U | 0.5 | U | **1.8** | | 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 | 0.39 | J | **0.64** | | 0.2 | J | 0.5 | U | 0.23 | 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 | 1.2 | J | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 11.91 | | 14.89 | | 10.22 | | 0.91 | | 13.74 | | 10.8 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 113-30 Depth : 190.00 04/27/2022 ug/L | | 113-30 Depth : 190.00 07/14/2022 ug/L | | 113-30 Depth : 190.00 11/04/2022 ug/L | | 113-31 Depth : 190.00 01/25/2022 ug/L | | 113-31 Depth : 190.00 04/25/2022 ug/L | | 113-31 Depth : 190.00 07/14/2022 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 | 0.23 | J | **1.4** | | **1.5** | | **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 | 0.5 | U |
| 1,1-Dichloroethylene | 0.5 | U | 0.5 | U | 0.5 | U | 0.3 | J | **0.51** | | 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-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 | **1.7** | | **1.2** | | **2.5** | | 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** | | **0.54** | | 1.1 | U | 0.5 | U | 0.25 | J | 0.26 | 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 | 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 | **6.4** | | **5.4** | | **24** | | 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 | 0.2 | J | **0.55** | | 0.3 | J | 0.31 | J | **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 | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 8.83 | | 7.34 | | 27.28 | | 2 | | 2.57 | | 2.73 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Middle Rd)**

| Analyte | 113-31<br>Depth : 190.00<br>11/04/2022<br>ug/L | | 114-12<br>Depth : 155.00<br>01/25/2022<br>ug/L | | 114-12<br>Depth : 155.00<br>04/28/2022<br>ug/L | | 114-12<br>Depth : 155.00<br>07/15/2022<br>ug/L | | 114-12<br>Depth : 155.00<br>11/14/2022<br>ug/L | | 121-45<br>Depth : 199.50<br>04/27/2022<br>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** | | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.22 | 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 | 0.48 | 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 | 0.5 | 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 | 0.2 | J | **0.87** | | **0.93** | | 0.64 | U | 0.44 | 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 | 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 | **4.9** | |
| 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 | 0.38 | J | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.48 | 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 | 1.5 | U |
| 8260 TVOC | 2.36 | | 0.2 | | 0.87 | | 0.93 | | 0 | | 6.04 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Middle Rd)**

| Analyte | 121-45<br>Depth : 199.00<br>11/15/2022<br>ug/L | | 121-53<br>Depth : 229.00<br>01/26/2022<br>ug/L | | 121-53<br>Depth : 229.00<br>05/04/2022<br>ug/L | | 121-53<br>Depth : 229.00<br>07/20/2022<br>ug/L | | 121-53<br>Depth : 229.00<br>11/15/2022<br>ug/L | | 121-54<br>Depth : 220.00<br>01/26/2022<br>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 | 0.27 | J | **2.1** | | **2.2** | | **2.1** | | **2.3** | | 0.28 | J |
| 1,1,2,2-Tetrachloroethane | 0.5 | U | 0.5 | U | 0.18 | J | 0.2 | J | 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 | 0.24 | J | **0.58** | | 0.47 | J | 0.42 | J | 0.5 | U |
| 1,1-Dichloroethylene | 0.5 | U | **2.2** | | **2.4** | | **2.3** | | **2.2** | | 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 | 0.19 | J | **16** | | **18** | | **19** | | **25** | D | **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 | 0.5 | U | **1.8** | | **1.8** | | **1.6** | | **1.5** | | 0.34 | 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 | 0.87 | J D | **0.51** | | 0.34 | J | 0.36 | 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 | 0.5 | 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 | **5.2** | | **120** | D | **120** | D | **120** | E | **140** | D | **71** | 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 | 0.44 | J | **2.4** | | **2.7** | | **2.5** | | **2.9** | | **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 |
| 8260 TVOC | 6.1 | | 145.61 | | 148.37 | | 148.51 | | 174.68 | | 90.28 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 121-54 Depth : 220.00 05/04/2022 ug/L | | 121-54 Depth : 220.00 07/20/2022 ug/L | | 121-54 Depth : 220.00 11/15/2022 ug/L | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 0.5 | U | 0.5 | U | 0.5 | U | | | | | | |
| 1,1,1-Trichloroethane | **0.53** | | **0.61** | | **0.52** | | | | | | | |
| 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 | 0.48 | J | **0.57** | | 0.48 | J | | | | | | |
| 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 | **15** | | **16** | | **11** | D | | | | | | |
| 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 | **0.66** | | **0.67** | | **0.6** | | | | | | | |
| 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 | **73** | D | **83** | D | **66** | D | | | | | | |
| Toluene | 0.5 | U | 0.5 | U | 0.5 | U | | | | | | |
| trans-1,3-Dichloropropene | 0.5 | U | 0.5 | U | 0.5 | U | | | | | | |
| Trichloroethylene | **0.83** | | **0.89** | | **0.79** | | | | | | | |
| 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 | 90.5 | | 101.74 | | 79.39 | | | | | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 095-322 Depth : 180.00 01/26/2022 ug/L | | 095-322 Depth : 180.00 04/29/2022 ug/L | | 095-322 Depth : 180.00 07/13/2022 ug/L | | 095-322 Depth : 180.00 11/04/2022 ug/L | | 095-323 Depth : 205.00 01/26/2022 ug/L | | 095-323 Depth : 205.00 04/29/2022 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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 095-323<br>Depth : 205.00<br>07/13/2022<br>ug/L | | 095-323<br>Depth : 205.00<br>11/04/2022<br>ug/L | | 095-92<br>Depth : 121.00<br>04/29/2022<br>ug/L | | 095-92<br>Depth : 121.00<br>11/04/2022<br>ug/L | | 104-11<br>Depth : 190.00<br>04/25/2022<br>ug/L | | 104-11<br>Depth : 190.00<br>11/04/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 104-36 Depth : 136.00 04/22/2022 ug/L | | 104-36 Depth : 136.00 11/04/2022 ug/L | | 104-37 Depth : 209.00 01/21/2022 ug/L | | 104-37 Depth : 209.00 04/22/2022 ug/L | | 104-37 Depth : 209.00 07/13/2022 ug/L | | 104-37 Depth : 209.00 11/04/2022 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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 104-38<br>Depth : 105.00<br>04/25/2022<br>ug/L | | 104-38<br>Depth : 205.00<br>11/04/2022<br>ug/L | | 105-23<br>Depth : 180.00<br>01/24/2022<br>ug/L | | 105-23<br>Depth : 180.00<br>04/22/2022<br>ug/L | | 105-23<br>Depth : 180.00<br>07/13/2022<br>ug/L | | 105-23<br>Depth : 180.00<br>11/04/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 105-25<br>Depth : 147.50<br>04/26/2022<br>ug/L | | 105-25<br>Depth : 142.50<br>11/14/2022<br>ug/L | | 105-42<br>Depth : 147.50<br>04/22/2022<br>ug/L | | 105-42<br>Depth : 147.50<br>11/04/2022<br>ug/L | | 105-44<br>Depth : 152.50<br>06/07/2022<br>ug/L | | 105-44<br>Depth : 152.50<br>11/14/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 105-53 Depth : 175.00 04/28/2022 ug/L | | 105-53 Depth : 175.00 11/08/2022 ug/L | | 105-66 Depth : 184.00 01/25/2022 ug/L | | 105-66 Depth : 184.00 04/28/2022 ug/L | | 105-66 Depth : 184.00 07/14/2022 ug/L | | 105-66 Depth : 184.00 11/08/2022 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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 105-67<br>Depth : 185.00<br>01/25/2022<br>ug/L | | 105-67<br>Depth : 185.00<br>04/28/2022<br>ug/L | | 105-67<br>Depth : 185.00<br>07/14/2022<br>ug/L | | 105-67<br>Depth : 185.00<br>11/08/2022<br>ug/L | | 105-68<br>Depth : 205.00<br>01/24/2022<br>ug/L | | 105-68<br>Depth : 205.00<br>04/28/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 105-68<br>Depth : 205.00<br>07/14/2022<br>ug/L | | 105-68<br>Depth : 205.00<br>11/04/2022<br>ug/L | | 106-56<br>Depth : 165.00<br>04/26/2022<br>ug/L | | 106-56<br>Depth : 165.00<br>11/08/2022<br>ug/L | | 106-58<br>Depth : 205.00<br>04/26/2022<br>ug/L | | 106-58<br>Depth : 205.00<br>11/08/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 106-62<br>Depth : 72.00<br>04/26/2022<br>ug/L | | 106-62<br>Depth : 72.00<br>11/08/2022<br>ug/L | | 113-07<br>Depth : 99.00<br>11/07/2022<br>ug/L | | 113-08<br>Depth : 142.00<br>04/25/2022<br>ug/L | | 113-08<br>Depth : 142.00<br>11/07/2022<br>ug/L | | 113-09<br>Depth : 222.00<br>04/25/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 113-09<br>Depth : 222.00<br>11/07/2022<br>ug/L | | 113-11<br>Depth : 201.00<br>04/26/2022<br>ug/L | | 113-11<br>Depth : 201.00<br>11/07/2022<br>ug/L | | 113-17<br>Depth : 177.00<br>01/25/2022<br>ug/L | | 113-17<br>Depth : 177.00<br>04/26/2022<br>ug/L | | 113-17<br>Depth : 177.00<br>07/15/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 2 | U D | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | 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 | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 113-17<br>Depth : 177.00<br>11/07/2022<br>ug/L | | 113-18<br>Depth : 152.00<br>11/07/2022<br>ug/L | | 113-19<br>Depth : 230.00<br>01/25/2022<br>ug/L | | 113-19<br>Depth : 230.00<br>04/26/2022<br>ug/L | | 113-19<br>Depth : 230.00<br>07/15/2022<br>ug/L | | 113-19<br>Depth : 230.00<br>11/07/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 113-22<br>Depth : 240.00<br>04/28/2022<br>ug/L | | 113-22<br>Depth : 240.00<br>11/08/2022<br>ug/L | | 113-29<br>Depth : 190.00<br>01/24/2022<br>ug/L | | 113-29<br>Depth : 190.00<br>04/22/2022<br>ug/L | | 113-29<br>Depth : 190.00<br>11/04/2022<br>ug/L | | 113-30<br>Depth : 190.00<br>01/25/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 113-30<br>Depth : 190.00<br>04/27/2022<br>ug/L | | 113-30<br>Depth : 190.00<br>07/14/2022<br>ug/L | | 113-30<br>Depth : 190.00<br>11/04/2022<br>ug/L | | 113-31<br>Depth : 190.00<br>01/25/2022<br>ug/L | | 113-31<br>Depth : 190.00<br>04/25/2022<br>ug/L | | 113-31<br>Depth : 190.00<br>07/14/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 113-31<br>Depth : 190.00<br>11/04/2022<br>ug/L | | 114-12<br>Depth : 155.00<br>01/25/2022<br>ug/L | | 114-12<br>Depth : 155.00<br>04/28/2022<br>ug/L | | 114-12<br>Depth : 155.00<br>07/15/2022<br>ug/L | | 114-12<br>Depth : 155.00<br>11/14/2022<br>ug/L | | 121-45<br>Depth : 199.50<br>04/27/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 121-45<br>Depth : 199.00<br>11/15/2022<br>ug/L | | 121-53<br>Depth : 229.00<br>01/26/2022<br>ug/L | | 121-53<br>Depth : 229.00<br>05/04/2022<br>ug/L | | 121-53<br>Depth : 229.00<br>07/20/2022<br>ug/L | | 121-53<br>Depth : 229.00<br>11/15/2022<br>ug/L | | 121-54<br>Depth : 220.00<br>01/26/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Middle Rd)**

| Analyte | 121-54<br>Depth : 220.00<br>05/04/2022<br>ug/L | | 121-54<br>Depth : 220.00<br>07/20/2022<br>ug/L | | 121-54<br>Depth : 220.00<br>11/15/2022<br>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 | | | | | | |

OU III (South Boundary)

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (South Boundary)**

| Analyte | 114-06 Depth : 185.00 11/15/2022 ug/L | | 114-07 Depth : 205.00 11/15/2022 ug/L | | 121-06 Depth : 45.00 07/18/2022 ug/L | | 121-08 Depth : 185.00 05/02/2022 ug/L | | 121-08 Depth : 185.00 11/29/2022 ug/L | | 121-10 Depth : 165.00 05/03/2022 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 | **0.53** | | 0.47 | 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 | 0.21 | J | 0.5 | U |
| 1,1-Dichloroethylene | 0.5 | U | 0.5 | U | 0.5 | U | **0.59** | | **0.59** | | 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 | 0.17 | 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 |
| 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 | 0.43 | J | 0.43 | J | **1.1** | | 0.27 | J | 0.28 | J | 0.48 | 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 | 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 | **1.5** | |
| 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 | 0.22 | J | 0.5 | U | 0.32 | 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 | **1.1** | | **1.1** | | 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 | 0.43 | | 0.43 | | 1.1 | | 2.88 | | 2.65 | | 2.3 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (South Boundary)**

| Analyte | 121-10 Depth : 165.00 11/29/2022 ug/L | | 121-11 Depth : 205.00 05/03/2022 ug/L | | 121-11 Depth : 205.00 11/22/2022 ug/L | | 121-12 Depth : 50.00 07/18/2022 ug/L | | 121-14 Depth : 195.00 05/03/2022 ug/L | | 121-14 Depth : 195.00 11/22/2022 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** | | **0.62** | | 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 | 0.26 | J | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | 0.5 | U | **0.67** | | **0.54** | | 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 | **2.1** | | **5** | | 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 | 0.43 | J | **0.75** | | 0.73 | U | **2** | | 0.33 | 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 | **1.2** | | 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 | **0.7** | | **18** | | **15** | | 0.5 | U | **0.61** | | 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 | 0.5 | U | **0.86** | | 0.45 | 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 | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 2.33 | | 23.36 | | 21.61 | | 2 | | 0.94 | | 0.34 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (South Boundary)**

| Analyte | 121-18<br>Depth : 70.00<br>07/18/2022<br>ug/L | | 121-20<br>Depth : 190.00<br>11/22/2022<br>ug/L | | 121-21<br>Depth : 70.00<br>07/18/2022<br>ug/L | | 121-23<br>Depth : 190.00<br>11/22/2022<br>ug/L | | 121-43<br>Depth : 195.00<br>05/12/2022<br>ug/L | | 121-43<br>Depth : 195.00<br>11/30/2022<br>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 | **2.5** | | 0.5 | U | **1.1** | | 0.5 | U | 0.31 | 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 | 0.35 | J | 0.5 | U | **0.71** | | **0.98** | | **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 | 0.5 | 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 | 2.5 | | 0.35 | | 1.1 | | 0.71 | | 1.29 | | 1.4 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (South Boundary)**

| Analyte | 121-45<br>Depth : 199.50<br>04/27/2022<br>ug/L | | 121-45<br>Depth : 199.00<br>11/15/2022<br>ug/L | | 121-47<br>Depth : 229.00<br>05/03/2022<br>ug/L | | 121-47<br>Depth : 239.00<br>11/29/2022<br>ug/L | | 121-48<br>Depth : 228.00<br>05/03/2022<br>ug/L | | 121-48<br>Depth : 228.00<br>11/22/2022<br>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 | 0.22 | J | 0.27 | J | **2.7** | | **2.6** | | **4** | | **4.9** | |
| 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 | 0.5 | U | 0.5 | U | **1.2** | | **1** | | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | 0.5 | U | 0.5 | U | **4.1** | | **3.8** | | **4** | | **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 | 0.5 | 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 | 0.17 | J | 0.14 | J | 0.22 | 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 | 0.19 | J | 0.26 | J | 0.27 | J | **2** | | **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 | 0.44 | J | 0.5 | U | **1.5** | | **1.3** | | **0.84** | | 0.9 | U |
| cis-1,2-Dichloroethylene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **0.75** | | **0.91** | |
| 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 | 0.36 | J | **0.57** | | 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 | **4.9** | | **5.2** | | 0.27 | J | 0.23 | J | **1.8** | | **2.3** | |
| 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 | 0.48 | J | 0.44 | J | **1** | | **0.85** | | **2.9** | | **3.9** | |
| 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 | 6.04 | | 6.1 | | 11.56 | | 10.76 | | 16.51 | | 19.51 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (South Boundary)**

| Analyte | 121-49 Depth : 215.00 01/26/2022 ug/L | | 121-49 Depth : 215.00 05/03/2022 ug/L | | 121-49 Depth : 215.00 07/18/2022 ug/L | | 121-49 Depth : 215.00 11/22/2022 ug/L | | 121-53 Depth : 229.00 01/26/2022 ug/L | | 121-53 Depth : 229.00 05/04/2022 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 | **2.1** | | **2.2** | |
| 1,1,2,2-Tetrachloroethane | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.18 | 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 | 0.24 | J | **0.58** | |
| 1,1-Dichloroethylene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **2.2** | | **2.4** | |
| 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 | 0.5 | 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 | **0.68** | | **0.64** | | 0.48 | J | 0.49 | J | **16** | | **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 | 0.5 | U | 0.42 | J | 0.46 | J | 0.5 | U | **1.8** | | **1.8** | |
| 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 | 0.5 | 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 | 0.87 | J D | **0.51** | |
| 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 | **18** | | **18** | | **16** | | **18** | | **120** | D | **120** | 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 | 0.35 | J | 0.26 | J | 0.29 | J | **2.4** | | **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 | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 18.68 | | 19.41 | | 17.2 | | 18.78 | | 145.61 | | 148.37 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (South Boundary)**

| Analyte | 121-53 Depth : 229.00 07/20/2022 ug/L | | 121-53 Depth : 229.00 11/15/2022 ug/L | | 121-54 Depth : 220.00 01/26/2022 ug/L | | 121-54 Depth : 220.00 05/04/2022 ug/L | | 121-54 Depth : 220.00 07/20/2022 ug/L | | 121-54 Depth : 220.00 11/15/2022 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** | | **2.3** | | 0.28 | J | **0.53** | | **0.61** | | **0.52** | |
| 1,1,2,2-Tetrachloroethane | 0.2 | J | 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 | 0.47 | J | 0.42 | J | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | **2.3** | | **2.2** | | 0.5 | U | 0.48 | J | **0.57** | | 0.48 | 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-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 | **19** | | **25** | D | **18** | | **15** | | **16** | | **11** | 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 | **1.6** | | **1.5** | | 0.34 | J | **0.66** | | **0.67** | | **0.6** | |
| 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 | 0.36 | 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 | **120** | E | **140** | D | **71** | D | **73** | D | **83** | D | **66** | 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 | **2.5** | | **2.9** | | **0.66** | | **0.83** | | **0.89** | | **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) | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 148.51 | | 174.68 | | 90.28 | | 90.5 | | 101.74 | | 79.39 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (South Boundary)**

| Analyte | 122-04<br>Depth : 202.50<br>11/17/2022<br>ug/L | | 122-05<br>Depth : 271.50<br>05/04/2022<br>ug/L | | 122-05<br>Depth : 271.50<br>11/17/2022<br>ug/L | | 122-09<br>Depth : 115.00<br>11/17/2022<br>ug/L | | 122-10<br>Depth : 154.50<br>07/18/2022<br>ug/L | | 122-17<br>Depth : 210.00<br>05/04/2022<br>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** | | **1.2** | | 0.5 | U | 0.5 | U | 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 | 0.28 | J | 0.39 | 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 | 0.5 | U | 0.5 | U | 0.5 | U | **1.7** | |
| 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 | U | 0.37 | J | 0.57 | U | 0.61 | U | 0.41 | J | **0.83** | |
| cis-1,2-Dichloroethylene | **2.4** | | **14** | | **13** | | 0.5 | U | 0.5 | U | 0.34 | 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 | 0.18 | 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 | **2.7** | | **2.4** | | **2.9** | | 0.5 | U | 0.22 | J | **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 | 0.3 | J | **1.5** | | **1.7** | | 0.5 | U | 0.5 | U | **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 |
| 8260 TVOC | 5.4 | | 19.27 | | 19.19 | | 0 | | 0.63 | | 6.79 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (South Boundary)**

| Analyte | 122-17<br>Depth : 210.00<br>11/17/2022<br>ug/L | | 122-19<br>Depth : 200.00<br>11/17/2022<br>ug/L | | 122-20<br>Depth : 260.00<br>11/17/2022<br>ug/L | | 122-21<br>Depth : 185.00<br>11/17/2022<br>ug/L | | 122-22<br>Depth : 205.00<br>11/17/2022<br>ug/L | | 122-31<br>Depth : 155.00<br>11/15/2022<br>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 | 0.28 | J | 0.5 | U | **1.7** | | 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 | **0.59** | | 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 | 0.16 | J | 0.5 | U | 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 | 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 | **1.9** | | 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 | 0.8 | U | 0.5 | U | 0.55 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| cis-1,2-Dichloroethylene | 0.31 | J | **1.6** | | **0.91** | | 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 | **2.1** | | 0.45 | J | **2.1** | | 0.21 | J | **0.85** | | 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 | **1.6** | | 0.5 | U | **1.8** | | 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 | 6.35 | | 2.05 | | 7.39 | | 0.21 | | 0.85 | | 0 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (South Boundary)**

| Analyte | 122-32<br>Depth : 205.00<br>11/15/2022<br>ug/L | | 122-33<br>Depth : 180.00<br>11/15/2022<br>ug/L | | 122-34<br>Depth : 200.00<br>11/29/2022<br>ug/L | | 122-35<br>Depth : 205.00<br>11/29/2022<br>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 | | | | |
| 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 | 0.5 | 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 | 1 | U | 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 | 0.5 | U | 0.26 | J | | | | |
| 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 | 0.5 | U | 0.3 | J | 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) | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | | | | |
| 8260 TVOC | 0 | | 0 | | 0.3 | | 0.26 | | | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (South Boundary)**

| Analyte | 114-06<br>Depth : 185.00<br>11/15/2022<br>ug/L | | 114-07<br>Depth : 205.00<br>11/15/2022<br>ug/L | | 121-06<br>Depth : 45.00<br>07/18/2022<br>ug/L | | 121-08<br>Depth : 185.00<br>05/02/2022<br>ug/L | | 121-08<br>Depth : 185.00<br>11/29/2022<br>ug/L | | 121-10<br>Depth : 165.00<br>05/03/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (South Boundary)**

| Analyte | 121-10<br>Depth : 165.00<br>11/29/2022<br>ug/L | | 121-11<br>Depth : 205.00<br>05/03/2022<br>ug/L | | 121-11<br>Depth : 205.00<br>11/22/2022<br>ug/L | | 121-12<br>Depth : 50.00<br>07/18/2022<br>ug/L | | 121-14<br>Depth : 195.00<br>05/03/2022<br>ug/L | | 121-14<br>Depth : 195.00<br>11/22/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (South Boundary)**

| Analyte | 121-18<br>Depth : 70.00<br>07/18/2022<br>ug/L | | 121-20<br>Depth : 190.00<br>11/22/2022<br>ug/L | | 121-21<br>Depth : 70.00<br>07/18/2022<br>ug/L | | 121-23<br>Depth : 190.00<br>11/22/2022<br>ug/L | | 121-43<br>Depth : 195.00<br>05/12/2022<br>ug/L | | 121-43<br>Depth : 195.00<br>11/30/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (South Boundary)**

| Analyte | 121-45<br>Depth : 199.50<br>04/27/2022<br>ug/L | | 121-45<br>Depth : 199.00<br>11/15/2022<br>ug/L | | 121-47<br>Depth : 229.00<br>05/03/2022<br>ug/L | | 121-47<br>Depth : 239.00<br>11/29/2022<br>ug/L | | 121-48<br>Depth : 228.00<br>05/03/2022<br>ug/L | | 121-48<br>Depth : 228.00<br>11/22/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (South Boundary)**

| Analyte | 121-49<br>Depth : 215.00<br>01/26/2022<br>ug/L | | 121-49<br>Depth : 215.00<br>05/03/2022<br>ug/L | | 121-49<br>Depth : 215.00<br>07/18/2022<br>ug/L | | 121-49<br>Depth : 215.00<br>11/22/2022<br>ug/L | | 121-53<br>Depth : 229.00<br>01/26/2022<br>ug/L | | 121-53<br>Depth : 229.00<br>05/04/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (South Boundary)**

| Analyte | 121-53 Depth : 229.00 07/20/2022 ug/L | | 121-53 Depth : 229.00 11/15/2022 ug/L | | 121-54 Depth : 220.00 01/26/2022 ug/L | | 121-54 Depth : 220.00 05/04/2022 ug/L | | 121-54 Depth : 220.00 07/20/2022 ug/L | | 121-54 Depth : 220.00 11/15/2022 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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (South Boundary)**

| Analyte | 122-04<br>Depth : 202.50<br>11/17/2022<br>ug/L | | 122-05<br>Depth : 271.50<br>05/04/2022<br>ug/L | | 122-05<br>Depth : 271.50<br>11/17/2022<br>ug/L | | 122-09<br>Depth : 115.00<br>11/17/2022<br>ug/L | | 122-10<br>Depth : 154.50<br>07/18/2022<br>ug/L | | 122-17<br>Depth : 210.00<br>05/04/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (South Boundary)**

| Analyte | 122-17<br>Depth : 210.00<br>11/17/2022<br>ug/L | | 122-19<br>Depth : 200.00<br>11/17/2022<br>ug/L | | 122-20<br>Depth : 260.00<br>11/17/2022<br>ug/L | | 122-21<br>Depth : 185.00<br>11/17/2022<br>ug/L | | 122-22<br>Depth : 205.00<br>11/17/2022<br>ug/L | | 122-31<br>Depth : 155.00<br>11/15/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (South Boundary)**

| Analyte | 122-32<br>Depth : 205.00<br>11/15/2022<br>ug/L | | 122-33<br>Depth : 180.00<br>11/15/2022<br>ug/L | | 122-34<br>Depth : 200.00<br>11/29/2022<br>ug/L | | 122-35<br>Depth : 205.00<br>11/29/2022<br>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 | | | | |

OU III (Western South Boundary)

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 000-558 Depth : 165.00 02/17/2022 ug/L | | 000-558 Depth : 165.00 05/13/2022 ug/L | | 000-558 Depth : 165.00 07/25/2022 ug/L | | 000-558 Depth : 165.00 12/01/2022 ug/L | | 000-559 Depth : 215.00 02/17/2022 ug/L | | 000-559 Depth : 215.00 05/13/2022 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** | | **3.1** | | **3.1** | | **2.9** | | 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 | **1.1** | | **1.1** | | **1.2** | | **1.3** | | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | **4.8** | | **4.7** | | **4.9** | | **5.5** | | 0.18 | 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 | **4.9** | | **4.5** | | **5.1** | | **4.6** | | 0.22 | 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 | **3.3** | | **3.2** | | **3.4** | | **3.6** | | **2.2** | | **2.1** | |
| 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 | **4.2** | | **4.2** | | **3.8** | | **3.9** | | 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 | 21.5 | | 20.8 | | 21.5 | | 21.8 | | 2.6 | | 2.1 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 000-559<br>Depth : 215.00<br>07/25/2022<br>ug/L | | 000-559<br>Depth : 215.00<br>12/01/2022<br>ug/L | | 000-560<br>Depth : 159.50<br>02/24/2022<br>ug/L | | 000-560<br>Depth : 159.50<br>05/13/2022<br>ug/L | | 000-560<br>Depth : 169.50<br>07/27/2022<br>ug/L | | 103-15<br>Depth : 200.00<br>02/02/2022<br>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 | **1.2** | | **1.9** | | **3** | | 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 | 0.41 | J | **0.68** | | **1.1** | | **4.4** | |
| 1,1-Dichloroethylene | 0.5 | U | 0.5 | U | **1.5** | | **2.9** | | **4.6** | | **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 | 0.5 | 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 | **1.3** | | **1.8** | | **3.1** | | 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 | **1.7** | | **2.1** | | **3.3** | | **5** | | **9.7** | | **13** | |
| 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 | **1.4** | | **2.7** | | **4** | | **5.6** | |
| 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) | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 1.7 | | 2.1 | | 9.11 | | 14.98 | | 25.5 | | 29 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 103-15 Depth : 200.00 05/09/2022 ug/L | | 103-15 Depth : 200.00 07/22/2022 ug/L | | 103-15 Depth : 200.00 12/01/2022 ug/L | | 103-18 Depth : 170.00 02/24/2022 ug/L | | 103-18 Depth : 170.00 06/21/2022 ug/L | | 103-18 Depth : 170.00 07/22/2022 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 | **4.9** | | **4.6** | | **4.7** | | **1.2** | | **1.3** | | **1.4** | |
| 1,1-Dichloroethylene | **6.5** | | **7.1** | | **7.6** | | **1.9** | | **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 | 0.5 | 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 | 0.5 | 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 | **18** | | **16** | | **15** | | **4.3** | | **3.2** | | **3.9** | |
| 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 | 0.18 | J | 0.19 | 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 | **5.3** | | **5.4** | | **5.9** | | **2.8** | | **2.9** | | **2.8** | |
| 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 | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 34.7 | | 33.1 | | 33.2 | | 10.2 | | 9.58 | | 10.49 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 103-18<br>Depth : 170.00<br>12/29/2022<br>ug/L | | 103-19<br>Depth : 170.00<br>02/02/2022<br>ug/L | | 103-19<br>Depth : 170.00<br>06/21/2022<br>ug/L | | 103-19<br>Depth : 170.00<br>07/22/2022<br>ug/L | | 103-19<br>Depth : 170.00<br>12/29/2022<br>ug/L | | 111-15<br>Depth : 175.00<br>01/27/2022<br>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** | | 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 | **5.9** | | **0.71** | | **1.2** | | **1.3** | | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | **27** | | **0.93** | | **1.4** | | **1.4** | | 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 | 0.29 | 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 | **2.2** | |
| 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 | 0.4 | 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 | 1.9 | U | **1.8** | | **1.2** | | **1.4** | | 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 | 0.33 | J |
| 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 | **2.7** | |
| trans-1,3-Dichloropropene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| Trichloroethylene | 3.3 | U | **2.3** | | **2.5** | | **2.4** | | 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) | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 0.33 | J |
| 8260 TVOC | 38.29 | | 5.74 | | 6.3 | | 6.5 | | 0.4 | | 5.56 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 111-15 Depth : 175.00 05/09/2022 ug/L | | 111-15 Depth : 175.00 08/22/2022 ug/L | | 111-15 Depth : 175.00 12/29/2022 ug/L | | 111-16 Depth : 173.00 01/27/2022 ug/L | | 111-16 Depth : 173.00 05/09/2022 ug/L | | 111-16 Depth : 173.00 08/23/2022 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 | **5.2** | | 0.34 | J | 0.45 | J | 0.46 | 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 | **5.8** | | 0.36 | J | **0.83** | | **0.71** | |
| 1,1-Dichloroethylene | 0.5 | U | 0.18 | J | **28** | | **1.8** | | **1.8** | | **1.5** | |
| 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 | 0.5 | 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 | 0.41 | J | 0.5 | U | 0.5 | U | 0.34 | J | **0.68** | | **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 | 1.9 | U | 0.5 | U | 0.33 | J | 0.47 | 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 | 0.5 | U | 0.21 | 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 | 3.4 | U | 0.49 | J | **0.77** | | **0.76** | |
| 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 | 0.41 | | 0.18 | | 39 | | 3.33 | | 5.07 | | 4.74 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 111-16<br>Depth : 173.00<br>12/01/2022<br>ug/L | | 119-06<br>Depth : 130.00<br>02/01/2022<br>ug/L | | 119-06<br>Depth : 130.00<br>06/02/2022<br>ug/L | | 119-06<br>Depth : 130.00<br>08/23/2022<br>ug/L | | 119-06<br>Depth : 130.00<br>12/08/2022<br>ug/L | | 119-10<br>Depth : 200.00<br>01/26/2022<br>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 | **0.52** | | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **2.2** | |
| 1,1-Dichloroethylene | **1.2** | | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **1.9** | |
| 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 | 0.5 | 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 | **1.7** | | 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 | **3.4** | |
| 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 | 0.19 | J | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **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 | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 3.61 | | 0 | | 0 | | 0 | | 0 | | 8.5 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 119-10<br>Depth : 200.00<br>06/02/2022<br>ug/L | | 119-10<br>Depth : 200.00<br>07/22/2022<br>ug/L | | 119-10<br>Depth : 200.00<br>12/08/2022<br>ug/L | | 119-11<br>Depth : 180.00<br>02/02/2022<br>ug/L | | 119-11<br>Depth : 180.00<br>05/16/2022<br>ug/L | | 119-11<br>Depth : 180.00<br>08/22/2022<br>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 | **12** | | **9.6** | | **7.5** | |
| 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 | **2.3** | | **2.1** | | **2.5** | | **7.8** | | **7.9** | | **6.5** | |
| 1,1-Dichloroethylene | **1.3** | | **1.9** | | **2.2** | | **52** | D | **47** | | **35** | |
| 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 | 0.42 | J | 0.37 | 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 | 0.5 | U | 0.5 | U | 0.18 | J | 0.17 | 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 | **2.4** | | **2.7** | | **2.9** | | **1.6** | | **2.1** | | **0.63** | |
| 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 | **1.3** | | **1.4** | | **1.5** | | **3.1** | | **4.3** | | **3.8** | |
| 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 | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 7.3 | | 8.1 | | 9.1 | | 76.5 | | 71.5 | | 53.97 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 119-11<br>Depth : 180.00<br>12/29/2022<br>ug/L | | 119-12<br>Depth : 179.00<br>02/02/2022<br>ug/L | | 119-12<br>Depth : 179.00<br>05/16/2022<br>ug/L | | 119-12<br>Depth : 179.00<br>08/23/2022<br>ug/L | | 119-12<br>Depth : 179.00<br>12/08/2022<br>ug/L | | 126-01<br>Depth : 65.00<br>12/27/2022<br>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 | **3.3** | | **4** | | **2.1** | | **2.1** | | **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 | 1.3 | U | 0.5 | U | 0.22 | J | 0.5 | U | 0.31 | J | 0.28 | J |
| 1,1-Dichloroethylene | 1.8 | U | **2.2** | | **2.5** | | **1.4** | | **2** | | **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 | 0.5 | 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 | 0.14 | 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 | 0.5 | U | 0.5 | U | 0.47 | J | **0.6** | | **0.58** | | **1.6** | |
| 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 | 3.2 | 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 | **0.6** | |
| 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 | 3.2 | U | **1.8** | | **2.4** | | **1.4** | | **1.8** | | **1.3** | |
| 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 | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 0 | | 7.3 | | 9.73 | | 5.5 | | 6.79 | | 10.98 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 126-11<br>Depth : 155.00<br>06/13/2022<br>ug/L | | 126-11<br>Depth : 155.00<br>12/15/2022<br>ug/L | | 126-13<br>Depth : 155.00<br>06/02/2022<br>ug/L | | 126-13<br>Depth : 155.00<br>12/15/2022<br>ug/L | | 126-14<br>Depth : 155.00<br>02/11/2022<br>ug/L | | 126-14<br>Depth : 155.00<br>06/13/2022<br>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 | **9** | | **7.1** | |
| 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 | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **7.6** | | **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 | 0.5 | U | 0.5 | U | 0.5 | U | 0.27 | J | 0.2 | 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 | 0.49 | J | 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 | 0.5 | 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 | 0.2 | J | 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 | **0.87** | | 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 | 0.18 | J | **1.9** | | **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 | 0.2 | J | 1.5 | U |
| 8260 TVOC | 0 | | 0 | | 0 | | 0.18 | | 20.53 | | 14.4 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 126-14 Depth : 155.00 07/21/2022 ug/L | | 126-14 Depth : 155.00 12/15/2022 ug/L | | 126-15 Depth : 155.00 06/13/2022 ug/L | | 126-15 Depth : 155.00 12/27/2022 ug/L | | 126-16 Depth : 135.00 02/10/2022 ug/L | | 126-16 Depth : 135.00 05/12/2022 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 | **7.1** | | **5.5** | | 0.2 | J | 0.5 | U | **2.2** | | **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 | 0.5 | U | 0.5 | U | 0.5 | U | **1** | | **0.6** | | **1** | |
| 1,1-Dichloroethylene | **5.2** | | **3.3** | | 0.27 | J | **0.89** | | **3.6** | | **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 | 0.17 | J | 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 | 0.22 | J | 0.5 | U | **3.2** | | **3.2** | |
| 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 | **4** | | **14** | | **3.8** | | **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 | 0.5 | 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 | **1.7** | | **1.9** | | 0.5 | U | 0.5 | U | **2.8** | | **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) | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 14 | | 10.87 | | 4.69 | | 15.89 | | 16.2 | | 16.6 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 126-16<br>Depth : 135.00<br>07/26/2022<br>ug/L | | 126-16<br>Depth : 135.00<br>11/30/2022<br>ug/L | | 126-17<br>Depth : 140.00<br>02/11/2022<br>ug/L | | 126-17<br>Depth : 140.00<br>06/13/2022<br>ug/L | | 126-17<br>Depth : 140.00<br>07/21/2022<br>ug/L | | 126-17<br>Depth : 140.00<br>12/15/2022<br>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** | | **2.3** | | 0.23 | J | 0.5 | U | 0.16 | 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 | **0.97** | | **1.2** | | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | **3.7** | | **4.6** | | 0.27 | 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 | 0.5 | 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 | **3.3** | | **3.7** | | 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 | **2.8** | | **2.8** | | 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 | 0.23 | J | 0.27 | 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 | **2.8** | | **3.4** | | 0.5 | U | 0.5 | U | 0.17 | 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 | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 15.8 | | 18.27 | | 0.5 | | 0 | | 0.33 | | 0.18 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 126-18 Depth : 165.00 02/01/2022 ug/L | | 126-18 Depth : 165.00 06/13/2022 ug/L | | 126-18 Depth : 165.00 07/21/2022 ug/L | | 126-18 Depth : 165.00 12/15/2022 ug/L | | 126-19 Depth : 195.00 02/01/2022 ug/L | | 126-19 Depth : 195.00 06/14/2022 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 | **0.51** | | 0.48 | J | 0.39 | J | **1.6** | | **1.9** | |
| 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 | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **1.6** | | **2.5** | |
| 1,1-Dichloroethylene | 0.36 | J | **0.76** | | **0.73** | | **0.96** | | **3.9** | | **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 | 0.5 | 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 | 0.2 | J | 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 | **0.69** | | **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 | **8.4** | | **5.4** | |
| 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 | 0.17 | J | 0.5 | U | 0.2 | J | 0.5 | U | 0.5 | U |
| Toluene | 0.5 | U | 0.33 | J | 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 | 0.22 | 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 |
| 8260 TVOC | 0.65 | | 1.97 | | 1.21 | | 1.77 | | 16.19 | | 14.9 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 126-19 Depth : 195.00 07/21/2022 ug/L | | 126-19 Depth : 195.00 12/15/2022 ug/L | | 126-20 Depth : 140.00 02/11/2022 ug/L | | 126-20 Depth : 140.00 06/15/2022 ug/L | | 126-20 Depth : 140.00 07/21/2022 ug/L | | 126-20 Depth : 140.00 12/15/2022 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** | | **1.8** | | **4.8** | | **3.3** | | **3.4** | | **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 | **2.8** | | **2.7** | | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | **4.1** | | **3.9** | | **5.6** | | **3.6** | | **4** | | **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 | 0.5 | 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 | 0.28 | J | 0.23 | J | 0.23 | J | 0.17 | 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 | **0.93** | | 0.97 | U | 0.25 | J | 0.26 | J | 0.27 | 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 | **5.6** | | **5.8** | | 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 | 0.42 | J | 0.38 | J | 0.43 | J | 0.4 | 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 | **0.6** | | **0.55** | | **0.52** | | **0.59** | |
| 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 | 15.23 | | 14.2 | | 11.95 | | 8.32 | | 8.85 | | 5.76 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 126-21 Depth : 204.00 02/11/2022 ug/L | | 126-21 Depth : 205.00 06/15/2022 ug/L | | 126-21 Depth : 204.00 07/21/2022 ug/L | | 126-21 Depth : 204.00 12/08/2022 ug/L | | 127-04 Depth : 155.00 06/14/2022 ug/L | | 127-04 Depth : 155.00 11/29/2022 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 | 0.2 | J | 0.34 | 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 | 0.28 | J | 0.34 | J | **0.76** | | 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 | 0.28 | J | 0.21 | J | 0.38 | J | **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 | 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 | **0.59** | | 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 | 0.26 | 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 | **0.92** | | **0.8** | |
| 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 | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 1.15 | | 0.75 | | 1.48 | | 1.4 | | 1.18 | | 0.8 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 127-06<br>Depth : 155.00<br>06/14/2022<br>ug/L | | 127-06<br>Depth : 155.00<br>11/29/2022<br>ug/L | | 127-07<br>Depth : 151.00<br>02/10/2022<br>ug/L | | 127-07<br>Depth : 151.00<br>05/12/2022<br>ug/L | | 127-07<br>Depth : 151.00<br>07/26/2022<br>ug/L | | 127-07<br>Depth : 157.00<br>11/30/2022<br>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 | **0.59** | | **0.64** | | **0.9** | |
| 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 | 0.5 | U | 0.5 | U | 0.5 | U | 0.41 | J | 0.23 | J | 0.42 | J |
| 1,1-Dichloroethylene | 0.5 | U | 0.5 | U | **0.55** | | **1** | | **1** | | **1.3** | |
| 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 | 0.5 | 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 | 0.25 | J | **0.71** | | **0.75** | | **0.88** | |
| 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 | **1.6** | | **1** | | **0.85** | | **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 | 0.5 | 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 | 0.27 | J | 0.18 | J | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| Toluene | 0.19 | 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 | **0.6** | | 0.44 | J | 0.5 | U | 0.44 | J | 0.46 | J | **0.78** | |
| 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 | 1.06 | | 0.62 | | 2.6 | | 4.15 | | 3.93 | | 5.48 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 130-02<br>Depth : 115.00<br>06/15/2022<br>ug/L | | 130-02<br>Depth : 115.00<br>12/27/2022<br>ug/L | | 130-03<br>Depth : 165.00<br>06/21/2022<br>ug/L | | 130-03<br>Depth : 162.50<br>12/27/2022<br>ug/L | | 130-04<br>Depth : 287.50<br>12/27/2022<br>ug/L | | 130-08<br>Depth : 150.00<br>02/10/2022<br>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 | **3.6** | | **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 | 0.5 | U | 0.26 | J | 0.33 | J | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | 0.5 | U | **4.2** | | **5.3** | | 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 | **1.6** | | **1.7** | | **2.2** | | **0.73** | | 0.33 | J | **1.6** | |
| 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 | 0.19 | 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 | **0.59** | | **0.64** | | 0.5 | U | 0.5 | U | 0.29 | 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 | **1.2** | | **1.3** | | 0.5 | U | 0.5 | U | 0.5 | U |
| Trichlorofluoromethane | 0.5 | U | 0.5 | U | 0.18 | 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) | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 1.6 | | 11.55 | | 13.54 | | 0.73 | | 0.33 | | 1.89 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 130-08 Depth : 150.00 05/16/2022 ug/L | | 130-08 Depth : 150.00 07/26/2022 ug/L | | 130-08 Depth : 150.00 12/01/2022 ug/L | | 130-09 Depth : 140.00 02/24/2022 ug/L | | 130-09 Depth : 140.00 05/16/2022 ug/L | | 130-09 Depth : 140.00 07/25/2022 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 | **1.9** | | **1.5** | | **1.3** | | **1.6** | | **1.9** | | **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 | 0.5 | 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 | **0.58** | | 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 | 0.28 | J | 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 | 2.76 | | 1.5 | | 1.3 | | 1.6 | | 1.9 | | 2.1 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 130-09<br>Depth : 140.00<br>11/30/2022<br>ug/L | | 130-10<br>Depth : 155.00<br>02/07/2022<br>ug/L | | 130-10<br>Depth : 155.00<br>05/12/2022<br>ug/L | | 130-10<br>Depth : 155.00<br>07/25/2022<br>ug/L | | 130-10<br>Depth : 155.00<br>11/30/2022<br>ug/L | | 130-11<br>Depth : 200.00<br>02/07/2022<br>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 | **1.8** | | **0.85** | | **1.8** | | **2** | | **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 | 0.5 | 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 | 0.2 | 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 | 0.5 | 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 | 1.8 | | 0.85 | | 1.8 | | 2 | | 2 | | 1.5 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 130-11 Depth : 200.00 05/12/2022 ug/L | | 130-11 Depth : 200.00 07/26/2022 ug/L | | 130-11 Depth : 200.00 11/30/2022 ug/L | | 130-12 Depth : 0.00 01/25/2022 ug/L | | 130-12 Depth : 0.00 04/18/2022 ug/L | | 130-12 Depth : 0.00 07/14/2022 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 | 0.46 | J | 0.4 | J | 0.5 | U | **4.5** | | **4.6** | | **4.3** | |
| 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 | 0.32 | J | 0.39 | J | 0.35 | J |
| 1,1-Dichloroethylene | **0.68** | | **0.67** | | 0.41 | J | **4.8** | | **6.4** | | **6.2** | |
| 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 | 0.5 | 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 | **1.3** | | **1.4** | | **1.7** | | **1.5** | | **1.5** | | **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 | **1.2** | | **1** | | **0.79** | |
| 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 | **1.1** | | **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 | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 2.44 | | 2.47 | | 2.11 | | 13.42 | | 14.99 | | 14.04 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 130-12<br>Depth : 0.00<br>10/13/2022<br>ug/L | | 130-13<br>Depth : 0.00<br>01/25/2022<br>ug/L | | 130-13<br>Depth : 0.00<br>04/18/2022<br>ug/L | | 130-13<br>Depth : 0.00<br>07/14/2022<br>ug/L | | 130-13<br>Depth : 0.00<br>10/13/2022<br>ug/L | | 130-14<br>Depth : 208.00<br>02/11/2022<br>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 | **3.6** | | 0.36 | J | 0.41 | J | 0.46 | J | 0.16 | 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 | 0.25 | J | **0.57** | | **0.69** | | **0.67** | | **0.63** | | **1.1** | |
| 1,1-Dichloroethylene | **5.3** | | **0.95** | | **1.1** | | **1.3** | | **0.99** | | **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 | 0.5 | 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 | **1.1** | | 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 | **0.54** | | **4.1** | | **3.5** | | **4.2** | | **3.2** | | **21** | |
| 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 | **0.85** | | 0.5 | U | 0.5 | U | 0.5 | U | 0.17 | 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 |
| 8260 TVOC | 11.64 | | 5.98 | | 5.7 | | 6.63 | | 5.15 | | 23.2 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 130-14<br>Depth : 208.00<br>06/21/2022<br>ug/L | | 130-14<br>Depth : 208.00<br>08/23/2022<br>ug/L | | 130-14<br>Depth : 208.00<br>12/27/2022<br>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 | **1.1** | | **0.88** | | 0.5 | U | | | | | | |
| 1,1-Dichloroethylene | **0.63** | | **0.84** | | 0.16 | J | | | | | | |
| 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 | 0.31 | J | 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 | **17** | | **12** | | 4.1 | 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 | 0.5 | 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 | 18.73 | | 14.03 | | 0.16 | | | | | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 000-558<br>Depth : 165.00<br>02/17/2022<br>ug/L | | 000-558<br>Depth : 165.00<br>05/13/2022<br>ug/L | | 000-558<br>Depth : 165.00<br>07/25/2022<br>ug/L | | 000-558<br>Depth : 165.00<br>12/01/2022<br>ug/L | | 000-559<br>Depth : 215.00<br>02/17/2022<br>ug/L | | 000-559<br>Depth : 215.00<br>05/13/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 000-559<br>Depth : 215.00<br>07/25/2022<br>ug/L | | 000-559<br>Depth : 215.00<br>12/01/2022<br>ug/L | | 000-560<br>Depth : 159.50<br>02/24/2022<br>ug/L | | 000-560<br>Depth : 159.50<br>05/13/2022<br>ug/L | | 000-560<br>Depth : 169.50<br>07/27/2022<br>ug/L | | 103-15<br>Depth : 200.00<br>02/02/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 103-15<br>Depth : 200.00<br>05/09/2022<br>ug/L | | 103-15<br>Depth : 200.00<br>07/22/2022<br>ug/L | | 103-15<br>Depth : 200.00<br>12/01/2022<br>ug/L | | 103-18<br>Depth : 170.00<br>02/24/2022<br>ug/L | | 103-18<br>Depth : 170.00<br>06/21/2022<br>ug/L | | 103-18<br>Depth : 170.00<br>07/22/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 103-18<br>Depth : 170.00<br>12/29/2022<br>ug/L | | 103-19<br>Depth : 170.00<br>02/02/2022<br>ug/L | | 103-19<br>Depth : 170.00<br>06/21/2022<br>ug/L | | 103-19<br>Depth : 170.00<br>07/22/2022<br>ug/L | | 103-19<br>Depth : 170.00<br>12/29/2022<br>ug/L | | 111-15<br>Depth : 175.00<br>01/27/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 111-15<br>Depth : 175.00<br>05/09/2022<br>ug/L | | 111-15<br>Depth : 175.00<br>08/22/2022<br>ug/L | | 111-15<br>Depth : 175.00<br>12/29/2022<br>ug/L | | 111-16<br>Depth : 173.00<br>01/27/2022<br>ug/L | | 111-16<br>Depth : 173.00<br>05/09/2022<br>ug/L | | 111-16<br>Depth : 173.00<br>08/23/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 111-16<br>Depth : 173.00<br>12/01/2022<br>ug/L | | 119-06<br>Depth : 130.00<br>02/01/2022<br>ug/L | | 119-06<br>Depth : 130.00<br>06/02/2022<br>ug/L | | 119-06<br>Depth : 130.00<br>08/23/2022<br>ug/L | | 119-06<br>Depth : 130.00<br>12/08/2022<br>ug/L | | 119-10<br>Depth : 200.00<br>01/26/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 119-10<br>Depth : 200.00<br>06/02/2022<br>ug/L | | 119-10<br>Depth : 200.00<br>07/22/2022<br>ug/L | | 119-10<br>Depth : 200.00<br>12/08/2022<br>ug/L | | 119-11<br>Depth : 180.00<br>02/02/2022<br>ug/L | | 119-11<br>Depth : 180.00<br>05/16/2022<br>ug/L | | 119-11<br>Depth : 180.00<br>08/22/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 119-11<br>Depth : 180.00<br>12/29/2022<br>ug/L | | 119-12<br>Depth : 179.00<br>02/02/2022<br>ug/L | | 119-12<br>Depth : 179.00<br>05/16/2022<br>ug/L | | 119-12<br>Depth : 179.00<br>08/23/2022<br>ug/L | | 119-12<br>Depth : 179.00<br>12/08/2022<br>ug/L | | 126-01<br>Depth : 65.00<br>12/27/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 126-11<br>Depth : 155.00<br>06/13/2022<br>ug/L | | 126-11<br>Depth : 155.00<br>12/15/2022<br>ug/L | | 126-13<br>Depth : 155.00<br>06/02/2022<br>ug/L | | 126-13<br>Depth : 155.00<br>12/15/2022<br>ug/L | | 126-14<br>Depth : 155.00<br>02/11/2022<br>ug/L | | 126-14<br>Depth : 155.00<br>06/13/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 126-14<br>Depth : 155.00<br>07/21/2022<br>ug/L | | 126-14<br>Depth : 155.00<br>12/15/2022<br>ug/L | | 126-15<br>Depth : 155.00<br>06/13/2022<br>ug/L | | 126-15<br>Depth : 155.00<br>12/27/2022<br>ug/L | | 126-16<br>Depth : 135.00<br>02/10/2022<br>ug/L | | 126-16<br>Depth : 135.00<br>05/12/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 126-16<br>Depth : 135.00<br>07/26/2022<br>ug/L | | 126-16<br>Depth : 135.00<br>11/30/2022<br>ug/L | | 126-17<br>Depth : 140.00<br>02/11/2022<br>ug/L | | 126-17<br>Depth : 140.00<br>06/13/2022<br>ug/L | | 126-17<br>Depth : 140.00<br>07/21/2022<br>ug/L | | 126-17<br>Depth : 140.00<br>12/15/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 126-18<br>Depth : 165.00<br>02/01/2022<br>ug/L | | 126-18<br>Depth : 165.00<br>06/13/2022<br>ug/L | | 126-18<br>Depth : 165.00<br>07/21/2022<br>ug/L | | 126-18<br>Depth : 165.00<br>12/15/2022<br>ug/L | | 126-19<br>Depth : 195.00<br>02/01/2022<br>ug/L | | 126-19<br>Depth : 195.00<br>06/14/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 126-19<br>Depth : 195.00<br>07/21/2022<br>ug/L | | 126-19<br>Depth : 195.00<br>12/15/2022<br>ug/L | | 126-20<br>Depth : 140.00<br>02/11/2022<br>ug/L | | 126-20<br>Depth : 140.00<br>06/15/2022<br>ug/L | | 126-20<br>Depth : 140.00<br>07/21/2022<br>ug/L | | 126-20<br>Depth : 140.00<br>12/15/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 126-21<br>Depth : 204.00<br>02/11/2022<br>ug/L | | 126-21<br>Depth : 205.00<br>06/15/2022<br>ug/L | | 126-21<br>Depth : 204.00<br>07/21/2022<br>ug/L | | 126-21<br>Depth : 204.00<br>12/08/2022<br>ug/L | | 127-04<br>Depth : 155.00<br>06/14/2022<br>ug/L | | 127-04<br>Depth : 155.00<br>11/29/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 127-06<br>Depth : 155.00<br>06/14/2022<br>ug/L | | 127-06<br>Depth : 155.00<br>11/29/2022<br>ug/L | | 127-07<br>Depth : 151.00<br>02/10/2022<br>ug/L | | 127-07<br>Depth : 151.00<br>05/12/2022<br>ug/L | | 127-07<br>Depth : 151.00<br>07/26/2022<br>ug/L | | 127-07<br>Depth : 157.00<br>11/30/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 130-02<br>Depth : 115.00<br>06/15/2022<br>ug/L | | 130-02<br>Depth : 115.00<br>12/27/2022<br>ug/L | | 130-03<br>Depth : 165.00<br>06/21/2022<br>ug/L | | 130-03<br>Depth : 162.50<br>12/27/2022<br>ug/L | | 130-04<br>Depth : 287.50<br>12/27/2022<br>ug/L | | 130-08<br>Depth : 150.00<br>02/10/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 130-08<br>Depth : 150.00<br>05/16/2022<br>ug/L | | 130-08<br>Depth : 150.00<br>07/26/2022<br>ug/L | | 130-08<br>Depth : 150.00<br>12/01/2022<br>ug/L | | 130-09<br>Depth : 140.00<br>02/24/2022<br>ug/L | | 130-09<br>Depth : 140.00<br>05/16/2022<br>ug/L | | 130-09<br>Depth : 140.00<br>07/25/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 130-09<br>Depth : 140.00<br>11/30/2022<br>ug/L | | 130-10<br>Depth : 155.00<br>02/07/2022<br>ug/L | | 130-10<br>Depth : 155.00<br>05/12/2022<br>ug/L | | 130-10<br>Depth : 155.00<br>07/25/2022<br>ug/L | | 130-10<br>Depth : 155.00<br>11/30/2022<br>ug/L | | 130-11<br>Depth : 200.00<br>02/07/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 130-11<br>Depth : 200.00<br>05/12/2022<br>ug/L | | 130-11<br>Depth : 200.00<br>07/26/2022<br>ug/L | | 130-11<br>Depth : 200.00<br>11/30/2022<br>ug/L | | 130-12<br>Depth : 0.00<br>01/25/2022<br>ug/L | | 130-12<br>Depth : 0.00<br>04/18/2022<br>ug/L | | 130-12<br>Depth : 0.00<br>07/14/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 130-12<br>Depth : 0.00<br>10/13/2022<br>ug/L | | 130-13<br>Depth : 0.00<br>01/25/2022<br>ug/L | | 130-13<br>Depth : 0.00<br>04/18/2022<br>ug/L | | 130-13<br>Depth : 0.00<br>07/14/2022<br>ug/L | | 130-13<br>Depth : 0.00<br>10/13/2022<br>ug/L | | 130-14<br>Depth : 208.00<br>02/11/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Western South Boundary)**

| Analyte | 130-14<br>Depth : 208.00<br>06/21/2022<br>ug/L | | 130-14<br>Depth : 208.00<br>08/23/2022<br>ug/L | | 130-14<br>Depth : 208.00<br>12/27/2022<br>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 | | | | | | |

OU III (Industrial Park)

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-112 Depth : 180.00 03/08/2022 ug/L | | 000-112 Depth : 180.00 05/17/2022 ug/L | | 000-112 Depth : 180.00 08/02/2022 ug/L | | 000-112 Depth : 180.00 11/28/2022 ug/L | | 000-114 Depth : 135.00 11/28/2022 ug/L | | 000-245 Depth : 212.00 12/01/2022 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 | **0.67** | | **0.94** | | **0.77** | | 0.81 | U | 0.5 | U | **0.77** | |
| 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 | 0.21 | J | 0.2 | J | 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 | 0.67 | | 1.15 | | 0.97 | | 0 | | 0 | | 0.77 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Industrial Park)**

| Analyte | 000-248<br>Depth : 232.50<br>11/16/2022<br>ug/L | | 000-250<br>Depth : 298.00<br>11/28/2022<br>ug/L | | 000-252<br>Depth : 171.50<br>11/16/2022<br>ug/L | | 000-253<br>Depth : 225.50<br>03/02/2022<br>ug/L | | 000-253<br>Depth : 225.50<br>05/18/2022<br>ug/L | | 000-253<br>Depth : 225.50<br>08/02/2022<br>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 | **1.3** | | 0.5 | U | **1.1** | | **1.4** | | **1.4** | | **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 | 0.5 | 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 | 0.27 | J | 0.5 | U | 0.5 | U | **0.89** | | **0.88** | | **0.93** | |
| 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 | 1.57 | | 0 | | 1.1 | | 2.29 | | 2.28 | | 2.63 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Industrial Park)**

| Analyte | 000-253 Depth : 225.50 11/16/2022 ug/L | | 000-255 Depth : 167.50 11/16/2022 ug/L | | 000-256 Depth : 222.50 03/01/2022 ug/L | | 000-256 Depth : 222.50 05/17/2022 ug/L | | 000-256 Depth : 222.50 08/01/2022 ug/L | | 000-256 Depth : 222.50 11/16/2022 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 | **1.6** | | 1.8 | U | **1.2** | | **1.2** | | **1.3** | | 1.3 | 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 | **1.1** | | 0.5 | U | **1** | | **0.54** | | **0.55** | | **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 | 0.5 | 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 | 2.7 | | 0 | | 2.2 | | 1.74 | | 1.85 | | 3.4 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-259<br>Depth : 202.50<br>03/01/2022<br>ug/L | | 000-259<br>Depth : 202.50<br>05/17/2022<br>ug/L | | 000-259<br>Depth : 202.50<br>08/01/2022<br>ug/L | | 000-259<br>Depth : 202.50<br>11/16/2022<br>ug/L | | 000-261<br>Depth : 132.50<br>11/18/2022<br>ug/L | | 000-262<br>Depth : 182.50<br>02/28/2022<br>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** | | **0.64** | | 0.49 | J | 0.38 | J | 0.5 | U | **0.78** | |
| 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 | 0.39 | J | 0.29 | J | 0.2 | J | 0.5 | U | 0.34 | 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-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 | **1.1** | | **1.2** | | **0.89** | | **0.78** | | 0.5 | U | **0.99** | |
| 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 | **0.59** | | 0.43 | J | **0.57** | | 0.56 | U | 0.38 | J | **0.52** | |
| cis-1,2-Dichloroethylene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **1.1** | |
| 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 | **6.3** | | **6.3** | | **6.2** | | **7.1** | | 0.5 | U | **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 | **0.59** | | **0.66** | | **0.56** | | **0.55** | | 0.5 | U | **0.96** | |
| 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 | 9.23 | | 9.62 | | 9 | | 9.01 | | 0.38 | | 7.29 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-262<br>Depth : 182.50<br>05/17/2022<br>ug/L | | 000-262<br>Depth : 182.50<br>07/28/2022<br>ug/L | | 000-262<br>Depth : 182.50<br>11/18/2022<br>ug/L | | 000-267<br>Depth : 160.50<br>11/28/2022<br>ug/L | | 000-268<br>Depth : 215.50<br>02/28/2022<br>ug/L | | 000-268<br>Depth : 215.50<br>05/18/2022<br>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 | **0.79** | | **0.65** | | **0.85** | | 0.5 | U | 0.21 | J | 0.29 | 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 | 0.4 | J | 0.24 | J | 0.39 | 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 | **0.86** | | **0.72** | | **0.9** | | 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 | | 0.47 | J | 0.48 | J | 0.5 | U | 0.19 | J | 0.24 | J |
| cis-1,2-Dichloroethylene | **1.1** | | **0.84** | | **0.78** | | 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 | **2.4** | | **2.2** | | **2.7** | | 0.5 | U | **0.63** | | **0.82** | |
| 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 | **1.1** | | **1.2** | | **1.2** | | 0.5 | U | 0.31 | J | 0.3 | 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 | 1.5 | U |
| 8260 TVOC | 7.15 | | 6.32 | | 7.3 | | 0 | | 1.34 | | 1.65 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Industrial Park)**

| Analyte | 000-268 Depth : 215.50 08/03/2022 ug/L | | 000-268 Depth : 215.50 11/28/2022 ug/L | | 000-271 Depth : 215.50 02/28/2022 ug/L | | 000-271 Depth : 215.50 05/23/2022 ug/L | | 000-271 Depth : 215.50 08/03/2022 ug/L | | 000-271 Depth : 215.50 11/28/2022 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 | 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 | 0.28 | J | 0.5 | U | 0.29 | J | 0.36 | J | 0.28 | J | 0.5 | U |
| cis-1,2-Dichloroethylene | 0.5 | U | 0.18 | 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 | 0.5 | 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 | 0.26 | 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 | **0.87** | | **0.77** | | 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 | 0.2 | J | 0.34 | 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 | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 1.35 | | 1.54 | | 0.55 | | 0.36 | | 0.28 | | 0 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-272<br>Depth : 191.00<br>11/28/2022<br>ug/L | | 000-273<br>Depth : 185.00<br>05/20/2022<br>ug/L | | 000-273<br>Depth : 185.00<br>12/01/2022<br>ug/L | | 000-274<br>Depth : 242.00<br>05/20/2022<br>ug/L | | 000-274<br>Depth : 242.00<br>11/30/2022<br>ug/L | | 000-275<br>Depth : 134.00<br>05/19/2022<br>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 | 0.5 | U | **0.9** | | **0.66** | | **0.61** | | **1.3** | | **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 | 0.5 | 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 | | 0.9 | | 0.66 | | 0.61 | | 1.3 | | 0.83 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Industrial Park)**

| Analyte | 000-275<br>Depth : 134.00<br>11/21/2022<br>ug/L | | 000-276<br>Depth : 164.00<br>05/19/2022<br>ug/L | | 000-276<br>Depth : 164.00<br>11/21/2022<br>ug/L | | 000-277<br>Depth : 147.00<br>05/18/2022<br>ug/L | | 000-277<br>Depth : 147.00<br>11/21/2022<br>ug/L | | 000-278<br>Depth : 194.00<br>05/19/2022<br>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 | **1.2** | |
| 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 | 0.5 | 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 | 0.47 | 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-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 | 0.38 | 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 | 0.18 | 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 | 0.51 | U | **0.85** | | 0.73 | U | 0.16 | J | 0.18 | J | 0.4 | 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 | 1 | U | 1 | U | 1 | U | 0.37 | J | 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 | **1.4** | |
| Toluene | 0.5 | U | 0.5 | U | 0.5 | U | **0.69** | | 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 | **0.86** | |
| 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 | 0.37 | J | 1.5 | U | 1.5 | U |
| 8260 TVOC | 0 | | 0.85 | | 0 | | 1.97 | | 0.18 | | 4.51 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Industrial Park)**

| Analyte | 000-278<br>Depth : 194.00<br>11/21/2022<br>ug/L | | 000-279<br>Depth : 193.00<br>03/08/2022<br>ug/L | | 000-279<br>Depth : 193.00<br>05/16/2022<br>ug/L | | 000-279<br>Depth : 193.00<br>07/27/2022<br>ug/L | | 000-279<br>Depth : 193.00<br>11/18/2022<br>ug/L | | 000-431<br>Depth : 265.00<br>05/20/2022<br>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 | **0.89** | | 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 | 0.23 | J | 0.45 | J | 0.28 | J | 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 | **1** | | **1.3** | | **1.2** | | 1.4 | U | **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 | 0.5 | 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 | **1.4** | | **0.66** | | **0.74** | | **1.3** | | **2.4** | | 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 | **0.89** | | 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 | 3.72 | | 2.11 | | 2.32 | | 2.5 | | 2.4 | | 1.3 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-431<br>Depth : 260.00<br>11/30/2022<br>ug/L | | 000-432<br>Depth : 230.00<br>05/19/2022<br>ug/L | | 000-432<br>Depth : 230.00<br>11/21/2022<br>ug/L | | 000-528<br>Depth : 220.00<br>02/25/2022<br>ug/L | | 000-528<br>Depth : 220.00<br>05/17/2022<br>ug/L | | 000-528<br>Depth : 220.00<br>07/28/2022<br>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 | 0.27 | 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 | 0.5 | 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** | | 0.29 | J | 0.5 | U | 0.29 | J | 0.42 | J | 0.37 | J |
| cis-1,2-Dichloroethylene | 0.5 | U | 0.5 | U | 0.5 | U | 0.23 | J | 0.38 | J | 0.35 | 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 | 0.37 | J | 0.19 | J | 0.25 | 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 | 0.43 | 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 | **2.5** | | **3** | | **2.5** | |
| 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 | 0.2 | J | 0.5 | U | 0.28 | 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 | 1.5 | U |
| 8260 TVOC | 1.4 | | 0.72 | | 0 | | 3.59 | | 4.26 | | 3.99 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Industrial Park)**

| Analyte | 000-528<br>Depth : 220.00<br>11/09/2022<br>ug/L | | 000-529<br>Depth : 219.00<br>03/16/2022<br>ug/L | | 000-529<br>Depth : 215.00<br>05/23/2022<br>ug/L | | 000-529<br>Depth : 215.00<br>08/04/2022<br>ug/L | | 000-529<br>Depth : 215.00<br>11/18/2022<br>ug/L | | 000-530<br>Depth : 210.00<br>03/01/2022<br>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 | **5.2** | | **5.9** | | **2.8** | | **3.3** | | **14** | |
| 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 | 0.23 | J | 0.27 | J | 0.5 | U | 0.5 | U | **0.72** | |
| 1,1-Dichloroethylene | 0.5 | U | **2.9** | | **3.5** | | **1.5** | | **1.7** | | **7.9** | |
| 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 | 0.5 | 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 | **1.5** | | **1.7** | | **0.81** | | **0.95** | | 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 | 0.23 | J | **0.61** | | **0.63** | | **0.52** | | **0.56** | | 0.43 | J |
| cis-1,2-Dichloroethylene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.22 | 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 | 0.26 | J | 0.5 | U | 0.5 | U | 0.5 | U | 0.17 | 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 | 0.5 | 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** | | **6.6** | | **8.9** | | **4.6** | | **4.8** | | 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 | 0.19 | J | **1.8** | | **2.7** | | **1.4** | | **1.6** | | **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 | 1.5 | U | 1.5 | U |
| 8260 TVOC | 2.78 | | 18.84 | | 23.6 | | 11.63 | | 13.08 | | 24.77 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Industrial Park)**

| Analyte | 000-530 Depth : 210.00 05/17/2022 ug/L | | 000-530 Depth : 210.00 08/02/2022 ug/L | | 000-530 Depth : 210.00 11/28/2022 ug/L | | 000-531 Depth : 205.00 02/28/2022 ug/L | | 000-531 Depth : 205.00 05/17/2022 ug/L | | 000-531 Depth : 205.00 07/29/2022 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 | **16** | | **17** | | **14** | | **1.8** | | **2.3** | | **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 | **0.99** | | **0.92** | | **1.2** | | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | **10** | | **9.8** | | **9.3** | | **1.9** | | **2.5** | | **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 | 0.5 | 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 | 0.15 | 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 | **12** | | **13** | | **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 | 0.5 | | **0.59** | | 0.5 | U | **1.4** | | **1.6** | | **1.5** | |
| cis-1,2-Dichloroethylene | 0.15 | J | 0.28 | J | 0.23 | J | 0.29 | J | 0.31 | 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 | 0.5 | 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 | 0.17 | J | 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 | **1** | | **1** | | **0.98** | |
| 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 | **1.7** | | **1.7** | | **1.7** | | **7.7** | | **8.4** | | **7.5** | |
| 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 |
| 8260 TVOC | 29.51 | | 30.29 | | 26.43 | | 26.09 | | 29.26 | | 25.59 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-531<br>Depth : 205.00<br>11/18/2022<br>ug/L | | 000-537<br>Depth : 245.00<br>03/16/2022<br>ug/L | | 000-537<br>Depth : 245.00<br>05/18/2022<br>ug/L | | 000-537<br>Depth : 245.00<br>08/04/2022<br>ug/L | | 000-537<br>Depth : 245.00<br>11/09/2022<br>ug/L | | 000-538<br>Depth : 215.00<br>03/16/2022<br>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 | **1.6** | | **7** | | **8.5** | | **7.4** | | **6.2** | | **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 | 0.22 | J | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | **1.7** | | **2.8** | | **3.4** | | **2.6** | | **2.2** | | **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 | 0.5 | 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 | **9.3** | | **1.2** | | **1.5** | | **1.2** | | **1** | | **0.68** | |
| 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** | | **0.71** | | **0.95** | | **0.83** | | **0.7** | | 0.48 | J |
| cis-1,2-Dichloroethylene | 0.5 | | **0.71** | | **0.8** | | **0.71** | | **0.65** | | **0.64** | |
| 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 | **0.93** | | **30** | | **34** | | **27** | | **22** | | **8.6** | |
| 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 | **7** | | **7** | | **7.6** | | **7.2** | | **6.8** | | **4.5** | |
| 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 |
| 8260 TVOC | 22.13 | | 49.42 | | 56.97 | | 46.94 | | 39.55 | | 20.1 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-538 Depth : 215.00 05/18/2022 ug/L | | 000-538 Depth : 215.00 07/28/2022 ug/L | | 000-538 Depth : 215.00 11/09/2022 ug/L | | 000-541 Depth : 235.00 02/25/2022 ug/L | | 000-541 Depth : 235.00 05/18/2022 ug/L | | 000-541 Depth : 235.00 07/29/2022 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 | **4.5** | | **3.7** | | **3.3** | | **2.3** | | **2.6** | | **2.8** | |
| 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 | 0.32 | J | 0.3 | J | **0.54** | |
| 1,1-Dichloroethylene | **2.1** | | **1.7** | | **1.3** | | **1.7** | | **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 | 0.5 | 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 | **0.82** | | **0.7** | | **0.67** | | **14** | | **18** | | **17** | |
| 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 | **0.6** | | 0.5 | | 0.45 | J | **4.9** | | **4.5** | | **8.5** | |
| cis-1,2-Dichloroethylene | **0.73** | | **0.57** | | 0.46 | J | 0.25 | J | 0.24 | J | 0.31 | 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 | 0.5 | 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 | **9.7** | | **8.1** | | **7.3** | | **7.5** | | **8.4** | | **9.8** | |
| 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 | **4.9** | | **4.3** | | **4.1** | | **10** | | **11** | | **12** | |
| 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 | 23.35 | | 19.57 | | 17.58 | | 40.97 | | 47.04 | | 53.25 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Industrial Park)**

| Analyte | 000-541<br>Depth : 235.00<br>11/18/2022<br>ug/L | | 000-542<br>Depth : 235.00<br>03/01/2022<br>ug/L | | 000-542<br>Depth : 235.00<br>05/18/2022<br>ug/L | | 000-542<br>Depth : 235.00<br>08/02/2022<br>ug/L | | 000-542<br>Depth : 235.00<br>11/28/2022<br>ug/L | | 000-543<br>Depth : 230.00<br>02/28/2022<br>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 | **3.5** | | 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 | **0.96** | | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | **2.8** | | 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 | **20** | | 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 | **7.6** | | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 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 | 0.5 | 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 | 0.26 | J | 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 | **11** | | 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 | **16** | | 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 | 62.49 | | 0 | | 0 | | 0 | | 0 | | 0 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-543 Depth : 230.00 05/17/2022 ug/L | | 000-543 Depth : 230.00 07/29/2022 ug/L | | 000-543 Depth : 230.00 11/18/2022 ug/L | | 000-544 Depth : 230.00 03/08/2022 ug/L | | 000-544 Depth : 230.00 05/19/2022 ug/L | | 000-544 Depth : 230.00 07/27/2022 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 | **15** | | **9.4** | | **9.2** | |
| 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 | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | 0.5 | U | 0.5 | U | 0.5 | U | **9.5** | | **6.5** | | **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 | 0.5 | 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 | 0.2 | 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 |
| 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 | **6.5** | | **3.8** | | **3.7** | |
| 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 | **0.94** | | **0.73** | | **0.75** | |
| cis-1,2-Dichloroethylene | 0.5 | U | 0.5 | U | 0.5 | U | 0.29 | J | 0.5 | U | 0.23 | 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 | 0.5 | 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 | **0.63** | | **0.62** | | **0.6** | |
| 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) | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 0 | | 0 | | 0 | | 33.06 | | 21.05 | | 20.78 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Industrial Park)**

| Analyte | 000-544 Depth : 230.00 11/21/2022 ug/L | | 000-548 Depth : 235.00 09/23/2022 ug/L | | 000-548 Depth : 235.00 11/14/2022 ug/L | | 127-08 Depth : 240.00 02/24/2022 ug/L | | 127-08 Depth : 240.00 05/16/2022 ug/L | | 127-08 Depth : 240.00 07/28/2022 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 | **13** | | **6.5** | | **7.4** | | **0.68** | | **0.78** | | **0.8** | |
| 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 | **8.1** | | **2.6** | | **3.3** | | 0.42 | J | 0.5 | U | 0.47 | 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-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 | **5.2** | | **2** | | **2.5** | | **5.3** | | **6.4** | | **5.8** | |
| 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 | 0.81 | U | 0.45 | J | 0.5 | U | **1** | | **1.3** | | **1.3** | |
| cis-1,2-Dichloroethylene | 0.29 | J | 0.17 | J | 0.22 | 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 | 0.5 | 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 | 0.23 | J | 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 | **0.88** | | **0.58** | | **18** | | **20** | | **19** | |
| 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 | **6.8** | | **6.9** | | **1.6** | | **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) | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 26.59 | | 19.4 | | 20.9 | | 27.23 | | 30.28 | | 28.97 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 127-08<br>Depth : 240.00<br>11/09/2022<br>ug/L | | 127-09<br>Depth : 225.00<br>02/24/2022<br>ug/L | | 127-09<br>Depth : 225.00<br>05/16/2022<br>ug/L | | 127-09<br>Depth : 225.00<br>07/28/2022<br>ug/L | | 127-09<br>Depth : 225.00<br>11/09/2022<br>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 | **0.63** | | 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 | 0.42 | 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 | | |
| 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 | **4.8** | | **1.1** | | **0.71** | | 0.46 | J | 0.42 | J | | |
| 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** | | **1.5** | | **1.6** | | **2** | | **1.3** | | | |
| 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 | **14** | | **2.4** | | 0.5 | U | **2.2** | | **2.8** | | | |
| 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 | **1.4** | | 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 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 | 22.25 | | 5 | | 2.31 | | 4.66 | | 4.52 | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-112<br>Depth : 180.00<br>03/08/2022<br>ug/L | | 000-112<br>Depth : 180.00<br>05/17/2022<br>ug/L | | 000-112<br>Depth : 180.00<br>08/02/2022<br>ug/L | | 000-112<br>Depth : 180.00<br>11/28/2022<br>ug/L | | 000-114<br>Depth : 135.00<br>11/28/2022<br>ug/L | | 000-245<br>Depth : 212.00<br>12/01/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-248<br>Depth : 232.50<br>11/16/2022<br>ug/L | | 000-250<br>Depth : 298.00<br>11/28/2022<br>ug/L | | 000-252<br>Depth : 171.50<br>11/16/2022<br>ug/L | | 000-253<br>Depth : 225.50<br>03/02/2022<br>ug/L | | 000-253<br>Depth : 225.50<br>05/18/2022<br>ug/L | | 000-253<br>Depth : 225.50<br>08/02/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-253 Depth : 225.50 11/16/2022 ug/L | | 000-255 Depth : 167.50 11/16/2022 ug/L | | 000-256 Depth : 222.50 03/01/2022 ug/L | | 000-256 Depth : 222.50 05/17/2022 ug/L | | 000-256 Depth : 222.50 08/01/2022 ug/L | | 000-256 Depth : 222.50 11/16/2022 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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-259<br>Depth : 202.50<br>03/01/2022<br>ug/L | | 000-259<br>Depth : 202.50<br>05/17/2022<br>ug/L | | 000-259<br>Depth : 202.50<br>08/01/2022<br>ug/L | | 000-259<br>Depth : 202.50<br>11/16/2022<br>ug/L | | 000-261<br>Depth : 132.50<br>11/18/2022<br>ug/L | | 000-262<br>Depth : 182.50<br>02/28/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-262<br>Depth : 182.50<br>05/17/2022<br>ug/L | | 000-262<br>Depth : 182.50<br>07/28/2022<br>ug/L | | 000-262<br>Depth : 182.50<br>11/18/2022<br>ug/L | | 000-267<br>Depth : 160.50<br>11/28/2022<br>ug/L | | 000-268<br>Depth : 215.50<br>02/28/2022<br>ug/L | | 000-268<br>Depth : 215.50<br>05/18/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-268 Depth : 215.50 08/03/2022 ug/L | | 000-268 Depth : 215.50 11/28/2022 ug/L | | 000-271 Depth : 215.50 02/28/2022 ug/L | | 000-271 Depth : 215.50 05/23/2022 ug/L | | 000-271 Depth : 215.50 08/03/2022 ug/L | | 000-271 Depth : 215.50 11/28/2022 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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-272<br>Depth : 191.00<br>11/28/2022<br>ug/L | | 000-273<br>Depth : 185.00<br>05/20/2022<br>ug/L | | 000-273<br>Depth : 185.00<br>12/01/2022<br>ug/L | | 000-274<br>Depth : 242.00<br>05/20/2022<br>ug/L | | 000-274<br>Depth : 242.00<br>11/30/2022<br>ug/L | | 000-275<br>Depth : 134.00<br>05/19/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-275<br>Depth : 134.00<br>11/21/2022<br>ug/L | | 000-276<br>Depth : 164.00<br>05/19/2022<br>ug/L | | 000-276<br>Depth : 164.00<br>11/21/2022<br>ug/L | | 000-277<br>Depth : 147.00<br>05/18/2022<br>ug/L | | 000-277<br>Depth : 147.00<br>11/21/2022<br>ug/L | | 000-278<br>Depth : 194.00<br>05/19/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-278<br>Depth : 194.00<br>11/21/2022<br>ug/L | | 000-279<br>Depth : 193.00<br>03/08/2022<br>ug/L | | 000-279<br>Depth : 193.00<br>05/16/2022<br>ug/L | | 000-279<br>Depth : 193.00<br>07/27/2022<br>ug/L | | 000-279<br>Depth : 193.00<br>11/18/2022<br>ug/L | | 000-431<br>Depth : 265.00<br>05/20/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-431<br>Depth : 260.00<br>11/30/2022<br>ug/L | | 000-432<br>Depth : 230.00<br>05/19/2022<br>ug/L | | 000-432<br>Depth : 230.00<br>11/21/2022<br>ug/L | | 000-528<br>Depth : 220.00<br>02/25/2022<br>ug/L | | 000-528<br>Depth : 220.00<br>05/17/2022<br>ug/L | | 000-528<br>Depth : 220.00<br>07/28/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-528<br>Depth : 220.00<br>11/09/2022<br>ug/L | | 000-529<br>Depth : 219.00<br>03/16/2022<br>ug/L | | 000-529<br>Depth : 215.00<br>05/23/2022<br>ug/L | | 000-529<br>Depth : 215.00<br>08/04/2022<br>ug/L | | 000-529<br>Depth : 215.00<br>11/18/2022<br>ug/L | | 000-530<br>Depth : 210.00<br>03/01/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-530 Depth : 210.00 05/17/2022 ug/L | | 000-530 Depth : 210.00 08/02/2022 ug/L | | 000-530 Depth : 210.00 11/28/2022 ug/L | | 000-531 Depth : 205.00 02/28/2022 ug/L | | 000-531 Depth : 205.00 05/17/2022 ug/L | | 000-531 Depth : 205.00 07/29/2022 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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-531<br>Depth : 205.00<br>11/18/2022<br>ug/L | | 000-537<br>Depth : 245.00<br>03/16/2022<br>ug/L | | 000-537<br>Depth : 245.00<br>05/18/2022<br>ug/L | | 000-537<br>Depth : 245.00<br>08/04/2022<br>ug/L | | 000-537<br>Depth : 245.00<br>11/09/2022<br>ug/L | | 000-538<br>Depth : 215.00<br>03/16/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-538 Depth : 215.00 05/18/2022 ug/L | | 000-538 Depth : 215.00 07/28/2022 ug/L | | 000-538 Depth : 215.00 11/09/2022 ug/L | | 000-541 Depth : 235.00 02/25/2022 ug/L | | 000-541 Depth : 235.00 05/18/2022 ug/L | | 000-541 Depth : 235.00 07/29/2022 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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-541<br>Depth : 235.00<br>11/18/2022<br>ug/L | | 000-542<br>Depth : 235.00<br>03/01/2022<br>ug/L | | 000-542<br>Depth : 235.00<br>05/18/2022<br>ug/L | | 000-542<br>Depth : 235.00<br>08/02/2022<br>ug/L | | 000-542<br>Depth : 235.00<br>11/28/2022<br>ug/L | | 000-543<br>Depth : 230.00<br>02/28/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-543 Depth : 230.00 05/17/2022 ug/L | | 000-543 Depth : 230.00 07/29/2022 ug/L | | 000-543 Depth : 230.00 11/18/2022 ug/L | | 000-544 Depth : 230.00 03/08/2022 ug/L | | 000-544 Depth : 230.00 05/19/2022 ug/L | | 000-544 Depth : 230.00 07/27/2022 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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 000-544<br>Depth : 230.00<br>11/21/2022<br>ug/L | | 000-548<br>Depth : 235.00<br>09/23/2022<br>ug/L | | 000-548<br>Depth : 235.00<br>11/14/2022<br>ug/L | | 127-08<br>Depth : 240.00<br>02/24/2022<br>ug/L | | 127-08<br>Depth : 240.00<br>05/16/2022<br>ug/L | | 127-08<br>Depth : 240.00<br>07/28/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Industrial Park)**

| Analyte | 127-08<br>Depth : 240.00<br>11/09/2022<br>ug/L | | 127-09<br>Depth : 225.00<br>02/24/2022<br>ug/L | | 127-09<br>Depth : 225.00<br>05/16/2022<br>ug/L | | 127-09<br>Depth : 225.00<br>07/28/2022<br>ug/L | | 127-09<br>Depth : 225.00<br>11/09/2022<br>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 (Industrial Park East)

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OU III (North Street)

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (North Street)**

| Analyte | 000-108<br>Depth : 220.00<br>12/07/2022<br>ug/L | | 000-154<br>Depth : 198.00<br>12/02/2022<br>ug/L | | 000-343<br>Depth : 330.00<br>12/14/2022<br>ug/L | | 000-465<br>Depth : 190.00<br>12/02/2022<br>ug/L | | 000-472<br>Depth : 211.00<br>12/02/2022<br>ug/L | | 000-474<br>Depth : 200.00<br>12/07/2022<br>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 | **0.59** | | **1** | | 0.38 | J | **2.3** | | **1.7** | |
| 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 | **2.9** | | 0.5 | U | 0.38 | J | 0.5 | U |
| 1,1-Dichloroethylene | 0.5 | U | 0.21 | J | 0.34 | J | 0.25 | J | **1.5** | | **0.85** | |
| 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 | **0.51** | | 0.5 | U | **2.7** | | **0.66** | | 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 | 0.25 | J | 0.5 | U | 0.5 | U | 0.5 | U |
| Chloroform | 0.92 | U | **1.1** | | 0.34 | J | **1** | | **2.2** | | **6.6** | |
| cis-1,2-Dichloroethylene | 0.5 | U | 0.5 | U | **0.55** | | 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 | 0.49 | 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 | 0.5 | 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 | 0.18 | J | 0.5 | U | 0.5 | U | 0.5 | U | **7.7** | | **8.3** | |
| 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 | 0.44 | J | 0.5 | U | **1.1** | | **0.66** | | **1.5** | |
| Trichlorofluoromethane | 0.5 | U | 0.5 | U | 0.18 | 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) | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 0.18 | | 2.85 | | 5.56 | | 5.43 | | 15.89 | | 18.95 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (North Street)**

| Analyte | 800-63<br>Depth : 206.00<br>06/06/2022<br>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 | 0.5 | 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 | 0.5 | U | | | | | | | | | | |
| Trichlorofluoromethane | 0.5 | U | | | | | | | | | | |
| Vinyl chloride | 0.5 | U | | | | | | | | | | |
| Xylene (total) | 1.5 | U | | | | | | | | | | |
| 8260 TVOC | 0 | | | | | | | | | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (North Street)**

| Analyte | 000-108<br>Depth : 220.00<br>12/07/2022<br>ug/L | | 000-154<br>Depth : 198.00<br>12/02/2022<br>ug/L | | 000-343<br>Depth : 330.00<br>12/14/2022<br>ug/L | | 000-465<br>Depth : 190.00<br>12/02/2022<br>ug/L | | 000-472<br>Depth : 211.00<br>12/02/2022<br>ug/L | | 000-474<br>Depth : 200.00<br>12/07/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (North Street)**

| Analyte | 800-63<br>Depth : 206.00<br>06/06/2022<br>ug/L | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 0.5 | U | | | | | | | | | | |
| Hexachlorobutadiene | 0.5 | U | | | | | | | | | | |
| Naphthalene | 0.5 | U | | | | | | | | | | |

OU III (North Street East)

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (North Street East)**

| Analyte | 000-138 Depth : 168.00 03/10/2022 ug/L | | 000-138 Depth : 168.00 06/17/2022 ug/L | | 000-138 Depth : 168.00 08/12/2022 ug/L | | 000-138 Depth : 168.00 12/19/2022 ug/L | | 000-394 Depth : 178.00 03/14/2022 ug/L | | 000-394 Depth : 178.00 06/10/2022 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 | 0.01 | U | 0.011 | U | 0.01 | U | 0.019 | U | 0.01 | U |
| Dibromochloromethane | | | | | | | | | | | | |
| Dibromomethane | | | | | | | | | | | | |
| Dichlorodifluoromethane | | | | | | | | | | | | |
| EDB | 0.0191 | U | 0.01 | U | 0.011 | U | 0.01 | U | **0.0391** | | **0.062** | |
| 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 | | | | | | | | | | | | |
| Xylene (total) | | | | | | | | | | | | |
| 8260 TVOC | | | | | | | | | | | | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (North Street East-EDB)**

| Analyte | 000-394 Depth : 178.00 08/11/2022 ug/L | | 000-394 Depth : 178.00 12/16/2022 ug/L | | 000-551 Depth : 175.00 03/10/2022 ug/L | | 000-551 Depth : 175.00 06/10/2022 ug/L | | 000-551 Depth : 175.00 08/12/2022 ug/L | | 000-551 Depth : 175.00 12/14/2022 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 | | | | | | | 0.36 | J |
| 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 | 0.011 | U | 0.01 | U | 0.0193 | U | 0.01 | U | 0.011 | U | 0.01 | U |
| Dibromochloromethane | | | 0.5 | U | | | | | | | 0.5 | U |
| Dibromomethane | | | 0.5 | U | | | | | | | 0.5 | U |
| Dichlorodifluoromethane | | | 0.5 | U | | | | | | | 0.5 | U |
| EDB | **0.13** | | **0.063** | | 0.0193 | U | 0.01 | U | 0.011 | U | 0.01 | 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 | | | **0.62** | | | | | | | | 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 | | | **3.8** | | | | | | | | **1.7** | |
| Toluene | | | 0.5 | U | | | | | | | 0.5 | U |
| trans-1,3-Dichloropropene | | | 0.5 | U | | | | | | | 0.5 | U |
| Trichloroethylene | | | 0.38 | J | | | | | | | 0.19 | J |
| Trichlorofluoromethane | | | 0.5 | U | | | | | | | 0.5 | U |
| Vinyl chloride | | | 0.5 | U | | | | | | | 0.5 | U |
| Xylene (total) | | | 1.5 | U | | | | | | | 1.5 | U |
| 8260 TVOC | | | 4.8 | | | | | | | | 2.25 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (North Street East-EDB)**

| Analyte | 000-552 Depth : 155.00 03/10/2022 ug/L | | 000-552 Depth : 155.00 06/09/2022 ug/L | | 000-552 Depth : 155.00 08/11/2022 ug/L | | 000-552 Depth : 155.00 12/14/2022 ug/L | | 000-553 Depth : 175.00 03/10/2022 ug/L | | 000-553 Depth : 175.00 06/09/2022 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 | | | | | | | 0.21 | J | | | | |
| cis-1,2-Dichloroethylene | | | | | | | 0.5 | U | | | | |
| cis-1,3-Dichloropropene | | | | | | | 0.5 | U | | | | |
| Cymene | | | | | | | 0.5 | U | | | | |
| DBCP | 0.0187 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.0187 | U | 0.011 | U |
| Dibromochloromethane | | | | | | | 0.5 | U | | | | |
| Dibromomethane | | | | | | | 0.5 | U | | | | |
| Dichlorodifluoromethane | | | | | | | 0.5 | U | | | | |
| EDB | **0.124** | | **0.097** | | **0.14** | | **0.066** | | **0.0237** | | 0.011 | 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 | | | | | | | **5** | | | | | |
| 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 | | | | |
| 8260 TVOC | | | | | | | 5.21 | | | | | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (North Street East-EDB)**

| Analyte | 000-553 Depth : 175.00 08/11/2022 ug/L | | 000-553 Depth : 175.00 12/14/2022 ug/L | | 000-554 Depth : 195.00 03/15/2022 ug/L | | 000-554 Depth : 195.00 06/16/2022 ug/L | | 000-554 Depth : 195.00 08/11/2022 ug/L | | 000-554 Depth : 195.00 12/16/2022 ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | | | 0.5 | U | | | | | | | 0.5 | U |
| 1,1,1-Trichloroethane | | | 0.5 | U | | | | | | | 0.23 | J |
| 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 | | | 0.29 | J | | | | | | | 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 | 0.01 | U | 0.01 | U | 0.0189 | U | 0.01 | U | 0.011 | U | 0.01 | U |
| Dibromochloromethane | | | 0.5 | U | | | | | | | 0.5 | U |
| Dibromomethane | | | 0.5 | U | | | | | | | 0.5 | U |
| Dichlorodifluoromethane | | | 0.5 | U | | | | | | | 0.5 | U |
| EDB | 0.01 | | 0.01 | U | **0.287** | | **0.097** | | **0.053** | | **0.093** | |
| 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 | | | **3.4** | | | | | | | | **0.92** | |
| Toluene | | | **1.6** | | | | | | | | 0.5 | U |
| trans-1,3-Dichloropropene | | | 0.5 | U | | | | | | | 0.5 | U |
| Trichloroethylene | | | 0.5 | U | | | | | | | **0.95** | |
| Trichlorofluoromethane | | | 0.5 | U | | | | | | | 0.5 | U |
| Vinyl chloride | | | 0.5 | U | | | | | | | 0.5 | U |
| Xylene (total) | | | 1.5 | U | | | | | | | 1.5 | U |
| 8260 TVOC | | | 5.29 | | | | | | | | 2.1 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (North Street East-EDB)**

| Analyte | 000-555 Depth : 200.00 03/14/2022 ug/L | | 000-555 Depth : 200.00 06/17/2022 ug/L | | 000-555 Depth : 200.00 08/11/2022 ug/L | | 000-555 Depth : 200.00 12/16/2022 ug/L | | 000-563 Depth : 197.00 03/15/2022 ug/L | | 000-563 Depth : 197.00 06/16/2022 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 | | | | | | | 2.3 | U | | | | |
| cis-1,2-Dichloroethylene | | | | | | | 0.5 | U | | | | |
| cis-1,3-Dichloropropene | | | | | | | 0.5 | U | | | | |
| Cymene | | | | | | | 0.5 | U | | | | |
| DBCP | 0.0189 | U | 0.011 | U | 0.01 | U | 0.01 | U | 0.019 | U | 0.01 | U |
| Dibromochloromethane | | | | | | | 0.5 | U | | | | |
| Dibromomethane | | | | | | | 0.5 | U | | | | |
| Dichlorodifluoromethane | | | | | | | 0.5 | U | | | | |
| EDB | 0.0189 | U | 0.011 | U | 0.01 | U | 0.01 | U | **0.0261** | | **0.021** | |
| 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 | | | | |
| 8260 TVOC | | | | | | | 0 | | | | | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (North Street East-EDB)**

| Analyte | 000-563 Depth : 197.00 08/11/2022 ug/L | | 000-563 Depth : 197.00 12/16/2022 ug/L | | 000-564 Depth : 188.00 03/15/2022 ug/L | | 000-564 Depth : 188.00 06/10/2022 ug/L | | 000-564 Depth : 188.00 08/10/2022 ug/L | | 000-564 Depth : 188.00 12/16/2022 ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | | | 0.5 | U | | | | | | | 0.5 | U |
| 1,1,1-Trichloroethane | | | 0.5 | | | | | | | | 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 | | | 0.73 | U | | | | | | | 1.2 | 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 | 0.01 | U | 0.01 | U | 0.0193 | U | 0.011 | U | 0.01 | U | 0.011 | U |
| Dibromochloromethane | | | 0.5 | U | | | | | | | 0.5 | U |
| Dibromomethane | | | 0.5 | U | | | | | | | 0.5 | U |
| Dichlorodifluoromethane | | | 0.5 | U | | | | | | | 0.5 | U |
| EDB | 0.01 | U | 0.01 | U | 0.0193 | U | 0.011 | U | 0.01 | U | 0.011 | 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 | | | **2.6** | | | | | | | | 0.5 | U |
| Toluene | | | 0.5 | U | | | | | | | 0.5 | U |
| trans-1,3-Dichloropropene | | | 0.5 | U | | | | | | | 0.5 | U |
| Trichloroethylene | | | **1.5** | | | | | | | | **0.56** | |
| Trichlorofluoromethane | | | 0.5 | U | | | | | | | 0.5 | U |
| Vinyl chloride | | | 0.5 | U | | | | | | | 0.5 | U |
| Xylene (total) | | | 1.5 | U | | | | | | | 1.5 | U |
| 8260 TVOC | | | 4.6 | | | | | | | | 0.56 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (North Street East-EDB)**

| Analyte | 000-565 Depth : 210.00 03/15/2022 ug/L | | 000-565 Depth : 210.00 06/17/2022 ug/L | | 000-565 Depth : 280.00 08/09/2022 ug/L | | 000-565 Depth : 210.00 12/16/2022 ug/L | | 000-566 Depth : 210.00 03/15/2022 ug/L | | 000-566 Depth : 210.00 06/16/2022 ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | | | | | | | 0.5 | U | | | | |
| 1,1,1-Trichloroethane | | | | | | | **1.5** | | | | | |
| 1,1,2,2-Tetrachloroethane | | | | | | | 0.5 | U | | | | |
| 1,1,2-Trichloroethane | | | | | | | 0.5 | U | | | | |
| 1,1-Dichloroethane | | | | | | | 0.5 | U | | | | |
| 1,1-Dichloroethylene | | | | | | | **0.91** | | | | | |
| 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 | | | | | | | 0.31 | J | | | | |
| Chlorobenzene | | | | | | | 0.5 | U | | | | |
| Chlorobromomethane | | | | | | | 0.5 | U | | | | |
| Chloroethane | | | | | | | 0.5 | U | | | | |
| Chloroform | | | | | | | 0.77 | U | | | | |
| cis-1,2-Dichloroethylene | | | | | | | 0.5 | U | | | | |
| cis-1,3-Dichloropropene | | | | | | | 0.5 | U | | | | |
| Cymene | | | | | | | 0.5 | U | | | | |
| DBCP | 0.0189 | U | 0.011 | U | 0.011 | U | 0.01 | U | 0.0188 | U | 0.01 | U |
| Dibromochloromethane | | | | | | | 0.5 | U | | | | |
| Dibromomethane | | | | | | | 0.5 | U | | | | |
| Dichlorodifluoromethane | | | | | | | 0.5 | U | | | | |
| EDB | 0.0179 | J | **0.012** | | 0.011 | U | **0.019** | | 0.0171 | J | **0.024** | |
| 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 | | | | | | | **1.5** | | | | | |
| Trichlorofluoromethane | | | | | | | 0.5 | U | | | | |
| Vinyl chloride | | | | | | | 0.5 | U | | | | |
| Xylene (total) | | | | | | | 1.5 | U | | | | |
| 8260 TVOC | | | | | | | 4.22 | | | | | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (North Street East-EDB)**

| Analyte | 000-566<br>Depth : 210.00<br>08/10/2022<br>ug/L | | 000-566<br>Depth : 210.00<br>12/16/2022<br>ug/L | | 115-42<br>Depth : 168.00<br>06/17/2022<br>ug/L | | 115-42<br>Depth : 168.00<br>12/19/2022<br>ug/L | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | | | 0.5 | U | | | | | | | | |
| 1,1,1-Trichloroethane | | | **0.83** | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | | | 0.5 | U | | | | | | | | |
| 1,1,2-Trichloroethane | | | 0.5 | U | | | | | | | | |
| 1,1-Dichloroethane | | | 0.5 | U | | | | | | | | |
| 1,1-Dichloroethylene | | | 0.39 | J | | | | | | | | |
| 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 | | | 0.44 | J | | | | | | | | |
| Chlorobenzene | | | 0.5 | U | | | | | | | | |
| Chlorobromomethane | | | 0.5 | U | | | | | | | | |
| Chloroethane | | | 0.5 | U | | | | | | | | |
| Chloroform | | | 1.2 | U | | | | | | | | |
| cis-1,2-Dichloroethylene | | | 0.5 | U | | | | | | | | |
| cis-1,3-Dichloropropene | | | 0.5 | U | | | | | | | | |
| Cymene | | | 0.5 | U | | | | | | | | |
| DBCP | 0.01 | U | 0.011 | U | 0.011 | U | 0.011 | U | | | | |
| Dibromochloromethane | | | 0.5 | U | | | | | | | | |
| Dibromomethane | | | 0.5 | U | | | | | | | | |
| Dichlorodifluoromethane | | | 0.5 | U | | | | | | | | |
| EDB | 0.01 | U | 0.011 | U | 0.011 | U | 0.011 | 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 | | | **0.6** | | | | | | | | | |
| Trichlorofluoromethane | | | 0.5 | U | | | | | | | | |
| Vinyl chloride | | | 0.5 | U | | | | | | | | |
| Xylene (total) | | | 1.5 | U | | | | | | | | |
| 8260 TVOC | | | 2.26 | | | | | | | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (North Street East)**

| Analyte | 000-394<br>Depth : 178.00<br>12/16/2022<br>ug/L | | 000-551<br>Depth : 175.00<br>12/14/2022<br>ug/L | | 000-552<br>Depth : 155.00<br>12/14/2022<br>ug/L | | 000-553<br>Depth : 175.00<br>12/14/2022<br>ug/L | | 000-554<br>Depth : 195.00<br>12/16/2022<br>ug/L | | 000-555<br>Depth : 200.00<br>12/16/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (North Street East-EDB)**

| Analyte | 000-563<br>Depth : 197.00<br>12/16/2022<br>ug/L | | 000-564<br>Depth : 188.00<br>12/16/2022<br>ug/L | | 000-565<br>Depth : 210.00<br>12/16/2022<br>ug/L | | 000-566<br>Depth : 210.00<br>12/16/2022<br>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 | | | | |

OU III (LIPA)

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (LIPA)**

| Analyte | 000-101<br>Depth : 195.00<br>12/12/2022<br>ug/L | | 000-102<br>Depth : 315.00<br>12/12/2022<br>ug/L | | 000-104<br>Depth : 205.00<br>05/25/2022<br>ug/L | | 000-104<br>Depth : 205.00<br>12/12/2022<br>ug/L | | 000-105<br>Depth : 285.00<br>12/12/2022<br>ug/L | | 000-130<br>Depth : 280.00<br>05/20/2022<br>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 | 0.45 | J | 0.36 | 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 | 0.41 | J | 0.3 | 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 | 0.15 | 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 | 0.89 | U | 0.5 | U | **0.96** | | 0.68 | U | 0.5 | U | **1.6** | |
| 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 | 0.49 | 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 | 0.33 | J | 0.3 | 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 |
| 8260 TVOC | 0 | | 0 | | 2.3 | | 0.96 | | 0 | | 2.09 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (LIPA)**

| Analyte | 000-130 Depth : 280.00 12/14/2022 ug/L | | 000-131 Depth : 225.00 05/24/2022 ug/L | | 000-131 Depth : 225.00 12/09/2022 ug/L | | 000-425 Depth : 315.00 05/25/2022 ug/L | | 000-425 Depth : 315.00 12/13/2022 ug/L | | 000-445 Depth : 219.00 12/13/2022 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 | **1.4** | | 0.41 | J | **0.51** | | 0.37 | 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 | **1.3** | | 0.46 | J | 0.25 | 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 | 0.33 | J | 0.5 | U | 0.34 | J | 0.34 | J | 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 | 0.96 | U | **1.5** | | **2.2** | | **0.52** | | 0.5 | U | 0.67 | 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 | 0.33 | J | 0.5 | U | 0.5 | U | **1.9** | | **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 | **1.3** | | **0.91** | | **0.63** | | **0.65** | | 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 | 0.33 | | 5.83 | | 3.98 | | 4.15 | | 3.36 | | 0 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (LIPA)**

| Analyte | 000-446<br>Depth : 212.00<br>12/13/2022<br>ug/L | | 000-447<br>Depth : 219.00<br>05/25/2022<br>ug/L | | 000-447<br>Depth : 219.00<br>12/09/2022<br>ug/L | | 000-448<br>Depth : 212.00<br>05/25/2022<br>ug/L | | 000-448<br>Depth : 212.00<br>12/13/2022<br>ug/L | | 000-449<br>Depth : 193.00<br>05/24/2022<br>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 | 0.38 | J | 0.33 | J | **1.4** | | **1.6** | | **1.5** | |
| 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 | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | 0.5 | U | 0.44 | J | 0.33 | J | **1.7** | | **1.8** | | **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 | 0.5 | 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 | 0.24 | J | 0.21 | J | **0.51** | |
| 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 | 0.5 | 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 | U | **0.57** | | **1.3** | | **1.2** | | 1 | U | **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 | 0.5 | 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 | 0.26 | J | 0.21 | J | **0.7** | | 0.26 | J | 0.39 | 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 | 1.5 | U |
| 8260 TVOC | 0 | | 1.65 | | 2.17 | | 5.24 | | 4.06 | | 4.96 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (LIPA)**

| Analyte | 000-449<br>Depth : 193.00<br>12/13/2022<br>ug/L | | 000-450<br>Depth : 208.00<br>12/14/2022<br>ug/L | | 000-451<br>Depth : 193.00<br>05/24/2022<br>ug/L | | 000-451<br>Depth : 193.00<br>12/09/2022<br>ug/L | | 000-452<br>Depth : 219.50<br>05/24/2022<br>ug/L | | 000-452<br>Depth : 217.00<br>12/13/2022<br>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 | **1.3** | | 0.5 | U | **0.85** | | 0.4 | J | 0.35 | J | 0.29 | 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 | **1.3** | | 0.5 | U | 0.32 | 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 | 0.5 | 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 | 1.5 | U | **2.5** | | **2.4** | | **1.3** | | 1 | 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 | 0.48 | J | 0.5 | U | **0.95** | | **0.79** | | **0.78** | | **0.73** | |
| 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 | 3.08 | | 0 | | 4.62 | | 3.59 | | 2.43 | | 1.02 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (LIPA)**

| Analyte | 000-459<br>Depth : 304.00<br>12/13/2022<br>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 | 0.5 | 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 | 0.5 | U | | | | | | | | | | |
| Trichlorofluoromethane | 0.5 | U | | | | | | | | | | |
| Vinyl chloride | 0.5 | U | | | | | | | | | | |
| Xylene (total) | 1.5 | U | | | | | | | | | | |
| 8260 TVOC | 0 | | | | | | | | | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (LIPA)**

| Analyte | 000-101<br>Depth : 195.00<br>12/12/2022<br>ug/L | | 000-102<br>Depth : 315.00<br>12/12/2022<br>ug/L | | 000-104<br>Depth : 205.00<br>05/25/2022<br>ug/L | | 000-104<br>Depth : 205.00<br>12/12/2022<br>ug/L | | 000-105<br>Depth : 285.00<br>12/12/2022<br>ug/L | | 000-130<br>Depth : 280.00<br>05/20/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (LIPA)**

| Analyte | 000-130<br>Depth : 280.00<br>12/14/2022<br>ug/L | | 000-131<br>Depth : 225.00<br>05/24/2022<br>ug/L | | 000-131<br>Depth : 225.00<br>12/09/2022<br>ug/L | | 000-425<br>Depth : 315.00<br>05/25/2022<br>ug/L | | 000-425<br>Depth : 315.00<br>12/13/2022<br>ug/L | | 000-445<br>Depth : 219.00<br>12/13/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (LIPA)**

| Analyte | 000-446<br>Depth : 212.00<br>12/13/2022<br>ug/L | | 000-447<br>Depth : 219.00<br>05/25/2022<br>ug/L | | 000-447<br>Depth : 219.00<br>12/09/2022<br>ug/L | | 000-448<br>Depth : 212.00<br>05/25/2022<br>ug/L | | 000-448<br>Depth : 212.00<br>12/13/2022<br>ug/L | | 000-449<br>Depth : 193.00<br>05/24/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (LIPA)**

| Analyte | 000-449<br>Depth : 193.00<br>12/13/2022<br>ug/L | | 000-450<br>Depth : 208.00<br>12/14/2022<br>ug/L | | 000-451<br>Depth : 193.00<br>05/24/2022<br>ug/L | | 000-451<br>Depth : 193.00<br>12/09/2022<br>ug/L | | 000-452<br>Depth : 219.50<br>05/24/2022<br>ug/L | | 000-452<br>Depth : 217.00<br>12/13/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (LIPA)**

| Analyte | 000-459<br>Depth : 304.00<br>12/13/2022<br>ug/L | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 0.5 | U | | | | | | | | | | |
| Hexachlorobutadiene | 0.5 | U | | | | | | | | | | |
| Naphthalene | 0.5 | U | | | | | | | | | | |

OU III (Airport)

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Airport)**

| Analyte | 000-428<br>Depth : 298.00<br>05/24/2022<br>ug/L | | 000-428<br>Depth : 298.00<br>12/07/2022<br>ug/L | | 800-100<br>Depth : 214.00<br>06/02/2022<br>ug/L | | 800-100<br>Depth : 214.00<br>01/11/2023<br>ug/L | | 800-101<br>Depth : 280.00<br>06/02/2022<br>ug/L | | 800-101<br>Depth : 280.00<br>01/11/2023<br>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 | **3.3** | | **2.5** | |
| 1,1,2,2-Tetrachloroethane | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **5.7** | | **4.5** | |
| 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 | 0.26 | J |
| 1,1-Dichloroethylene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **4.5** | | **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 | 0.5 | 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 | **0.99** | | **0.99** | |
| 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 | **3.8** | | **4.1** | |
| 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 | 0.5 | U | 0.5 | U | 0.49 | J | **0.75** | | **7.4** | | **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 | 0.5 | 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 | **17** | | **15** | |
| Trichlorofluoromethane | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **0.51** | | 0.27 | 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 | 1.5 | U | 1.5 | U |
| 8260 TVOC | 0 | | 0 | | 0.49 | | 0.75 | | 43.2 | | 39.62 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Airport)**

| Analyte | 800-102 Depth : 304.00 06/08/2022 ug/L | | 800-102 Depth : 304.00 01/11/2023 ug/L | | 800-103 Depth : 225.00 06/08/2022 ug/L | | 800-103 Depth : 225.00 01/11/2023 ug/L | | 800-104 Depth : 170.00 06/09/2022 ug/L | | 800-104 Depth : 170.00 01/11/2023 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 | 0.98 | U | **0.73** | | 0.5 | U | 0.44 | J | 0.38 | J | 0.33 | 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 | 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 |
| 8260 TVOC | 0 | | 0.73 | | 0 | | 0.44 | | 0.38 | | 0.33 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Airport)**

| Analyte | 800-105 Depth : 233.00 06/08/2022 ug/L | | 800-105 Depth : 233.00 01/11/2023 ug/L | | 800-106 Depth : 217.00 06/06/2022 ug/L | | 800-106 Depth : 217.00 01/09/2023 ug/L | | 800-108 Depth : 216.00 03/28/2022 ug/L | | 800-108 Depth : 216.00 06/08/2022 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 | 2.3 | U | **2.4** | | 0.57 | U | 0.5 | U | 0.24 | J | 0.57 | 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 |
| 8260 TVOC | 0 | | 2.4 | | 0 | | 0 | | 0.24 | | 0 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Airport)**

| Analyte | 800-108 Depth : 216.00 08/08/2022 ug/L | | 800-108 Depth : 216.00 01/11/2023 ug/L | | 800-126 Depth : 175.00 03/28/2022 ug/L | | 800-126 Depth : 175.00 06/09/2022 ug/L | | 800-126 Depth : 175.00 08/08/2022 ug/L | | 800-126 Depth : 175.00 01/13/2023 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 | **0.7** | | 0.32 | 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 | 0.5 | 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 |
| 8260 TVOC | 0.7 | | 0.32 | | 0 | | 0 | | 0 | | 0 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Airport)**

| Analyte | 800-127 Depth : 175.00 03/21/2022 ug/L | | 800-127 Depth : 175.00 05/31/2022 ug/L | | 800-127 Depth : 175.00 08/08/2022 ug/L | | 800-127 Depth : 175.00 01/06/2023 ug/L | | 800-128 Depth : 180.00 03/21/2022 ug/L | | 800-128 Depth : 180.00 05/31/2022 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 | **0.89** | |
| 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 | 0.5 | 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 | 0.25 | J |
| 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 | 0.43 | J |
| 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 | 0.31 | J |
| 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 | **1.5** | |
| 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 | 0.74 | J |
| 8260 TVOC | 0 | | 0 | | 0 | | 0 | | 0 | | 3.81 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Airport)**

| Analyte | 800-128 Depth : 180.00 08/05/2022 ug/L | | 800-128 Depth : 180.00 01/06/2023 ug/L | | 800-129 Depth : 180.00 05/31/2022 ug/L | | 800-129 Depth : 180.00 01/06/2023 ug/L | | 800-130 Depth : 185.00 06/01/2022 ug/L | | 800-130 Depth : 185.00 01/06/2023 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 | 0.18 | 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 | 0.22 | 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 | **5.5** | | **3.7** | |
| 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 | 0.3 | J | 0.5 | U | **0.78** | | 0.63 | 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 | 0.16 | 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 | U | 0.5 | U | 0.5 | U | 0.5 | U | **13** | | **11** | |
| 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 | | 0 | | 0.3 | | 0 | | 19.84 | | 14.7 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Airport)**

| Analyte | 800-131 Depth : 194.00 03/21/2022 ug/L | | 800-131 Depth : 194.00 05/26/2022 ug/L | | 800-131 Depth : 194.00 08/05/2022 ug/L | | 800-131 Depth : 194.00 01/06/2023 ug/L | | 800-133 Depth : 225.00 03/28/2022 ug/L | | 800-133 Depth : 225.00 06/01/2022 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 | 0.25 | 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 | 0.5 | 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 | **0.6** | | **0.55** | | 0.29 | J | **0.61** | | 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 | 0.42 | J | 0.49 | J | 0.35 | J | 0.5 | U | **1.1** | | **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 | 0.5 | 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 | 1.02 | | 1.04 | | 0.64 | | 0.61 | | 1.35 | | 1.4 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Airport)**

| Analyte | 800-133 Depth : 225.00 08/08/2022 ug/L | | 800-133 Depth : 225.00 01/11/2023 ug/L | | 800-138 Depth : 250.00 06/06/2022 ug/L | | 800-138 Depth : 250.00 01/09/2023 ug/L | | 800-43 Depth : 157.00 06/01/2022 ug/L | | 800-43 Depth : 157.00 01/13/2023 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 | 0.36 | J | 0.35 | 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 | 0.5 | 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 | 0.26 | J | **0.57** | | 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** | | **1.5** | | 1.1 | U | 1.4 | U | **1.3** | | **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 | 0.5 | 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 | **0.58** | | 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 | 2.12 | | 2.42 | | 0 | | 0.58 | | 1.3 | | 1.7 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Airport)**

| Analyte | 800-44 Depth : 212.00 06/01/2022 ug/L | | 800-44 Depth : 212.00 01/13/2023 ug/L | | 800-50 Depth : 205.00 05/25/2022 ug/L | | 800-50 Depth : 205.00 01/16/2023 ug/L | | 800-59 Depth : 208.00 06/01/2022 ug/L | | 800-59 Depth : 208.00 01/09/2023 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 | **6.6** | | **4.4** | | **0.51** | | 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 | 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 | 0.39 | J | 0.47 | J | **0.78** | | **0.81** | | 0.45 | J | 0.54 | 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 |
| 8260 TVOC | 6.99 | | 4.87 | | 1.29 | | 1.03 | | 0.45 | | 0 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Airport)**

| Analyte | 800-60 Depth : 210.00 03/21/2022 ug/L | | 800-60 Depth : 210.00 06/06/2022 ug/L | | 800-60 Depth : 210.00 08/09/2022 ug/L | | 800-60 Depth : 210.00 01/09/2023 ug/L | | 800-63 Depth : 206.00 06/06/2022 ug/L | | 800-63 Depth : 206.00 01/16/2023 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 | **0.57** | | 0.5 | U | 0.5 | | 0.49 | J | 0.5 | U | 0.35 | 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 | 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 | |
| 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 | 0.57 | | 0 | | 0.5 | | 0.49 | | 0 | | 0.85 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Airport)**

| Analyte | 800-90<br>Depth : 250.00<br>05/25/2022<br>ug/L | | 800-90<br>Depth : 255.00<br>01/09/2023<br>ug/L | | 800-92<br>Depth : 200.00<br>05/25/2022<br>ug/L | | 800-92<br>Depth : 200.00<br>01/09/2023<br>ug/L | | 800-94<br>Depth : 185.00<br>06/07/2022<br>ug/L | | 800-94<br>Depth : 185.00<br>01/11/2023<br>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** | | **1.9** | |
| 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 | 0.5 | 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 | **1.7** | | **3.5** | |
| 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 | 0.5 | 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 | 0.29 | J | 0.46 | 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 | **0.97** | | **0.7** | | 0.49 | J | 0.39 | J | **31** | | **27** | |
| 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** | | **1.6** | | **1.6** | | 1.5 | U | **1.1** | | **1.3** | |
| cis-1,2-Dichloroethylene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.38 | J | **0.7** | |
| 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 | **1.4** | | **1** | | **1.4** | | **1.4** | | **19** | | **23** | |
| 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 | 4.17 | | 3.3 | | 3.49 | | 1.79 | | 54.67 | | 57.86 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (Airport)**

| Analyte | 800-95 Depth : 187.00 06/07/2022 ug/L | | 800-95 Depth : 187.00 01/11/2023 ug/L | | 800-96 Depth : 189.00 06/01/2022 ug/L | | 800-96 Depth : 189.00 01/06/2023 ug/L | | 800-97 Depth : 199.00 06/01/2022 ug/L | | 800-97 Depth : 199.00 01/06/2023 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 | 0.45 | J | **0.84** | | **1.8** | | 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 | **1** | | **1.1** | | **3.5** | | 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 | 0.5 | 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 | 0.4 | 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 |
| 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 | 11 | U | **8.6** | | **16** | | **25** | | **4.4** | | **3.7** | |
| 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 | U | **0.95** | | 0.5 | | 0.88 | U | 0.28 | J | 0.5 | U |
| cis-1,2-Dichloroethylene | 0.5 | U | 0.5 | U | 0.2 | J | **1.2** | | 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 | 6.9 | U | **5.4** | | **20** | | **26** | | 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 | | 16.4 | | 38.64 | | 57.9 | | 4.68 | | 3.7 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Airport)**

| Analyte | 800-98<br>Depth : 184.00<br>06/07/2022<br>ug/L | | 800-98<br>Depth : 184.00<br>01/09/2023<br>ug/L | | 800-99<br>Depth : 248.00<br>06/07/2022<br>ug/L | | 800-99<br>Depth : 248.00<br>01/09/2023<br>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 | **0.97** | | | | | |
| 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 | 0.57 | U | **1.1** | | | | | |
| 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 | 0.19 | J | | | | |
| 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 | 0.2 | J | | | | |
| 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 | 0.55 | U | 0.42 | J | 2.7 | U | **4.1** | | | | | |
| 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 | 0.18 | J | | | | |
| 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 | 0.5 | 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 | 0.5 | 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 | 0.5 | 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 | **0.86** | | | | | |
| 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) | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | | | | |
| 8260 TVOC | 0 | | 0.42 | | 0 | | 7.6 | | | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Airport)**

| Analyte | 000-428<br>Depth : 298.00<br>05/24/2022<br>ug/L | | 000-428<br>Depth : 298.00<br>12/07/2022<br>ug/L | | 800-100<br>Depth : 214.00<br>06/02/2022<br>ug/L | | 800-100<br>Depth : 214.00<br>01/11/2023<br>ug/L | | 800-101<br>Depth : 280.00<br>06/02/2022<br>ug/L | | 800-101<br>Depth : 280.00<br>01/11/2023<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Airport)**

| Analyte | 800-102<br>Depth : 304.00<br>06/08/2022<br>ug/L | | 800-102<br>Depth : 304.00<br>01/11/2023<br>ug/L | | 800-103<br>Depth : 225.00<br>06/08/2022<br>ug/L | | 800-103<br>Depth : 225.00<br>01/11/2023<br>ug/L | | 800-104<br>Depth : 170.00<br>06/09/2022<br>ug/L | | 800-104<br>Depth : 170.00<br>01/11/2023<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Airport)**

| Analyte | 800-105<br>Depth : 233.00<br>06/08/2022<br>ug/L | | 800-105<br>Depth : 233.00<br>01/11/2023<br>ug/L | | 800-106<br>Depth : 217.00<br>06/06/2022<br>ug/L | | 800-106<br>Depth : 217.00<br>01/09/2023<br>ug/L | | 800-108<br>Depth : 216.00<br>03/28/2022<br>ug/L | | 800-108<br>Depth : 216.00<br>06/08/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Airport)**

| Analyte | 800-108<br>Depth : 216.00<br>08/08/2022<br>ug/L | | 800-108<br>Depth : 216.00<br>01/11/2023<br>ug/L | | 800-126<br>Depth : 175.00<br>03/28/2022<br>ug/L | | 800-126<br>Depth : 175.00<br>06/09/2022<br>ug/L | | 800-126<br>Depth : 175.00<br>08/08/2022<br>ug/L | | 800-126<br>Depth : 175.00<br>01/13/2023<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Airport)**

| Analyte | 800-127<br>Depth : 175.00<br>03/21/2022<br>ug/L | | 800-127<br>Depth : 175.00<br>05/31/2022<br>ug/L | | 800-127<br>Depth : 175.00<br>08/08/2022<br>ug/L | | 800-127<br>Depth : 175.00<br>01/06/2023<br>ug/L | | 800-128<br>Depth : 180.00<br>03/21/2022<br>ug/L | | 800-128<br>Depth : 180.00<br>05/31/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Airport)**

| Analyte | 800-128<br>Depth : 180.00<br>08/05/2022<br>ug/L | | 800-128<br>Depth : 180.00<br>01/06/2023<br>ug/L | | 800-129<br>Depth : 180.00<br>05/31/2022<br>ug/L | | 800-129<br>Depth : 180.00<br>01/06/2023<br>ug/L | | 800-130<br>Depth : 185.00<br>06/01/2022<br>ug/L | | 800-130<br>Depth : 185.00<br>01/06/2023<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Airport)**

| Analyte | 800-131<br>Depth : 194.00<br>03/21/2022<br>ug/L | | 800-131<br>Depth : 194.00<br>05/26/2022<br>ug/L | | 800-131<br>Depth : 194.00<br>08/05/2022<br>ug/L | | 800-131<br>Depth : 194.00<br>01/06/2023<br>ug/L | | 800-133<br>Depth : 225.00<br>03/28/2022<br>ug/L | | 800-133<br>Depth : 225.00<br>06/01/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Airport)**

| Analyte | 800-133<br>Depth : 225.00<br>08/08/2022<br>ug/L | | 800-133<br>Depth : 225.00<br>01/11/2023<br>ug/L | | 800-138<br>Depth : 250.00<br>06/06/2022<br>ug/L | | 800-138<br>Depth : 250.00<br>01/09/2023<br>ug/L | | 800-43<br>Depth : 157.00<br>06/01/2022<br>ug/L | | 800-43<br>Depth : 157.00<br>01/13/2023<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Airport)**

| Analyte | 800-44<br>Depth : 212.00<br>06/01/2022<br>ug/L | | 800-44<br>Depth : 212.00<br>01/13/2023<br>ug/L | | 800-50<br>Depth : 205.00<br>05/25/2022<br>ug/L | | 800-50<br>Depth : 205.00<br>01/16/2023<br>ug/L | | 800-59<br>Depth : 208.00<br>06/01/2022<br>ug/L | | 800-59<br>Depth : 208.00<br>01/09/2023<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Airport)**

| Analyte | 800-60<br>Depth : 210.00<br>03/21/2022<br>ug/L | | 800-60<br>Depth : 210.00<br>06/06/2022<br>ug/L | | 800-60<br>Depth : 210.00<br>08/09/2022<br>ug/L | | 800-60<br>Depth : 210.00<br>01/09/2023<br>ug/L | | 800-63<br>Depth : 206.00<br>06/06/2022<br>ug/L | | 800-63<br>Depth : 206.00<br>01/16/2023<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Airport)**

| Analyte | 800-90<br>Depth : 250.00<br>05/25/2022<br>ug/L | | 800-90<br>Depth : 255.00<br>01/09/2023<br>ug/L | | 800-92<br>Depth : 200.00<br>05/25/2022<br>ug/L | | 800-92<br>Depth : 200.00<br>01/09/2023<br>ug/L | | 800-94<br>Depth : 185.00<br>06/07/2022<br>ug/L | | 800-94<br>Depth : 185.00<br>01/11/2023<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Airport)**

| Analyte | 800-95<br>Depth : 187.00<br>06/07/2022<br>ug/L | | 800-95<br>Depth : 187.00<br>01/11/2023<br>ug/L | | 800-96<br>Depth : 189.00<br>06/01/2022<br>ug/L | | 800-96<br>Depth : 189.00<br>01/06/2023<br>ug/L | | 800-97<br>Depth : 199.00<br>06/01/2022<br>ug/L | | 800-97<br>Depth : 199.00<br>01/06/2023<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Airport)**

| Analyte | 800-98<br>Depth : 184.00<br>06/07/2022<br>ug/L | | 800-98<br>Depth : 184.00<br>01/09/2023<br>ug/L | | 800-99<br>Depth : 248.00<br>06/07/2022<br>ug/L | | 800-99<br>Depth : 248.00<br>01/09/2023<br>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 | | | | |

Magothy

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 000-102 Depth : 315.00 12/12/2022 ug/L | | 000-105 Depth : 285.00 12/12/2022 ug/L | | 000-130 Depth : 280.00 05/20/2022 ug/L | | 000-130 Depth : 280.00 12/14/2022 ug/L | | 000-249 Depth : 264.00 03/02/2022 ug/L | | 000-249 Depth : 264.00 05/17/2022 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 | **1.2** | | **2.4** | |
| 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 | **1.6** | | 0.96 | U | **0.71** | | **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 | 0.5 | 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 | 0.49 | J | 0.33 | J | **0.71** | | **0.74** | |
| 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 | 0.27 | J | 0.31 | 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 | 1.5 | U |
| 8260 TVOC | 0 | | 0 | | 2.09 | | 0.33 | | 2.89 | | 4.35 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 000-249<br>Depth : 264.00<br>08/02/2022<br>ug/L | | 000-249<br>Depth : 264.00<br>11/28/2022<br>ug/L | | 000-250<br>Depth : 298.00<br>11/28/2022<br>ug/L | | 000-343<br>Depth : 330.00<br>12/14/2022<br>ug/L | | 000-425<br>Depth : 315.00<br>05/25/2022<br>ug/L | | 000-425<br>Depth : 315.00<br>12/13/2022<br>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 | **1** | | **0.51** | | 0.37 | 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 | **2.9** | | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | 0.5 | U | 0.5 | U | 0.5 | U | 0.34 | 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 | 0.5 | 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 | **1.8** | | **1.2** | | 0.5 | U | 0.5 | U | 0.34 | J | 0.34 | 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 | 0.25 | J | 0.5 | U | 0.5 | U |
| Chloroform | **0.64** | | 0.63 | U | 0.5 | U | 0.34 | J | **0.52** | | 0.5 | U |
| cis-1,2-Dichloroethylene | 0.5 | U | 0.5 | U | 0.5 | U | **0.55** | | 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 | **1** | | **0.87** | | 0.5 | U | 0.5 | U | **1.9** | | **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 | 0.37 | J | 0.29 | J | 0.5 | U | 0.5 | U | **0.63** | | **0.65** | |
| 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) | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 3.81 | | 2.36 | | 0 | | 5.56 | | 4.15 | | 3.36 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 000-428<br>Depth : 298.00<br>05/24/2022<br>ug/L | | 000-428<br>Depth : 298.00<br>12/07/2022<br>ug/L | | 000-458<br>Depth : 301.00<br>12/09/2022<br>ug/L | | 000-459<br>Depth : 304.00<br>12/13/2022<br>ug/L | | 000-537<br>Depth : 245.00<br>03/16/2022<br>ug/L | | 000-537<br>Depth : 245.00<br>05/18/2022<br>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 | **7** | | **8.5** | |
| 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 | 0.5 | 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 | **2.8** | | **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 | 0.5 | 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 | **1.2** | | **1.5** | |
| 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 | **0.71** | | **0.95** | |
| cis-1,2-Dichloroethylene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **0.71** | | **0.8** | |
| 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 | **30** | | **34** | |
| 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 | **7** | | **7.6** | |
| 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) | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| 8260 TVOC | 0 | | 0 | | 0 | | 0 | | 49.42 | | 56.97 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 000-537 Depth : 245.00 08/04/2022 ug/L | | 000-537 Depth : 245.00 11/09/2022 ug/L | | 000-541 Depth : 235.00 02/25/2022 ug/L | | 000-541 Depth : 235.00 05/18/2022 ug/L | | 000-541 Depth : 235.00 07/29/2022 ug/L | | 000-541 Depth : 235.00 11/18/2022 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 | **7.4** | | **6.2** | | **2.3** | | **2.6** | | **2.8** | | **3.5** | |
| 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 | 0.5 | U | 0.5 | U | 0.32 | J | 0.3 | J | **0.54** | | **0.96** | |
| 1,1-Dichloroethylene | **2.6** | | **2.2** | | **1.7** | | **2** | | **2.3** | | **2.8** | |
| 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 | 0.5 | 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 | **1.2** | | **1** | | **14** | | **18** | | **17** | | **20** | |
| 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 | **0.83** | | **0.7** | | **4.9** | | **4.5** | | **8.5** | | **7.6** | |
| cis-1,2-Dichloroethylene | **0.71** | | **0.65** | | 0.25 | J | 0.24 | J | 0.31 | J | 0.37 | 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 | 0.5 | 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 | 0.26 | J |
| 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 | **27** | | **22** | | **7.5** | | **8.4** | | **9.8** | | **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 | **7.2** | | **6.8** | | **10** | | **11** | | **12** | | **16** | |
| 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 | 46.94 | | 39.55 | | 40.97 | | 47.04 | | 53.25 | | 62.49 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 000-542<br>Depth : 235.00<br>03/01/2022<br>ug/L | | 000-542<br>Depth : 235.00<br>05/18/2022<br>ug/L | | 000-542<br>Depth : 235.00<br>08/02/2022<br>ug/L | | 000-542<br>Depth : 235.00<br>11/28/2022<br>ug/L | | 000-543<br>Depth : 230.00<br>02/28/2022<br>ug/L | | 000-543<br>Depth : 230.00<br>05/17/2022<br>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 | 0.5 | 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 | 0.5 | 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 |
| 8260 TVOC | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 000-543 Depth : 230.00 07/29/2022 ug/L | | 000-543 Depth : 230.00 11/18/2022 ug/L | | 000-544 Depth : 230.00 03/08/2022 ug/L | | 000-544 Depth : 230.00 05/19/2022 ug/L | | 000-544 Depth : 230.00 07/27/2022 ug/L | | 000-544 Depth : 230.00 11/21/2022 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 | **15** | | **9.4** | | **9.2** | | **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 | **9.5** | | **6.5** | | **6.3** | | **8.1** | |
| 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 | 0.5 | 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 | 0.2 | 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 | **6.5** | | **3.8** | | **3.7** | | **5.2** | |
| 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 | 0.5 | U | 0.5 | U | **0.94** | | **0.73** | | **0.75** | | 0.81 | U |
| cis-1,2-Dichloroethylene | 0.5 | U | 0.5 | U | 0.29 | J | 0.5 | U | 0.23 | J | 0.29 | 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 | 0.5 | 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 | **0.63** | | **0.62** | | **0.6** | | 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 | | 0 | | 33.06 | | 21.05 | | 20.78 | | 26.59 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 000-548<br>Depth : 235.00<br>09/23/2022<br>ug/L | | 000-548<br>Depth : 235.00<br>11/14/2022<br>ug/L | | 113-09<br>Depth : 222.00<br>04/25/2022<br>ug/L | | 113-09<br>Depth : 222.00<br>11/07/2022<br>ug/L | | 113-19<br>Depth : 230.00<br>01/25/2022<br>ug/L | | 113-19<br>Depth : 230.00<br>04/26/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| 1,1,1-Trichloroethane | **6.5** | | **7.4** | | **1.7** | | 1.8 | J D | **11** | | **9.1** | |
| 1,1,2,2-Tetrachloroethane | 0.5 | U | 0.5 | U | 0.46 | J | 2 | U D | 0.5 | U | 0.5 | U |
| 1,1,2-Trichloroethane | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethane | 0.5 | U | 0.5 | U | 0.26 | J | 2 | U D | **0.72** | | **1.2** | |
| 1,1-Dichloroethylene | **2.6** | | **3.3** | | **1.8** | | **2.2** | D | **6** | | **5.5** | |
| 1,1-Dichloropropene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| 1,2,3-Trichlorobenzene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| 1,2,3-Trichloropropane | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| 1,2-Dichloroethane | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| 1,2-Dichloropropane | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| 1,3-Dichloropropane | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| 2,2-Dichloropropane | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Benzene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Benzene, 1,2,4-trimethyl | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Benzene, 1,3,5-trimethyl- | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Benzene, 1-methylethyl- | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Bromobenzene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Bromodichloromethane | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Bromoform | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Carbon tetrachloride | **2** | | **2.5** | | **0.54** | | 2 | U D | **7.2** | | **6.4** | |
| Chlorobenzene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Chlorobromomethane | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Chloroethane | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Chloroform | 0.45 | J | 0.5 | U | **0.81** | | 2.1 | U | **0.64** | | **0.88** | |
| cis-1,2-Dichloroethylene | 0.17 | J | 0.22 | J | 0.5 | U | 2 | U D | 0.5 | U | 0.44 | J |
| cis-1,3-Dichloropropene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Cymene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| DBCP | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Dibromochloromethane | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Dibromomethane | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Dichlorodifluoromethane | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| EDB | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Ethene, 1,2-dichloro-, (E)- | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Ethylbenzene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| m-Dichlorobenzene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| m/p xylene | 1 | U | 1 | U | 1 | U | 4 | U D | 1 | U | 1 | U |
| Methyl bromide | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Methyl chloride | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Methyl tert-butyl ether | 0.5 | U | 0.5 | U | 0.2 | J | 2 | U D | 0.5 | U | 0.5 | U |
| Methylene chloride | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| n-Butylbenzene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| n-Propylbenzene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| o-Chlorotoluene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| o-Dichlorobenzene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| o-Xylene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| p-Chlorotoluene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| p-Dichlorobenzene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| sec-Butylbenzene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Styrene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| tert-Butylbenzene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Tetrachloroethylene | **0.88** | | **0.58** | | **66** | D | **60** | D | 0.5 | U | 0.5 | U |
| Toluene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| trans-1,3-Dichloropropene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Trichloroethylene | **6.8** | | **6.9** | | **4.4** | | **4.3** | D | **5.2** | | **4.7** | |
| Trichlorofluoromethane | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Vinyl chloride | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| Xylene (total) | 1.5 | U | 1.5 | U | 1.5 | U | 6 | U D | 1.5 | U | 1.5 | U |
| 8260 TVOC | 19.4 | | 20.9 | | 76.17 | | 68.3 | | 30.76 | | 28.22 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 113-19 Depth : 230.00 07/15/2022 ug/L | | 113-19 Depth : 230.00 11/07/2022 ug/L | | 113-22 Depth : 240.00 04/28/2022 ug/L | | 113-22 Depth : 240.00 11/08/2022 ug/L | | 122-05 Depth : 271.50 05/04/2022 ug/L | | 122-05 Depth : 271.50 11/17/2022 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 | **8.9** | | **9.6** | | **0.54** | | **0.79** | | **0.72** | | **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** | | **1.5** | | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| 1,1-Dichloroethylene | **5.4** | | **4.8** | | 0.19 | J | 0.3 | J | 0.28 | J | 0.39 | 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-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 | **5.8** | | **5.2** | | **10** | | **13** | | 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 | **0.82** | | 1.3 | U | **0.79** | | 1.2 | U | 0.37 | J | 0.57 | U |
| cis-1,2-Dichloroethylene | 0.41 | J | 0.38 | J | 0.5 | U | 0.5 | U | **14** | | **13** | |
| 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 | 0.16 | J | **2.4** | | **2.9** | |
| 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 | **4** | | **3.3** | | 0.39 | J | **0.64** | | **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 |
| 8260 TVOC | 26.43 | | 24.78 | | 11.91 | | 14.89 | | 19.27 | | 19.19 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 122-20<br>Depth : 260.00<br>11/17/2022<br>ug/L | | 127-08<br>Depth : 240.00<br>02/24/2022<br>ug/L | | 127-08<br>Depth : 240.00<br>05/16/2022<br>ug/L | | 127-08<br>Depth : 240.00<br>07/28/2022<br>ug/L | | 127-08<br>Depth : 240.00<br>11/09/2022<br>ug/L | | 127-09<br>Depth : 225.00<br>02/24/2022<br>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** | | **0.68** | | **0.78** | | **0.8** | | **0.63** | | 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 | **0.59** | | 0.42 | J | 0.5 | U | 0.47 | J | 0.42 | 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 | **5.3** | | **6.4** | | **5.8** | | **4.8** | | **1.1** | |
| 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 | 0.55 | U | **1** | | **1.3** | | **1.3** | | **1** | | **1.5** | |
| cis-1,2-Dichloroethylene | **0.91** | | 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 | 0.23 | 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 | **2.1** | | **18** | | **20** | | **19** | | **14** | | **2.4** | |
| 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 | **1.8** | | **1.6** | | **1.8** | | **1.6** | | **1.4** | | 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 | 7.39 | | 27.23 | | 30.28 | | 28.97 | | 22.25 | | 5 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 127-09<br>Depth : 225.00<br>05/16/2022<br>ug/L | | 127-09<br>Depth : 225.00<br>07/28/2022<br>ug/L | | 127-09<br>Depth : 225.00<br>11/09/2022<br>ug/L | | 130-04<br>Depth : 287.50<br>12/27/2022<br>ug/L | | 800-101<br>Depth : 280.00<br>06/02/2022<br>ug/L | | 800-101<br>Depth : 280.00<br>01/11/2023<br>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 | **3.3** | | **2.5** | |
| 1,1,2,2-Tetrachloroethane | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **5.7** | | **4.5** | |
| 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 | 0.26 | J |
| 1,1-Dichloroethylene | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **4.5** | | **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 | 0.5 | 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 | **0.99** | | **0.99** | |
| 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 | **0.71** | | 0.46 | J | 0.42 | J | 0.5 | U | **3.8** | | **4.1** | |
| 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 | **1.6** | | **2** | | **1.3** | | 0.33 | J | **7.4** | | **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 | 0.5 | 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 | **2.2** | | **2.8** | | 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 | **17** | | **15** | |
| Trichlorofluoromethane | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **0.51** | | 0.27 | 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 | 1.5 | U | 1.5 | U |
| 8260 TVOC | 2.31 | | 4.66 | | 4.52 | | 0.33 | | 43.2 | | 39.62 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 800-102<br>Depth : 304.00<br>06/08/2022<br>ug/L | | 800-102<br>Depth : 304.00<br>01/11/2023<br>ug/L | | 800-105<br>Depth : 233.00<br>06/08/2022<br>ug/L | | 800-105<br>Depth : 233.00<br>01/11/2023<br>ug/L | | 800-138<br>Depth : 250.00<br>06/06/2022<br>ug/L | | 800-138<br>Depth : 250.00<br>01/09/2023<br>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 | 0.98 | U | **0.73** | | 2.3 | U | **2.4** | | 1.1 | U | 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 | 0.5 | 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 | **0.58** | |
| 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 | | 0.73 | | 0 | | 2.4 | | 0 | | 0.58 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 800-90<br>Depth : 250.00<br>05/25/2022<br>ug/L | | 800-90<br>Depth : 255.00<br>01/09/2023<br>ug/L | | 800-99<br>Depth : 248.00<br>06/07/2022<br>ug/L | | 800-99<br>Depth : 248.00<br>01/09/2023<br>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 | **0.97** | | | | | |
| 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 | 0.57 | U | **1.1** | | | | | |
| 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 | 0.19 | J | | | | |
| 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 | **0.97** | | **0.7** | | 0.5 | U | 0.2 | J | | | | |
| 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 | **1.8** | | **1.6** | | 2.7 | U | **4.1** | | | | | |
| 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 | 0.18 | J | | | | |
| 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 | 0.5 | 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 | 0.5 | 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 | 0.5 | 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 | **1.4** | | **1** | | 0.5 | U | **0.86** | | | | | |
| 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) | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | | | | |
| 8260 TVOC | 4.17 | | 3.3 | | 0 | | 7.6 | | | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 000-102<br>Depth : 315.00<br>12/12/2022<br>ug/L | | 000-105<br>Depth : 285.00<br>12/12/2022<br>ug/L | | 000-130<br>Depth : 280.00<br>05/20/2022<br>ug/L | | 000-130<br>Depth : 280.00<br>12/14/2022<br>ug/L | | 000-249<br>Depth : 264.00<br>03/02/2022<br>ug/L | | 000-249<br>Depth : 264.00<br>05/17/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 000-249<br>Depth : 264.00<br>08/02/2022<br>ug/L | | 000-249<br>Depth : 264.00<br>11/28/2022<br>ug/L | | 000-250<br>Depth : 298.00<br>11/28/2022<br>ug/L | | 000-343<br>Depth : 330.00<br>12/14/2022<br>ug/L | | 000-425<br>Depth : 315.00<br>05/25/2022<br>ug/L | | 000-425<br>Depth : 315.00<br>12/13/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 000-428<br>Depth : 298.00<br>05/24/2022<br>ug/L | | 000-428<br>Depth : 298.00<br>12/07/2022<br>ug/L | | 000-458<br>Depth : 301.00<br>12/09/2022<br>ug/L | | 000-459<br>Depth : 304.00<br>12/13/2022<br>ug/L | | 000-537<br>Depth : 245.00<br>03/16/2022<br>ug/L | | 000-537<br>Depth : 245.00<br>05/18/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 000-537 Depth : 245.00 08/04/2022 ug/L | | 000-537 Depth : 245.00 11/09/2022 ug/L | | 000-541 Depth : 235.00 02/25/2022 ug/L | | 000-541 Depth : 235.00 05/18/2022 ug/L | | 000-541 Depth : 235.00 07/29/2022 ug/L | | 000-541 Depth : 235.00 11/18/2022 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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 000-542<br>Depth : 235.00<br>03/01/2022<br>ug/L | | 000-542<br>Depth : 235.00<br>05/18/2022<br>ug/L | | 000-542<br>Depth : 235.00<br>08/02/2022<br>ug/L | | 000-542<br>Depth : 235.00<br>11/28/2022<br>ug/L | | 000-543<br>Depth : 230.00<br>02/28/2022<br>ug/L | | 000-543<br>Depth : 230.00<br>05/17/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 000-543<br>Depth : 230.00<br>07/29/2022<br>ug/L | | 000-543<br>Depth : 230.00<br>11/18/2022<br>ug/L | | 000-544<br>Depth : 230.00<br>03/08/2022<br>ug/L | | 000-544<br>Depth : 230.00<br>05/19/2022<br>ug/L | | 000-544<br>Depth : 230.00<br>07/27/2022<br>ug/L | | 000-544<br>Depth : 230.00<br>11/21/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 000-548<br>Depth : 235.00<br>09/23/2022<br>ug/L | | 000-548<br>Depth : 235.00<br>11/14/2022<br>ug/L | | 113-09<br>Depth : 222.00<br>04/25/2022<br>ug/L | | 113-09<br>Depth : 222.00<br>11/07/2022<br>ug/L | | 113-19<br>Depth : 230.00<br>01/25/2022<br>ug/L | | 113-19<br>Depth : 230.00<br>04/26/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 0.5 | U | 0.5 | U | 0.5 | U | 2 | U D | 0.5 | U | 0.5 | U |
| 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 | 0.5 | U | 0.5 | U |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 113-19<br>Depth : 230.00<br>07/15/2022<br>ug/L | | 113-19<br>Depth : 230.00<br>11/07/2022<br>ug/L | | 113-22<br>Depth : 240.00<br>04/28/2022<br>ug/L | | 113-22<br>Depth : 240.00<br>11/08/2022<br>ug/L | | 122-05<br>Depth : 271.50<br>05/04/2022<br>ug/L | | 122-05<br>Depth : 271.50<br>11/17/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 122-20<br>Depth : 260.00<br>11/17/2022<br>ug/L | | 127-08<br>Depth : 240.00<br>02/24/2022<br>ug/L | | 127-08<br>Depth : 240.00<br>05/16/2022<br>ug/L | | 127-08<br>Depth : 240.00<br>07/28/2022<br>ug/L | | 127-08<br>Depth : 240.00<br>11/09/2022<br>ug/L | | 127-09<br>Depth : 225.00<br>02/24/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 127-09<br>Depth : 225.00<br>05/16/2022<br>ug/L | | 127-09<br>Depth : 225.00<br>07/28/2022<br>ug/L | | 127-09<br>Depth : 225.00<br>11/09/2022<br>ug/L | | 130-04<br>Depth : 287.50<br>12/27/2022<br>ug/L | | 800-101<br>Depth : 280.00<br>06/02/2022<br>ug/L | | 800-101<br>Depth : 280.00<br>01/11/2023<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 800-102<br>Depth : 304.00<br>06/08/2022<br>ug/L | | 800-102<br>Depth : 304.00<br>01/11/2023<br>ug/L | | 800-105<br>Depth : 233.00<br>06/08/2022<br>ug/L | | 800-105<br>Depth : 233.00<br>01/11/2023<br>ug/L | | 800-138<br>Depth : 250.00<br>06/06/2022<br>ug/L | | 800-138<br>Depth : 250.00<br>01/09/2023<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (Magothy) Sampling Program**

| Analyte | 800-90<br>Depth : 250.00<br>05/25/2022<br>ug/L | | 800-90<br>Depth : 255.00<br>01/09/2023<br>ug/L | | 800-99<br>Depth : 248.00<br>06/07/2022<br>ug/L | | 800-99<br>Depth : 248.00<br>01/09/2023<br>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 | | | | |

OU III South Boundary Radionuclide

OU III (AOC 29/HFBR Tritium)

OU III (BGRR/WCF Sr-90)

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| Analyte | 065-03<br>Depth : 60.00<br>10/21/2022<br>ug/L | | 065-04<br>Depth : 60.00<br>10/21/2022<br>ug/L | | 065-06<br>Depth : 60.00<br>10/31/2022<br>ug/L | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 0.5 | U | 0.5 | U | 0.5 | U | | | | | | |
| 1,1,1-Trichloroethane | 0.42 | J | 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 | 0.5 | U | 0.5 | U | 0.5 | 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 | 0.5 | 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 | | | | | | |
| 8260 TVOC | 0.42 | | 0 | | 0 | | | | | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU III (BGRR/WCF Sr-90)**

| Analyte | 065-03<br>Depth : 60.00<br>10/21/2022<br>ug/L | | 065-04<br>Depth : 60.00<br>10/21/2022<br>ug/L | | 065-06<br>Depth : 60.00<br>10/31/2022<br>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 | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 065-06<br>Depth : 60.00<br>10/31/2022<br>pCi/l | | | | 065-160<br>Depth : 44.00<br>04/15/2022<br>pCi/l | | | | 065-160<br>Depth : 44.00<br>10/20/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | 0.0137 | UJ(-)B | 0.554 | 0.306 | 0.971 | N2 | 0.782 | 0.487 | 0.564 | U | 0.618 | 0.394 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 065-162<br>Depth : 46.00<br>10/21/2022<br>pCi/l | | | | 065-163<br>Depth : 75.00<br>10/20/2022<br>pCi/l | | | | 065-164<br>Depth : 75.00<br>10/14/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | 0.778 | N2 | 0.769 | 0.513 | 0.374 | U | 0.596 | 0.362 | 0.478 | U | 0.779 | 0.468 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 065-169<br>Depth : 85.00<br>10/13/2022<br>pCi/l | | | | 065-170<br>Depth : 85.00<br>10/14/2022<br>pCi/l | | | | 065-174<br>Depth : 40.00<br>10/21/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | -2.41 | U-DL | 12.2 | 6.55 | -2.92 | U | 6.4 | 4.2 | | | | |
| Strontium-90 | **157** | | 0.505 | 2.77 | **4.05** | | 0.762 | 0.832 | **5.75** | | 0.691 | 0.829 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 065-175<br>Depth : 40.00<br>04/15/2022<br>pCi/l | | | | 065-175<br>Depth : 40.00<br>10/21/2022<br>pCi/l | | | | 065-176<br>Depth : 40.00<br>10/21/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | **44.9** | | 0.79 | 1.77 | **56.3** | | 0.781 | 3 | 0.00262 | U | 0.755 | 0.41 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 065-178<br>Depth : 80.00<br>10/20/2022<br>pCi/l | | | | 065-325<br>Depth : 77.00<br>04/14/2022<br>pCi/l | | | | 065-325<br>Depth : 77.00<br>10/13/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | 0.193 | U | 0.667 | 0.379 | **13.1** | | 0.789 | 1.2 | **23.7** | | 0.747 | 1.43 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 065-360<br>Depth : 45.00<br>10/20/2022<br>pCi/l | | | | 065-361<br>Depth : 55.00<br>10/20/2022<br>pCi/l | | | | 065-362<br>Depth : 48.00<br>10/20/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | -0.179 | U | 0.764 | 0.372 | **3.48** | | 0.732 | 0.729 | **1.23** | | 0.573 | 0.431 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 065-363<br>Depth : 60.00<br>10/14/2022<br>pCi/l | | | | 065-364<br>Depth : 70.00<br>10/14/2022<br>pCi/l | | | | 065-365<br>Depth : 80.00<br>10/14/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | -0.142 | U | 0.787 | 0.409 | 0.162 | U | 0.779 | 0.44 | 0.0693 | U | 0.779 | 0.424 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 065-367<br>Depth : 95.00<br>10/13/2022<br>pCi/l | | | | 065-37<br>Depth : 73.00<br>10/14/2022<br>pCi/l | | | | 065-38<br>Depth : 63.00<br>04/14/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | 0.705 | U | 8.51 | 4.78 | | | | |
| Strontium-90 | 0.703 | U | 0.788 | 0.497 | **36.2** | | 0.701 | 1.5 | **46.8** | | 0.795 | 1.86 |
| Tritium | | | | | 43.2 | U | 409 | 213 | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 065-38<br>Depth : 66.00<br>10/13/2022<br>pCi/l | | | | 065-384<br>Depth : 60.00<br>04/15/2022<br>pCi/l | | | | 065-384<br>Depth : 60.00<br>10/21/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | 0.209 | U-DL | 0.868 | 0.491 | | | | | | | | |
| Tritium | | | | | 39.3 | U | 427 | 243 | 142 | U | 356 | 209 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 065-385<br>Depth : 60.00<br>04/15/2022<br>pCi/l | | | | 065-385<br>Depth : 60.00<br>10/21/2022<br>pCi/l | | | | 065-39<br>Depth : 87.40<br>04/14/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | | | | | | | | | **17.5** | | 0.79 | 1.03 |
| Tritium | 78.9 | U | 419 | 241 | 64.9 | U | 361 | 205 | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 065-39<br>Depth : 87.40<br>10/13/2022<br>pCi/l | | | | 065-401<br>Depth : 73.00<br>04/20/2022<br>pCi/l | | | | 065-401<br>Depth : 73.00<br>10/14/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | **17** | | 1.02 | 1.56 | 0.463 | U | 0.793 | 0.474 | 0.145 | U | 0.785 | 0.445 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 065-402<br>Depth : 52.00<br>04/15/2022<br>pCi/l | | | | 065-402<br>Depth : 52.00<br>10/20/2022<br>pCi/l | | | | 065-404<br>Depth : 100.00<br>04/20/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | -0.253 | U | 0.791 | 0.441 | 0.818 | N2 | 0.705 | 0.468 | 0.143 | U | 0.79 | 0.448 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 065-404<br>Depth : 100.00<br>10/31/2022<br>pCi/l | | | | 065-405<br>Depth : 80.00<br>10/13/2022<br>pCi/l | | | | 075-189<br>Depth : 69.50<br>10/17/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | 0.892 | UJ(-)B | 0.744 | 0.478 | **0.925** | | 0.292 | 0.241 | 0.961 | N2 | 0.747 | 0.489 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-193<br>Depth : 85.00<br>10/18/2022<br>pCi/l | | | | 075-194<br>Depth : 145.00<br>10/18/2022<br>pCi/l | | | | 075-201<br>Depth : 68.00<br>10/12/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | 0.339 | U | 0.777 | 0.457 | 0.751 | U | 0.759 | 0.493 | 0.0259 | U | 0.77 | 0.427 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-210<br>Depth : 58.00<br>10/19/2022<br>pCi/l | | | | 075-39<br>Depth : 52.00<br>10/17/2022<br>pCi/l | | | | 075-40<br>Depth : 122.50<br>08/19/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | 0.586 | U | 0.783 | 0.485 | 0.281 | U | 0.783 | 0.453 | | | | |
| Tritium | | | | | | | | | 94.52 | U | 258.481 | 153.142 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-40<br>Depth : 122.50<br>10/03/2022<br>pCi/l | | | | 075-41<br>Depth : 195.50<br>10/17/2022<br>pCi/l | | | | 075-46<br>Depth : 38.00<br>10/17/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | | | | | 0.0465 | U | 0.768 | 0.43 | 0.0532 | U | 0.777 | 0.407 |
| Tritium | 137.218 | U | 353.169 | 209.047 | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-47<br>Depth : 41.00<br>04/14/2022<br>pCi/l | | | | 075-47<br>Depth : 41.00<br>10/19/2022<br>pCi/l | | | | 075-48<br>Depth : 68.00<br>04/14/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | 0.805 | N2 | 0.792 | 0.5 | 0.384 | U | 0.772 | 0.458 | **4.6** | | 0.791 | 0.621 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-48<br>Depth : 68.00<br>10/19/2022<br>pCi/l | | | | 075-664<br>Depth : 70.00<br>01/13/2022<br>pCi/l | | | | 075-664<br>Depth : 68.00<br>02/11/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | 0.419 | U | 0.769 | 0.459 | **0.868** | | 0.399 | 0.31 | 0.275 | U | 0.611 | 0.359 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-664<br>Depth : 68.00<br>03/07/2022<br>pCi/l | | | | 075-664<br>Depth : 68.00<br>04/13/2022<br>pCi/l | | | | 075-664<br>Depth : 66.00<br>05/23/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | **2.26** | | 0.769 | 0.617 | 0.768 | U | 0.786 | 0.493 | **1.17** | | 0.481 | 0.328 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-664<br>Depth : 68.00<br>06/22/2022<br>pCi/l | | | | 075-664<br>Depth : 68.00<br>07/01/2022<br>pCi/l | | | | 075-664<br>Depth : 68.00<br>08/01/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | **1.76** | UJ(+)-B | 0.738 | 0.478 | **1.16** | | 0.627 | 0.47 | **1.79** | | 0.78 | 0.618 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-664<br>Depth : 64.00<br>09/01/2022<br>pCi/l | | | | 075-664<br>Depth : 68.00<br>10/03/2022<br>pCi/l | | | | 075-664<br>Depth : 65.00<br>11/01/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | 0.869 | N2 | 0.837 | 0.51 | 0.937 | N2 | 0.727 | 0.484 | 1.26 | N2 | 0.775 | 0.544 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-664<br>Depth : 68.00<br>12/08/2022<br>pCi/l | | | | 075-665<br>Depth : 82.00<br>10/12/2022<br>pCi/l | | | | 075-666<br>Depth : 51.00<br>11/01/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | **1.45** | | 0.425 | 0.302 | -0.074 | U | 0.766 | 0.402 | **3.36** | UJ(-)B | 0.724 | 0.627 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-669<br>Depth : 60.00<br>10/18/2022<br>pCi/l | | | | 075-670<br>Depth : 94.00<br>04/18/2022<br>pCi/l | | | | 075-670<br>Depth : 94.00<br>10/24/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | 0.351 | U | 0.666 | 0.397 | 1.17 | N2 | 0.793 | 0.529 | 0.632 | U | 0.778 | 0.487 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-671<br>Depth : 109.00<br>04/18/2022<br>pCi/l | | | | 075-671<br>Depth : 109.00<br>10/24/2022<br>pCi/l | | | | 075-672<br>Depth : 112.00<br>10/18/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | **2.21** | | 0.788 | 0.558 | **2.56** | | 0.754 | 0.675 | 0.744 | U | 0.79 | 0.52 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-673<br>Depth : 44.00<br>11/01/2022<br>pCi/l | | | | 075-674<br>Depth : 75.00<br>10/18/2022<br>pCi/l | | | | 075-675<br>Depth : 95.00<br>10/18/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | 0.753 | UJ(-)B | 0.72 | 0.453 | 0.224 | U | 0.783 | 0.448 | 0.575 | U | 0.767 | 0.485 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-681<br>Depth : 59.00<br>10/18/2022<br>pCi/l | | | | 075-682<br>Depth : 81.00<br>04/18/2022<br>pCi/l | | | | 075-682<br>Depth : 81.00<br>10/17/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | -0.452 | U | 0.784 | 0.384 | **13.2** | | 0.779 | 0.785 | **1.48** | | 0.631 | 0.468 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-683<br>Depth : 81.00<br>10/19/2022<br>pCi/l | | | | 075-684<br>Depth : 79.00<br>10/19/2022<br>pCi/l | | | | 075-699<br>Depth : 85.00<br>04/20/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | **2.02** | | 0.65 | 0.514 | 0.244 | U | 0.524 | 0.308 | 0.963 | N2 | 0.787 | 0.502 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-699<br>Depth : 85.00<br>10/31/2022<br>pCi/l | | | | 075-700<br>Depth : 66.00<br>04/13/2022<br>pCi/l | | | | 075-700<br>Depth : 68.00<br>10/12/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | 0.298 | UJ(-)B | 0.583 | 0.346 | -0.005 | U | 0.774 | 0.429 | -0.107 | U | 0.779 | 0.407 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-701<br>Depth : 58.00<br>01/13/2022<br>pCi/l | | | | 075-701<br>Depth : 58.00<br>02/11/2022<br>pCi/l | | | | 075-701<br>Depth : 58.00<br>03/07/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | **5.16** | | 1.3 | 0.929 | 0.693 | J | 0.623 | 0.418 | **1.89** | | 0.794 | 0.625 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-701<br>Depth : 58.00<br>04/13/2022<br>pCi/l | | | | 075-701<br>Depth : 61.00<br>05/23/2022<br>pCi/l | | | | 075-701<br>Depth : 60.10<br>06/22/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | 0.22 | U | 0.793 | 0.461 | **2.82** | | 0.549 | 0.398 | **2.03** | UJ(+)-B | 0.399 | 0.291 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-701<br>Depth : 60.19<br>07/01/2022<br>pCi/l | | | | 075-701<br>Depth : 61.62<br>08/01/2022<br>pCi/l | | | | 075-701<br>Depth : 62.29<br>09/01/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | **4.07** | | 0.779 | 0.655 | **3.86** | | 0.773 | 0.743 | **2.03** | | 0.609 | 0.427 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-701<br>Depth : 62.64<br>10/03/2022<br>pCi/l | | | | 075-701<br>Depth : 61.94<br>11/01/2022<br>pCi/l | | | | 075-701<br>Depth : 58.00<br>12/08/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | **4.16** | | 0.787 | 0.764 | **2.22** | | 0.707 | 0.483 | **3.25** | | 1.34 | 0.863 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-705<br>Depth : 90.00<br>04/19/2022<br>pCi/l | | | | 075-705<br>Depth : 90.00<br>10/19/2022<br>pCi/l | | | | 075-706<br>Depth : 95.00<br>04/13/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | 1.07 | N2 | 0.8 | 0.519 | **1.37** | | 0.635 | 0.483 | **3.5** | | 0.788 | 0.611 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-706<br>Depth : 95.00<br>10/18/2022<br>pCi/l | | | | 075-707<br>Depth : 75.00<br>04/13/2022<br>pCi/l | | | | 075-707<br>Depth : 75.00<br>10/18/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | 0.512 | U | 0.782 | 0.473 | **1.95** | | 0.789 | 0.655 | **1.36** | | 0.788 | 0.554 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-85<br>Depth : 67.50<br>10/17/2022<br>pCi/l | | | | 075-86<br>Depth : 107.50<br>10/18/2022<br>pCi/l | | | | 075-87<br>Depth : 107.50<br>04/14/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | **18.9** | | 0.75 | 1.39 | **1.73** | | 0.773 | 0.594 | -0.261 | U | 0.784 | 0.393 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 075-87<br>Depth : 107.50<br>10/19/2022<br>pCi/l | | | | 085-398<br>Depth : 130.00<br>04/20/2022<br>pCi/l | | | | 085-398<br>Depth : 130.00<br>11/03/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | -0.259 | U | 0.743 | 0.333 | **3.99** | | 0.797 | 0.682 | **2.79** | UJ(-)B | 0.748 | 0.724 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 085-399<br>Depth : 65.00<br>04/19/2022<br>pCi/l | | | | 085-399<br>Depth : 65.00<br>10/24/2022<br>pCi/l | | | | 085-402<br>Depth : 100.00<br>04/19/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | 0.15 | U | 0.787 | 0.456 | **7.52** | | 0.791 | 1.06 | **6.21** | | 0.792 | 0.873 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 085-402<br>Depth : 100.00<br>10/24/2022<br>pCi/l | | | | 085-403<br>Depth : 120.00<br>04/20/2022<br>pCi/l | | | | 085-403<br>Depth : 120.00<br>11/03/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | **13.3** | | 0.76 | 1.18 | **7.92** | | 0.79 | 0.743 | **6.7** | UJ(-)B | 0.785 | 1.06 |
| Tritium | | | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (BGRR/WCF Sr-90)**

| | 095-326<br>Depth : 120.00<br>04/11/2022<br>pCi/l | | | | 095-326<br>Depth : 120.00<br>11/03/2022<br>pCi/l | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | | | | |
| Cesium-137 | | | | | | | | | | | | |
| Strontium-90 | 0.504 | U-DL | 0.829 | 0.499 | 0.934 | UJ(-)B | 0.772 | 0.532 | | | | |
| Tritium | | | | | | | | | | | | |

Chemical/Animal Holes Sr-90

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**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: Chemical/Animal Holes Sr-90**

| | 097-313<br>Depth : 38.00<br>01/20/2022<br>pCi/l | | | | 097-313<br>Depth : 37.93<br>08/29/2022<br>pCi/l | | | | 097-314<br>Depth : 39.00<br>01/19/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | **8.55** | | 0.771 | 0.972 | **11.9** | | 0.758 | 1.04 | **36.1** | | 1.03 | 1.24 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: Chemical/Animal Holes Sr-90**

| | 097-314<br>Depth : 37.85<br>08/29/2022<br>pCi/l | | | | 097-315<br>Depth : 35.00<br>01/20/2022<br>pCi/l | | | | 097-315<br>Depth : 37.74<br>08/29/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | **41.2** | | 0.782 | 1.74 | -0.44 | U-DL | 1.57 | 0.897 | **4.25** | | 0.765 | 0.799 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: Chemical/Animal Holes Sr-90**

| | 106-100<br>Depth : 32.96<br>08/24/2022<br>pCi/l | | | | 106-101<br>Depth : 35.67<br>08/24/2022<br>pCi/l | | | | 106-102<br>Depth : 34.31<br>08/24/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | **2.73** | | 0.573 | 0.559 | **5.73** | | 0.688 | 0.883 | 0.645 | N2 | 0.621 | 0.405 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: Chemical/Animal Holes Sr-90**

| | 106-103<br>Depth : 30.36<br>08/24/2022<br>pCi/l | | | | 106-104<br>Depth : 32.43<br>08/24/2022<br>pCi/l | | | | 106-105<br>Depth : 30.52<br>08/23/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | **31.8** | | 0.911 | 2.04 | **7.35** | | 0.587 | 0.851 | 1.17 | N2 | 0.708 | 0.512 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: Chemical/Animal Holes Sr-90**

| | 106-119<br>Depth : 40.00<br>08/25/2022<br>pCi/l | | | | 106-120<br>Depth : 40.00<br>08/25/2022<br>pCi/l | | | | 106-121<br>Depth : 40.00<br>08/25/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | 0.426 | U | 0.57 | 0.343 | -0.23 | U | 0.77 | 0.393 | 0.595 | U | 0.653 | 0.397 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: Chemical/Animal Holes Sr-90**

| | 106-122<br>Depth : 40.00<br>08/25/2022<br>pCi/l | | | | 106-125<br>Depth : 40.00<br>08/25/2022<br>pCi/l | | | | 106-13<br>Depth : 34.00<br>08/29/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | -0.0177 | U | 0.504 | 0.29 | **3.9** | | 0.8 | 0.83 | **2.44** | | 0.792 | 0.629 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: Chemical/Animal Holes Sr-90**

| | 106-135<br>Depth : 35.00<br>08/25/2022<br>pCi/l | | | | 106-136<br>Depth : 35.00<br>08/26/2022<br>pCi/l | | | | 106-14<br>Depth : 35.00<br>08/29/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | **1.01** | | 0.566 | 0.418 | **8.08** | | 0.757 | 0.989 | 1.02 | N2 | 0.798 | 0.527 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: Chemical/Animal Holes Sr-90**

| | 106-16<br>Depth : 38.68<br>08/29/2022<br>pCi/l | | | | 106-46<br>Depth : 34.00<br>08/26/2022<br>pCi/l | | | | 106-47<br>Depth : 34.00<br>08/25/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | **20.7** | | 0.784 | 1.26 | 1.12 | N2 | 0.782 | 0.514 | 0.348 | U | 0.767 | 0.451 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: Chemical/Animal Holes Sr-90**

| | 106-48<br>Depth : 37.30<br>08/25/2022<br>pCi/l | | | | 106-49<br>Depth : 39.20<br>08/25/2022<br>pCi/l | | | | 106-50<br>Depth : 39.00<br>08/25/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | 0.702 | N2 | 0.585 | 0.389 | 0.649 | U | 0.668 | 0.41 | -0.0319 | U | 0.625 | 0.362 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: Chemical/Animal Holes Sr-90**

| | 106-94<br>Depth : 38.42<br>08/26/2022<br>pCi/l | | | | 106-95<br>Depth : 38.48<br>08/29/2022<br>pCi/l | | | | 106-96<br>Depth : 37.70<br>08/26/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | **16.3** | | 0.785 | 1.11 | **11.2** | | 0.769 | 1.16 | 0.978 | N2 | 0.788 | 0.502 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: Chemical/Animal Holes Sr-90**

| | 106-98<br>Depth : 33.10<br>08/24/2022<br>pCi/l | | | | 106-99<br>Depth : 34.20<br>08/24/2022<br>pCi/l | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | | | | |
| Strontium-90 | **3.99** | | 0.588 | 0.641 | **20.3** | | 0.596 | 1.33 | | | | |

OU III (AOC 29/HFBR Tritium)

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (AOC 29/HFBR Tritium)**

| | 075-11<br>Depth : 61.50<br>01/10/2022<br>pCi/l | | | | 075-11<br>Depth : 61.50<br>08/19/2022<br>pCi/l | | | | 075-11<br>Depth : 61.50<br>10/04/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 131.514 | | 395.177 | 233.379 | 376.493 | N2 | 257.397 | 157.981 | 222.979 | U | 353.17 | 211.288 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (AOC 29/HFBR Tritium)**

| | 075-288<br>Depth : 54.00<br>08/19/2022<br>pCi/l | | | | 075-288<br>Depth : 54.00<br>10/05/2022<br>pCi/l | | | | 075-40<br>Depth : 122.50<br>08/19/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | -18.931 | U | 258.846 | 151.098 | 51.607 | U | 354.199 | 207.385 | 94.52 | U | 258.481 | 153.142 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (AOC 29/HFBR Tritium)**

| | 075-40<br>Depth : 122.50<br>10/03/2022<br>pCi/l | | | | 075-802<br>Depth : 50.90<br>01/11/2022<br>pCi/l | | | | 075-802<br>Depth : 50.20<br>04/04/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 137.218 | U | 353.169 | 209.047 | **1299.309** | | 396.079 | 262.28 | 76.422 | U | 370.425 | 217.278 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (AOC 29/HFBR Tritium)**

| | 075-802<br>Depth : 51.53<br>08/19/2022<br>pCi/l | | | | 075-802<br>Depth : 54.40<br>10/05/2022<br>pCi/l | | | | 075-803<br>Depth : 51.20<br>01/11/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 112.907 | U | 257.303 | 152.815 | 171.148 | U | 352.399 | 209.489 | 0 | | 395.649 | 230.24 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (AOC 29/HFBR Tritium)**

| | 075-803<br>Depth : 51.00<br>04/01/2022<br>pCi/l | | | | 075-803<br>Depth : 53.35<br>08/19/2022<br>pCi/l | | | | 075-803<br>Depth : 55.13<br>10/05/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 190.783 | U | 369.897 | 220.166 | 75.337 | U | 257.528 | 152.205 | 206.917 | U | 355.041 | 211.959 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (AOC 29/HFBR Tritium)**

| | 075-804<br>Depth : 51.40<br>04/01/2022<br>pCi/l | | | | 075-804<br>Depth : 56.50<br>08/19/2022<br>pCi/l | | | | 075-804<br>Depth : 55.51<br>10/04/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | **853.685** | | 367.813 | 236.629 | **4996.196** | | 257.792 | 230.031 | **5206.686** | | 353.819 | 315.649 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (AOC 29/HFBR Tritium)**

| | 075-805<br>Depth : 51.70<br>01/10/2022<br>pCi/l | | | | 075-805<br>Depth : 51.00<br>04/04/2022<br>pCi/l | | | | 075-805<br>Depth : 55.36<br>08/19/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 634.454 | | 392.5 | 244.438 | **1602.62** | | 369.907 | 256.364 | **712.833** | | 256.496 | 163.741 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (AOC 29/HFBR Tritium)**

| | 075-805<br>Depth : 55.23<br>10/04/2022<br>pCi/l | | | | 075-806<br>Depth : 51.30<br>01/10/2022<br>pCi/l | | | | 075-806<br>Depth : 50.50<br>04/04/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | **7448.883** | | 354.214 | 352.831 | **1300.933** | | 396.574 | 262.608 | **1194.67** | | 367.662 | 245.137 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (AOC 29/HFBR Tritium)**

| | 075-806<br>Depth : 50.90<br>08/19/2022<br>pCi/l | | | | 075-806<br>Depth : 54.73<br>10/04/2022<br>pCi/l | | | | 075-807<br>Depth : 50.40<br>01/10/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | **1090.308** | | 257.038 | 170.843 | **792.066** | | 354.541 | 226.394 | 319.187 | | 394.925 | 238.02 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (AOC 29/HFBR Tritium)**

| | 075-807<br>Depth : 49.70<br>04/04/2022<br>pCi/l | | | | 075-807<br>Depth : 50.54<br>08/19/2022<br>pCi/l | | | | 075-807<br>Depth : 53.93<br>10/04/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 76.123 | U | 368.975 | 216.427 | 188.641 | U | 257.936 | 154.672 | **806.718** | | 353.416 | 226.094 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (AOC 29/HFBR Tritium)**

| | 075-808<br>Depth : 49.00<br>01/10/2022<br>pCi/l | | | | 075-808<br>Depth : 48.30<br>04/04/2022<br>pCi/l | | | | 075-808<br>Depth : 48.80<br>08/19/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | -186.953 | | 393.233 | 223.891 | 209.006 | U | 368.39 | 219.796 | 37.889 | U | 259.033 | 152.342 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU III (AOC 29/HFBR Tritium)**

| | 075-808<br>Depth : 52.52<br>10/04/2022<br>pCi/l | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | | | | | | | | |
| Tritium | 189.426 | U | 354.576 | 211.232 | | | | | | | | |

OU IV (AOC 6 Sr-90)

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU IV (AOC 6 Sr-90)**

| | 066-189<br>Depth : 36.00<br>09/15/2022<br>pCi/l | | | | 076-04<br>Depth : 40.00<br>09/15/2022<br>pCi/l | | | | 076-06<br>Depth : 40.00<br>09/13/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | 0.777 | N2 | 0.759 | 0.503 | 0.679 | N2 | 0.651 | 0.431 | -0.163 | U | 0.713 | 0.41 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU IV (AOC 6 Sr-90)**

| | 076-07<br>Depth : 60.00<br>09/14/2022<br>pCi/l | | | | 076-13<br>Depth : 41.00<br>03/14/2022<br>pCi/l | | | | 076-13<br>Depth : 41.00<br>09/13/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | 0.615 | U | 0.751 | 0.471 | **5.75** | | 0.765 | 0.817 | **5.78** | | 0.34 | 0.343 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU IV (AOC 6 Sr-90)**

| | 076-168<br>Depth : 46.00<br>03/14/2022<br>pCi/l | | | | 076-168<br>Depth : 46.00<br>09/13/2022<br>pCi/l | | | | 076-169<br>Depth : 46.00<br>03/29/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | **6.8** | | 0.782 | 0.937 | **4.72** | | 0.32 | 0.304 | **2.24** | | 0.433 | 0.312 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU IV (AOC 6 Sr-90)**

| | 076-169<br>Depth : 46.00<br>09/13/2022<br>pCi/l | | | | 076-181<br>Depth : 65.00<br>09/14/2022<br>pCi/l | | | | 076-182<br>Depth : 85.00<br>09/14/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | **2.68** | | 0.552 | 0.4 | 0.281 | U | 0.564 | 0.335 | 0.538 | U | 0.786 | 0.478 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU IV (AOC 6 Sr-90)**

| | 076-184<br>Depth : 65.00<br>03/29/2022<br>pCi/l | | | | 076-184<br>Depth : 65.00<br>09/15/2022<br>pCi/l | | | | 076-20<br>Depth : 34.40<br>09/15/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | **45.4** | | 0.777 | 1.71 | **50.6** | | 0.701 | 1.28 | 0.616 | N2 | 0.607 | 0.398 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU IV (AOC 6 Sr-90)**

| | 076-22<br>Depth : 57.00<br>09/15/2022<br>pCi/l | | | | 076-24<br>Depth : 40.00<br>03/29/2022<br>pCi/l | | | | 076-24<br>Depth : 40.00<br>09/13/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | **4.39** | | 0.68 | 0.78 | **3.86** | | 0.785 | 0.687 | **4.2** | | 0.4 | 0.364 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU IV (AOC 6 Sr-90)**

| | 076-25<br>Depth : 42.00<br>03/29/2022<br>pCi/l | | | | 076-25<br>Depth : 42.00<br>09/14/2022<br>pCi/l | | | | 076-262<br>Depth : 75.00<br>09/15/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | **10.1** | | 0.861 | 0.832 | **4.86** | | 1.22 | 0.827 | **2.65** | | 0.641 | 0.635 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU IV (AOC 6 Sr-90)**

| | 076-28<br>Depth : 45.00<br>03/30/2022<br>pCi/l | | | | 076-28<br>Depth : 45.00<br>09/15/2022<br>pCi/l | | | | 076-317<br>Depth : 41.00<br>09/14/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | 1.1 | N2 | 0.791 | 0.504 | **3.37** | | 0.543 | 0.42 | 0.586 | U | 0.772 | 0.486 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU IV (AOC 6 Sr-90)**

| | 076-373<br>Depth : 44.00<br>09/15/2022<br>pCi/l | | | | 076-415<br>Depth : 55.00<br>03/31/2022<br>pCi/l | | | | 076-415<br>Depth : 55.00<br>09/14/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | **1.97** | | 0.675 | 0.616 | 1.01 | N2 | 0.774 | 0.51 | 0.8 | UJ(+)-B | 0.536 | 0.34 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU IV (AOC 6 Sr-90)**

| | 076-416<br>Depth : 55.00<br>03/30/2022<br>pCi/l | | | | 076-416<br>Depth : 55.00<br>09/14/2022<br>pCi/l | | | | 076-418<br>Depth : 52.00<br>03/30/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | 0.23 | U | 0.614 | 0.362 | 0.00864 | U | 0.389 | 0.224 | **11.2** | | 0.775 | 1.03 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU IV (AOC 6 Sr-90)**

| | 076-418<br>Depth : 52.00<br>09/13/2022<br>pCi/l | | | | 076-419<br>Depth : 50.00<br>03/30/2022<br>pCi/l | | | | 076-419<br>Depth : 50.00<br>09/13/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | **10.6** | | 0.79 | 0.735 | **9.77** | | 0.748 | 0.848 | **16.3** | | 0.567 | 0.696 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU IV (AOC 6 Sr-90)**

| | 076-420<br>Depth : 42.00<br>03/29/2022<br>pCi/l | | | | 076-420<br>Depth : 42.00<br>09/14/2022<br>pCi/l | | | | 076-421<br>Depth : 42.00<br>03/29/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Strontium-90 | **2.48** | | 0.795 | 0.619 | **1** | UJ(+)-B | 0.588 | 0.374 | **1.68** | | 0.79 | 0.512 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: OU IV (AOC 6 Sr-90)**

| | 076-421<br>Depth : 42.00<br>09/14/2022<br>pCi/l | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | | | | | | | | |
| Strontium-90 | **2.01** | UJ(+)-B | 0.536 | 0.366 | | | | | | | | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: OU IV (AOC 6 Sr-90)**

| Analyte | 076-25<br>Depth : 42.00<br>04/12/2022<br>ug/L | | 076-25<br>Depth : 42.00<br>10/12/2022<br>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 | 0.49 | 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 | 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 | 5 | U | 5 | U | | | | | | | | |
| p-Dichlorobenzene | 5 | U | 5 | U | | | | | | | | |
| Tetrachloroethylene | 4.3 | J | **5.5** | | | | | | | | | |
| Toluene | 5 | U | 5 | U | | | | | | | | |
| trans-1,3-Dichloropropene | 5 | U | 5 | U | | | | | | | | |
| Trichloroethylene | 0.41 | J | 5 | U | | | | | | | | |
| Trichlorofluoromethane | 5 | U | 5 | U | | | | | | | | |
| Vinyl acetate | 10 | U | 10 | U | | | | | | | | |
| Vinyl chloride | 10 | U | 10 | U | | | | | | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU IV (AOC 6 Sr-90)**

| Analyte | 076-25<br>Depth : 42.00<br>04/12/2022<br>ug/L | | 076-25<br>Depth : 42.00<br>10/12/2022<br>ug/L | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 4.2 | U | 3.9 | U | | | | | | | | |
| 2,4,6-Trichlorophenol | 11 | U | 9.6 | U | | | | | | | | |
| 2,4-Dichlorophenol | 11 | U | 9.6 | U | | | | | | | | |
| 2,4-Dimethylphenol | 11 | U | 9.6 | U | | | | | | | | |
| 2,4-Dinitrophenol | 32 | U | 29 | U | | | | | | | | |
| 2,4-Dinitrotoluene | 11 | U | 9.6 | U | | | | | | | | |
| 2,6-Dinitrotoluene | 11 | U | 9.6 | U | | | | | | | | |
| 2-Chloronaphthalene | 4.2 | U | 3.9 | U | | | | | | | | |
| 2-Chlorophenol | 11 | U | 9.6 | U | | | | | | | | |
| 3,3'-Dichlorobenzidine | 53 | U | 48 | U | | | | | | | | |
| 4,6-Dinitro-o-cresol | 53 | U | 48 | U | | | | | | | | |
| 4-Bromophenyl phenyl ether | 11 | U | 9.6 | U | | | | | | | | |
| 4-Chlorophenyl phenyl ether | 11 | U | 9.6 | U | | | | | | | | |
| Acenaphthene | 4.2 | U | 3.9 | U | | | | | | | | |
| Acenaphthylene | 4.2 | U | 3.9 | U | | | | | | | | |
| Anthracene | 4.2 | U | 3.9 | U | | | | | | | | |
| Benzo(a)anthracene | 4.2 | U | 3.9 | U | | | | | | | | |
| Benzo(a)pyrene | 4.2 | U | 3.9 | U | | | | | | | | |
| Benzo(b)fluoranthene | 4.2 | U | 3.9 | U | | | | | | | | |
| Benzo(ghi)perylene | 4.2 | U | 3.9 | U | | | | | | | | |
| Benzo(k)fluoranthene | 4.2 | U | 3.9 | U | | | | | | | | |
| Bis(2-chloroethoxy)methane | 11 | U | 9.6 | U | | | | | | | | |
| Bis(2-chloroethyl)ether | 11 | U | 9.6 | U | | | | | | | | |
| Bis(2-ethylhexyl)phthalate | 11 | U | 9.6 | U | | | | | | | | |
| bis-chloroisopropyl ether | 11 | U | 9.6 | U | | | | | | | | |
| Butyl benzyl phthalate | 4.2 | U | 3.9 | U | | | | | | | | |
| Chrysene | 4.2 | U | 3.9 | U | | | | | | | | |
| Di-n-butyl phthalate | 4.2 | U | 3.9 | U | | | | | | | | |
| Di-n-octyl phthalate | 11 | U | 9.6 | U | | | | | | | | |
| Dibenzo(a,h)anthracene | 11 | U | 9.6 | U | | | | | | | | |
| Diethyl phthalate | **11** | | 3.9 | U | | | | | | | | |
| Dimethyl phthalate | 4.2 | U | 3.9 | U | | | | | | | | |
| Fluoranthene | 4.2 | U | 3.9 | U | | | | | | | | |
| Fluorene | 4.2 | U | 3.9 | U | | | | | | | | |
| Hexachlorobenzene | 11 | U | 9.6 | U | | | | | | | | |
| Hexachlorobutadiene | 11 | U | 9.6 | U | | | | | | | | |
| Hexachlorocyclopentadiene | 53 | U | 48 | U | | | | | | | | |
| Hexachloroethane | 11 | U | 9.6 | U | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | 11 | U | 9.6 | U | | | | | | | | |
| Isophorone | 11 | U | 9.6 | U | | | | | | | | |
| N-Nitrosodimethylamine | 11 | U | 9.6 | U | | | | | | | | |
| N-Nitrosodiphenylamine | 11 | U | 9.6 | U | | | | | | | | |
| N-Nitrosodipropylamine | 11 | U | 9.6 | U | | | | | | | | |
| Naphthalene | 4.2 | U | 3.9 | U | | | | | | | | |
| Nitrobenzene | 11 | U | 9.6 | U | | | | | | | | |
| o-Nitrophenol | 11 | U | 9.6 | U | | | | | | | | |
| p-Chloro-m-cresol | 11 | U | 9.6 | U | | | | | | | | |
| p-Nitrophenol | 11 | U | 9.6 | U | | | | | | | | |
| PCP | 53 | U | 48 | U | | | | | | | | |
| Phenanthrene | 4.2 | U | 3.9 | U | | | | | | | | |
| Phenol | 11 | U | 9.6 | U | | | | | | | | |
| Pyrene | 11 | U | 9.6 | U | | | | | | | | |

OU VI EDB

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU VI EDB**

| Analyte | 000-173<br>Depth : 111.00<br>12/28/2022<br>ug/L | | 000-175<br>Depth : 105.00<br>12/28/2022<br>ug/L | | 000-178<br>Depth : 133.00<br>06/23/2022<br>ug/L | | 000-178<br>Depth : 133.00<br>12/20/2022<br>ug/L | | 000-209<br>Depth : 99.00<br>01/14/2022<br>ug/L | | 000-209<br>Depth : 99.00<br>12/28/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DBCP | 0.01 | U | 0.011 | U | 0.011 | U | 0.011 | U | 0.0193 | U | 0.01 | U |
| EDB | **0.05** | | 0.011 | U | **0.19** | | **0.17** | | 0.0142 | J | **0.011** | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU VI EDB**

| Analyte | 000-283<br>Depth : 107.00<br>06/23/2022<br>ug/L | | 000-283<br>Depth : 107.00<br>12/28/2022<br>ug/L | | 000-284<br>Depth : 107.00<br>06/23/2022<br>ug/L | | 000-284<br>Depth : 107.00<br>12/28/2022<br>ug/L | | 000-498<br>Depth : 135.00<br>06/23/2022<br>ug/L | | 000-498<br>Depth : 135.00<br>12/21/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DBCP | 0.011 | U | 0.01 | U | 0.011 | U | 0.01 | U | 0.01 | U | 0.01 | U |
| EDB | **0.029** | | **0.048** | | **0.034** | | **0.034** | | 0.01 | U | 0.01 | U |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU VI EDB**

| Analyte | 000-499<br>Depth : 110.00<br>06/22/2022<br>ug/L | | 000-499<br>Depth : 110.00<br>12/19/2022<br>ug/L | | 000-500<br>Depth : 135.00<br>03/16/2022<br>ug/L | | 000-500<br>Depth : 135.00<br>06/22/2022<br>ug/L | | 000-500<br>Depth : 135.00<br>08/15/2022<br>ug/L | | 000-500<br>Depth : 135.00<br>12/19/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DBCP | 0.011 | U | 0.011 | U | 0.019 | U | 0.011 | U | 0.011 | U | 0.011 | U |
| EDB | 0.011 | U | 0.011 | U | **0.107** | | **0.14** | | **0.13** | | **0.14** | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU VI EDB**

| Analyte | 000-501<br>Depth : 125.00<br>06/28/2022<br>ug/L | | 000-501<br>Depth : 125.00<br>12/21/2022<br>ug/L | | 000-507<br>Depth : 125.00<br>06/23/2022<br>ug/L | | 000-507<br>Depth : 125.00<br>12/21/2022<br>ug/L | | 000-508<br>Depth : 120.00<br>03/16/2022<br>ug/L | | 000-508<br>Depth : 120.00<br>06/28/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DBCP | 0.011 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.0187 | U | 0.01 | U |
| EDB | 0.011 | U | 0.01 | U | 0.01 | | 0.01 | U | 0.0187 | U | 0.01 | U |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU VI EDB**

| Analyte | 000-508<br>Depth : 120.00<br>08/15/2022<br>ug/L | | 000-508<br>Depth : 120.00<br>12/21/2022<br>ug/L | | 000-519<br>Depth : 140.00<br>03/18/2022<br>ug/L | | 000-519<br>Depth : 130.00<br>06/28/2022<br>ug/L | | 000-519<br>Depth : 130.00<br>08/15/2022<br>ug/L | | 000-519<br>Depth : 130.00<br>12/21/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DBCP | 0.01 | U | 0.01 | U | 0.0188 | U | 0.01 | U | 0.011 | U | 0.01 | U |
| EDB | 0.01 | U | 0.01 | U | 0.0188 | U | 0.01 | U | 0.011 | U | 0.01 | U |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU VI EDB**

| Analyte | 000-520<br>Depth : 140.00<br>06/22/2022<br>ug/L | | 000-520<br>Depth : 140.00<br>12/19/2022<br>ug/L | | 000-524<br>Depth : 140.00<br>06/29/2022<br>ug/L | | 000-524<br>Depth : 140.00<br>12/28/2022<br>ug/L | | 000-527<br>Depth : 145.00<br>03/18/2022<br>ug/L | | 000-527<br>Depth : 145.00<br>06/28/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DBCP | 0.01 | U | 0.011 | U | 0.01 | U | 0.01 | U | 0.0189 | U | 0.01 | U |
| EDB | **0.36** | | **0.2** | | 0.01 | U | 0.01 | U | 0.0189 | U | 0.01 | U |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU VI EDB**

| Analyte | 000-527<br>Depth : 145.00<br>08/15/2022<br>ug/L | | 000-527<br>Depth : 145.00<br>12/21/2022<br>ug/L | | 000-549<br>Depth : 145.00<br>06/23/2022<br>ug/L | | 000-549<br>Depth : 145.00<br>12/20/2022<br>ug/L | | 000-550<br>Depth : 130.00<br>06/23/2022<br>ug/L | | 000-550<br>Depth : 130.00<br>12/20/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DBCP | 0.01 | U | 0.011 | U | 0.011 | U | 0.01 | U | 0.011 | U | 0.01 | U |
| EDB | 0.01 | U | 0.011 | U | **0.32** | | **0.24** | | **0.23** | | **0.25** | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU VI EDB**

| Analyte | 000-567 Depth : 145.00 04/12/2022 ug/L | | 000-567 Depth : 145.00 08/12/2022 ug/L | | 000-567 Depth : 145.00 12/20/2022 ug/L | | 000-568 Depth : 160.00 04/12/2022 ug/L | | 000-568 Depth : 160.00 08/12/2022 ug/L | | 000-568 Depth : 160.00 12/20/2022 ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DBCP | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.011 | U | 0.052 | U D |
| EDB | **0.29** | D | **0.21** | | **0.14** | | **0.55** | D | **0.64** | D | **0.66** | D |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU VI EDB**

| Analyte | 000-570 Depth : 160.00 03/17/2022 ug/L | | 000-570 Depth : 160.00 06/29/2022 ug/L | | 000-570 Depth : 160.00 08/15/2022 ug/L | | 000-570 Depth : 160.00 12/20/2022 ug/L | | 000-571 Depth : 175.00 03/17/2022 ug/L | | 000-571 Depth : 175.00 06/28/2022 ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DBCP | 0.0943 | DU | 0.01 | U | 0.01 | U | 0.1 | U D | 0.189 | DU | 0.01 | U |
| EDB | **0.945** | D | **1.5** | D | **1.4** | D | **1.4** | D | **1.26** | D | **1** | D |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: OU VI EDB**

| Analyte | 000-571<br>Depth : 135.00<br>08/15/2022<br>ug/L | | 000-571<br>Depth : 175.00<br>12/21/2022<br>ug/L | | 000-572<br>Depth : 200.00<br>03/18/2022<br>ug/L | | 000-572<br>Depth : 200.00<br>06/28/2022<br>ug/L | | 000-572<br>Depth : 200.00<br>08/15/2022<br>ug/L | | 000-572<br>Depth : 200.00<br>12/21/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DBCP | 0.01 | U | 0.1 | U D | 0.0946 | DU | 0.011 | U | 0.011 | U | 0.1 | U D |
| EDB | **1.8** | D | **1.8** | D | **0.453** | D | **0.68** | D | **0.6** | D | **0.57** | D |

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Site Background

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: Site Background**

| Analyte | 017-01<br>Depth : 20.00<br>09/20/2022<br>ug/L | | 017-03<br>Depth : 120.00<br>09/20/2022<br>ug/L | | 017-04<br>Depth : 165.00<br>09/20/2022<br>ug/L | | 018-01<br>Depth : 25.00<br>09/20/2022<br>ug/L | | 018-02<br>Depth : 75.00<br>09/21/2022<br>ug/L | | 018-04<br>Depth : 145.00<br>09/20/2022<br>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 | 0.5 | U | 0.18 | J | 0.5 | U | 0.24 | J | 0.17 | 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 |
| 8260 TVOC | 0 | | 0.18 | | 0 | | 0.24 | | 0.17 | | 0 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: Site Background**

| Analyte | 018-05<br>Depth : 275.00<br>09/21/2022<br>ug/L | | 034-02<br>Depth : 135.00<br>09/19/2022<br>ug/L | | 034-03<br>Depth : 175.00<br>09/19/2022<br>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 | **0.59** | | | | | | | |
| 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 | | 0.59 | | | | | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: Site Background**

| Analyte | 017-01<br>Depth : 20.00<br>09/20/2022<br>ug/L | | 017-03<br>Depth : 120.00<br>09/20/2022<br>ug/L | | 017-04<br>Depth : 165.00<br>09/20/2022<br>ug/L | | 018-01<br>Depth : 25.00<br>09/20/2022<br>ug/L | | 018-02<br>Depth : 75.00<br>09/21/2022<br>ug/L | | 018-04<br>Depth : 145.00<br>09/20/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: Site Background**

| Analyte | 018-05<br>Depth : 275.00<br>09/21/2022<br>ug/L | | 034-02<br>Depth : 135.00<br>09/19/2022<br>ug/L | | 034-03<br>Depth : 175.00<br>09/19/2022<br>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

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: Current Landfill**

| Analyte | 087-09<br>Depth : 29.00<br>05/10/2022<br>ug/L | | 087-09<br>Depth : 31.00<br>12/05/2022<br>ug/L | | 087-11<br>Depth : 16.00<br>05/11/2022<br>ug/L | | 087-11<br>Depth : 16.00<br>12/05/2022<br>ug/L | | 087-23<br>Depth : 32.50<br>05/11/2022<br>ug/L | | 087-23<br>Depth : 32.50<br>12/06/2022<br>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 | **1.76** | | **1.62** | | **0.55** | J | **0.62** | 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 | 0.5 | U | 0.5 | U | **0.73** | J | 0.42 | J | **0.53** | J | 0.49 | J |
| 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 | **1.7** | | **1.66** | | **0.56** | J | **0.84** | J |
| 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 | 0.5 | 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 | 0.78 | U | **0.55** | J | 0.5 | U | **0.59** | J | 0.5 | U | 0.69 | 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 | 0.34 | J |
| 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 | 0.34 | J | 0.4 | J | 0.5 | U | 0.36 | 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 |
| 8260 TVOC | 0 | | 0.55 | | 4.53 | | 4.69 | | 1.64 | | 2.65 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: Current Landfill**

| Analyte | 087-24<br>Depth : 75.00<br>12/06/2022<br>ug/L | | 087-26<br>Depth : 75.00<br>05/10/2022<br>ug/L | | 087-26<br>Depth : 75.00<br>12/05/2022<br>ug/L | | 087-27<br>Depth : 12.50<br>05/10/2022<br>ug/L | | 087-27<br>Depth : 12.50<br>12/05/2022<br>ug/L | | 088-109<br>Depth : 13.50<br>01/20/2022<br>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 | **1.6** | |
| 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 | 0.41 | J | **1.01** | | 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 | **0.6** | J | 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 | 0.42 | J | **0.82** | J | **3.97** | |
| Chloroform | 0.5 | U | **2.35** | | **2.88** | | **0.96** | 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 | 0.62 | U | 0.77 | U | 0.5 | U | 0.74 | U | **0.54** | J | **0.74** | J |
| 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 |
| 8260 TVOC | 0 | | 2.35 | | 2.88 | | 1.79 | | 2.97 | | 6.31 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: Current Landfill**

| Analyte | 088-109 Depth : 13.50 05/10/2022 ug/L | | 088-109 Depth : 13.50 09/19/2022 ug/L | | 088-109 Depth : 13.50 12/05/2022 ug/L | | 088-110 Depth : 17.50 05/10/2022 ug/L | | 088-110 Depth : 17.50 12/05/2022 ug/L | | 088-21 Depth : 12.50 05/11/2022 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 | **7.8** | | **4.75** | | **0.67** | J | **1.01** | | 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 | 0.41 | J | **0.7** | J | **0.92** | J | **0.95** | J | 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 | **16.9** | | **14.6** | | **4.83** | | **4.01** | | 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 | 0.5 | 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 | 0.75 | U | 0.5 | U | 0.5 | U | 0.94 | U | **0.61** | 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 | 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 |
| 8260 TVOC | 0 | | 25.11 | | 20.05 | | 6.42 | | 6.58 | | 0 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: Current Landfill**

| Analyte | 088-21<br>Depth : 12.50<br>12/06/2022<br>ug/L | | 088-22<br>Depth : 75.00<br>12/06/2022<br>ug/L | | 088-23<br>Depth : 125.00<br>12/06/2022<br>ug/L | | 098-99<br>Depth : 44.50<br>01/20/2022<br>ug/L | | 098-99<br>Depth : 44.50<br>05/11/2022<br>ug/L | | 098-99<br>Depth : 44.50<br>09/19/2022<br>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 | **2.72** | | **2.42** | | **2.93** | |
| 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 | 0.5 | 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 | 0.5 | 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 | 0.66 | U | 0.7 | U | 0.66 | U | **0.82** | 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 | 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 |
| 8260 TVOC | 0 | | 0 | | 0 | | 3.54 | | 2.42 | | 2.93 | |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: Current Landfill**

| Analyte | 098-99<br>Depth : 44.50<br>12/06/2022<br>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 | 0.5 | 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 | 0.5 | U | | | | | | | | | | |
| Methyl bromide | 0.5 | U | | | | | | | | | | |
| Methyl chloride | 0.5 | U | | | | | | | | | | |
| Methyl tert-butyl ether | 0.5 | U | | | | | | | | | | |
| Methylene chloride | 0.7 | 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 | 0 | | | | | | | | | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: Current Landfill**

| Analyte | 087-09<br>Depth : 29.00<br>05/10/2022<br>ug/L | | 087-09<br>Depth : 31.00<br>12/05/2022<br>ug/L | | 087-11<br>Depth : 16.00<br>05/11/2022<br>ug/L | | 087-11<br>Depth : 16.00<br>12/05/2022<br>ug/L | | 087-23<br>Depth : 32.50<br>05/11/2022<br>ug/L | | 087-23<br>Depth : 32.50<br>12/06/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: Current Landfill**

| Analyte | 087-24<br>Depth : 75.00<br>12/06/2022<br>ug/L | | 087-26<br>Depth : 75.00<br>05/10/2022<br>ug/L | | 087-26<br>Depth : 75.00<br>12/05/2022<br>ug/L | | 087-27<br>Depth : 12.50<br>05/10/2022<br>ug/L | | 087-27<br>Depth : 12.50<br>12/05/2022<br>ug/L | | 088-109<br>Depth : 13.50<br>01/20/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: Current Landfill**

| Analyte | 088-109<br>Depth : 13.50<br>05/10/2022<br>ug/L | | 088-109<br>Depth : 13.50<br>09/19/2022<br>ug/L | | 088-109<br>Depth : 13.50<br>12/05/2022<br>ug/L | | 088-110<br>Depth : 17.50<br>05/10/2022<br>ug/L | | 088-110<br>Depth : 17.50<br>12/05/2022<br>ug/L | | 088-21<br>Depth : 12.50<br>05/11/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: Current Landfill**

| Analyte | 088-21<br>Depth : 12.50<br>12/06/2022<br>ug/L | | 088-22<br>Depth : 75.00<br>12/06/2022<br>ug/L | | 088-23<br>Depth : 125.00<br>12/06/2022<br>ug/L | | 098-99<br>Depth : 44.50<br>01/20/2022<br>ug/L | | 098-99<br>Depth : 44.50<br>05/11/2022<br>ug/L | | 098-99<br>Depth : 44.50<br>09/19/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: Current Landfill**

| Analyte | 098-99<br>Depth : 44.50<br>12/06/2022<br>ug/L | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 0.5 | U | | | | | | | | | | |
| Hexachlorobutadiene | 0.5 | U | | | | | | | | | | |
| Naphthalene | 0.5 | U | | | | | | | | | | |

**2022 Groundwater Data : Metals**
**Brookhaven National Laboratory**
**Project: Current Landfill**

| Analyte | 087-09<br>Depth : 29.00<br>05/10/2022<br>ug/L | | 087-09<br>Depth : 31.00<br>12/05/2022<br>ug/L | | 087-11<br>Depth : 16.00<br>05/11/2022<br>ug/L | | 087-11<br>Depth : 16.00<br>12/05/2022<br>ug/L | | 087-23<br>Depth : 32.50<br>05/11/2022<br>ug/L | | 087-23<br>Depth : 32.50<br>12/06/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 3.5 | U | 3.5 | U | 3.5 | U | 3.5 | U | 3.5 | U | 3.5 | U |
| Arsenic | 2 | U | 2 | U | **8.04** | | **9.89** | | **9.6** | | **25.2** | |
| Barium | **19.5** | B | **31** | B | **39.5** | B | **19.8** | B | **28.7** | B | **24.3** | B |
| Beryllium | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U |
| Cadmium | **1.38** | B | 1 | U | 1 | U | 1 | U | **1.32** | B | 1 | U |
| Calcium | **13400** | | **10800** | | **24800** | | **21800** | | **5750** | | **3890** | B |
| Chromium | **8.23** | B | **8.56** | B | 1 | U | **1.4** | B | 1 | U | 1 | U |
| Cobalt | 1 | U | 1 | U | 1 | U | **1.62** | B | **12.7** | B | **9.03** | B |
| Copper | 3 | U | 3 | U | 3 | U | **3.33** | B | 3 | U | 3 | U |
| Iron | 30 | U | **98.3** | B | **88000** | | **93400** | | **44100** | | **45200** | |
| Lead | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **1.16** | B |
| Magnesium | **4670** | B | **3970** | B | **5320** | | **3250** | B | **1380** | B | **1050** | B |
| Manganese | 2 | U | **6.43** | B | **1740** | | **1890** | | **3130** | | **2810** | |
| Mercury | 0.067 | U | 0.067 | U | 0.067 | U | 0.067 | U | 0.067 | U | 0.067 | U |
| Nickel | **8.48** | B | **3.32** | B | **5.97** | B | 1.5 | U | **5.69** | B | 1.5 | U |
| Potassium | **1330** | B | **1310** | B | **5970** | | **2990** | B | **1110** | B | **994** | B |
| Selenium | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| Silver | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U | **1.44** | B |
| Sodium | **21100** | | **38600** | | **10000** | | **3770** | B | **4920** | B | **5570** | |
| Thallium | 0.6 | U | 0.6 | U | 0.6 | U | 0.6 | U | 0.6 | U | 0.6 | U |
| Vanadium | 1 | U | 1 | U | **4.49** | B | 1 | U | **1.52** | B | **4.1** | B |
| Zinc | **4.38** | B | **8.09** | B | **5.24** | B | **11.4** | B | **5.26** | B | **5.99** | B |

**2022 Groundwater Data : Metals**
**Brookhaven National Laboratory**
**Project: Current Landfill**

| Analyte | 087-24<br>Depth : 75.00<br>05/11/2022<br>ug/L | | 087-24<br>Depth : 75.00<br>12/06/2022<br>ug/L | | 087-26<br>Depth : 75.00<br>05/10/2022<br>ug/L | | 087-26<br>Depth : 75.00<br>12/05/2022<br>ug/L | | 087-27<br>Depth : 12.50<br>05/10/2022<br>ug/L | | 087-27<br>Depth : 12.50<br>12/05/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 3.5 | U | 3.5 | U | 3.5 | U | 3.5 | U | 3.5 | U | 3.5 | U |
| Arsenic | 2 | U | 2 | U | 2 | U | 2 | U | **4.23** | B | **7.49** | |
| Barium | **19.3** | B | **31** | B | **50.7** | B | **32.7** | B | **21.6** | B | **30.4** | B |
| Beryllium | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U |
| Cadmium | **1.25** | B | 1 | U | **1.19** | B | 1 | U | **1.2** | B | 1 | U |
| Calcium | **10200** | | **14200** | | **11700** | | **6990** | | **19200** | | **18700** | |
| Chromium | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U |
| Cobalt | 1 | U | 1 | U | 1 | U | **1.12** | B | **5.84** | B | **7.84** | B |
| Copper | 3 | U | 3 | U | 3 | U | **3.16** | B | 3 | U | 3 | U |
| Iron | 30 | U | 30 | U | **64.2** | B | **102** | | **45000** | | **66800** | |
| Lead | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| Magnesium | **5960** | | **8710** | | **6800** | | **4130** | B | **6720** | | **3940** | B |
| Manganese | 2 | U | 2 | U | 2 | U | 2 | U | **1400** | | **1340** | |
| Mercury | 0.067 | U | 0.067 | U | 0.067 | U | 0.067 | U | 0.067 | U | 0.067 | U |
| Nickel | **4.52** | B | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| Potassium | **1570** | B | **1760** | B | **2090** | B | **1590** | B | **2380** | B | **3110** | B |
| Selenium | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| Silver | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U |
| Sodium | **30100** | | **43800** | | **37300** | | **36100** | | **9730** | | **20000** | |
| 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 | **2.08** | B | 1 | U |
| Zinc | 3.3 | U | **8.08** | B | 3.3 | U | **3.41** | B | 3.3 | U | **6.06** | B |

**2022 Groundwater Data : Metals**
**Brookhaven National Laboratory**
**Project: Current Landfill**

| Analyte | 088-109<br>Depth : 13.50<br>05/10/2022<br>ug/L | | 088-109<br>Depth : 13.50<br>12/05/2022<br>ug/L | | 088-110<br>Depth : 17.50<br>05/10/2022<br>ug/L | | 088-110<br>Depth : 17.50<br>12/05/2022<br>ug/L | | 088-21<br>Depth : 12.50<br>05/11/2022<br>ug/L | | 088-21<br>Depth : 12.50<br>12/06/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 3.5 | U | 3.5 | U | 3.5 | U | 3.5 | U | **5.74** | B | 3.5 | U |
| Arsenic | 2 | U | **7.47** | | **8.67** | | **11.2** | | 2 | U | 2 | U |
| Barium | **22.5** | B | **41.4** | B | **42.3** | B | **30.2** | B | **30.7** | B | **48.3** | B |
| Beryllium | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U |
| Cadmium | **1.43** | B | 1 | U | 1 | U | 1 | U | **1.28** | B | 1 | U |
| Calcium | **8560** | | **31500** | | **27100** | | **15800** | | **8180** | | **9450** | |
| Chromium | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U |
| Cobalt | **1.28** | B | **3.88** | B | **7.52** | B | **5.12** | B | 1 | U | 1 | U |
| Copper | 3 | U | 3 | U | **4.03** | B | 3 | U | 3 | U | 3 | U |
| Iron | **4320** | | **52300** | | **91000** | | **49400** | | **48.8** | B | **435** | |
| Lead | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| Magnesium | **3680** | B | **5030** | | **7640** | | **5750** | | **4350** | B | **5180** | |
| Manganese | **402** | | **1180** | | **3340** | | **2320** | | **9.69** | B | **29.9** | |
| 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 | **4.96** | B | 1.5 | U |
| Potassium | **932** | B | **5100** | B | **3760** | B | **3280** | B | **1440** | B | **2230** | B |
| Selenium | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| Silver | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U |
| Sodium | **10900** | | **12000** | | **17800** | | **20300** | | **83100** | | **72700** | |
| Thallium | 0.6 | U | 0.6 | U | 0.6 | U | 0.6 | U | 0.6 | U | 0.6 | U |
| Vanadium | 1 | U | 1 | U | **3.51** | B | 1 | U | 1 | U | **1.62** | B |
| Zinc | **3.86** | B | **10.5** | B | **7.8** | B | **5.63** | B | 3.3 | U | 3.3 | U |

**2022 Groundwater Data : Metals**
**Brookhaven National Laboratory**
**Project: Current Landfill**

| Analyte | 088-22<br>Depth : 75.00<br>12/06/2022<br>ug/L | | 088-23<br>Depth : 125.00<br>12/06/2022<br>ug/L | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 3.5 | U | 3.5 | U | | | | | | | | |
| Arsenic | 2 | U | 2 | U | | | | | | | | |
| Barium | **34.6** | B | **3.61** | B | | | | | | | | |
| Beryllium | 1 | U | 1 | U | | | | | | | | |
| Cadmium | 1 | U | 1 | U | | | | | | | | |
| Calcium | **6670** | | **11500** | | | | | | | | | |
| Chromium | 1 | U | 1 | U | | | | | | | | |
| Cobalt | 1 | U | 1 | U | | | | | | | | |
| Copper | 3 | U | 3 | U | | | | | | | | |
| Iron | 30 | U | **31.5** | B | | | | | | | | |
| Lead | 0.5 | U | 0.5 | U | | | | | | | | |
| Magnesium | **5180** | | **2840** | B | | | | | | | | |
| Manganese | 2 | U | **2.23** | B | | | | | | | | |
| Mercury | 0.067 | U | 0.067 | U | | | | | | | | |
| Nickel | 1.5 | U | 1.5 | U | | | | | | | | |
| Potassium | **1660** | B | **578** | B | | | | | | | | |
| Selenium | 1.5 | U | 1.5 | U | | | | | | | | |
| Silver | 1 | U | 1 | U | | | | | | | | |
| Sodium | **22300** | | **11700** | | | | | | | | | |
| Thallium | 0.6 | U | 0.6 | U | | | | | | | | |
| Vanadium | 1 | U | 1 | U | | | | | | | | |
| Zinc | 3.3 | U | 3.3 | U | | | | | | | | |

**2022 Groundwater Data : General Chemistry**

**Brookhaven National Laboratory**

**Project: Current Landfill**

| Analyte | 087-09<br>Depth : 29.00<br>05/10/2022<br>ug/L | | 087-09<br>Depth : 31.00<br>12/05/2022<br>ug/L | | 087-11<br>Depth : 16.00<br>05/11/2022<br>ug/L | | 087-11<br>Depth : 16.00<br>12/05/2022<br>ug/L | | 087-23<br>Depth : 32.50<br>05/11/2022<br>ug/L | | 087-23<br>Depth : 32.50<br>12/06/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity (as CaCO3) | **35** | | **22** | | **217** | | **137** | | **85.4** | | **41.4** | |
| Ammonia (as N) | 0.0301 | U | **0.0345** | J | **3.97** | | **2.7** | | **0.478** | | **0.503** | |
| Chloride | **27.9** | | **32** | | **18.1** | | **6.46** | | **6.35** | | **8.32** | |
| Cyanide | 0.00167 | U | 0.00167 | U | 0.00167 | U | 0.00167 | U | 0.00167 | U | 0.00167 | U |
| Nitrate (as N) | **1.29** | | **0.48** | | 0.165 | U | 0.165 | U | 0.165 | U | **0.0955** | J |
| Nitrite (as N) | 0.033 | U | 0.033 | U | 0.033 | U | 0.033 | U | 0.033 | U | 0.033 | U |
| Nitrite + Nitrate-N | **1.48** | | **0.87** | | **0.0358** | J | **0.0403** | J | **0.041** | J | **0.0528** | |
| Nitrogen | **1.48** | | **0.964** | | **3.99** | | **2.26** | | **0.63** | | **0.499** | |
| Sulfate | **13.1** | | **7.99** | | **0.941** | | **0.408** | | **4.55** | | **3.06** | |
| TDS | **134** | | **105** | | **216** | | **199** | | **84.3** | | **84** | |
| Total Kjeldahl Nitrogen | 0.033 | U | **0.0943** | J | **3.95** | | **2.22** | | **0.589** | | **0.446** | |
| TSS | 1.14 | U | **0.833** | J | **13.9** | | **33.5** | | **7.09** | | **28.6** | |

**2022 Groundwater Data : General Chemistry**
**Brookhaven National Laboratory**
**Project: Current Landfill**

| Analyte | 087-24<br>Depth : 75.00<br>05/11/2022<br>ug/L | | 087-24<br>Depth : 75.00<br>12/06/2022<br>ug/L | | 087-26<br>Depth : 75.00<br>05/10/2022<br>ug/L | | 087-26<br>Depth : 75.00<br>12/05/2022<br>ug/L | | 087-27<br>Depth : 12.50<br>05/10/2022<br>ug/L | | 087-27<br>Depth : 12.50<br>12/05/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity (as CaCO3) | **28.4** | | **34.8** | | **25.2** | | **30.2** | | **108** | | **102** | |
| Ammonia (as N) | 0.017 | U | 0.017 | U | 0.0422 | U | **0.0434** | J | **1.21** | | **1.64** | |
| Chloride | **48.1** | | **85.3** | | **67.5** | | **44.3** | | **14.7** | | **35.7** | |
| Cyanide | 0.00167 | U | 0.00167 | U | 0.00167 | U | 0.00167 | U | 0.00167 | U | 0.00167 | U |
| Nitrate (as N) | **0.445** | | **0.393** | | **0.47** | | **0.383** | | 0.105 | U | 0.165 | 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 | **0.454** | | **0.346** | | **0.492** | | **0.379** | | **0.0676** | | **0.0475** | J |
| Nitrogen | **0.886** | | **0.395** | | **0.492** | | **0.419** | | **1.12** | | **1.41** | |
| Sulfate | **10.2** | | **11.9** | | **8.51** | | **8.8** | | **6.89** | | **3.16** | |
| TDS | **130** | | **196** | | **180** | | **126** | | **143** | | **203** | |
| Total Kjeldahl Nitrogen | **0.432** | | **0.0494** | J | 0.033 | U | **0.0395** | J | **1.05** | | **1.36** | |
| TSS | **1.51** | J | 0.671 | U | 1.14 | U | 0.591 | U | **8.04** | | **16.6** | |

**2022 Groundwater Data : General Chemistry**

**Brookhaven National Laboratory**

**Project: Current Landfill**

| Analyte | 088-109 Depth : 13.50 05/10/2022 ug/L | | 088-109 Depth : 13.50 12/05/2022 ug/L | | 088-110 Depth : 17.50 05/10/2022 ug/L | | 088-110 Depth : 17.50 12/05/2022 ug/L | | 088-21 Depth : 12.50 05/11/2022 ug/L | | 088-21 Depth : 12.50 12/06/2022 ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity (as CaCO3) | **20.2** | | **144** | | **174** | | **104** | | **29.2** | | **23.4** | |
| Ammonia (as N) | 0.0734 | U | **2.81** | | **1.61** | | **1.05** | | **0.0271** | J | 0.017 | U |
| Chloride | **14.8** | | **14.7** | | **22.8** | | **26.9** | | **117** | | **133** | |
| Cyanide | 0.00167 | U | 0.00167 | U | 0.00167 | U | 0.00167 | U | 0.00167 | U | 0.00167 | U |
| Nitrate (as N) | 0.0847 | U | 0.165 | U | 0.349 | U | 0.165 | U | **1.43** | J | **0.372** | |
| Nitrite (as N) | 0.033 | U | 0.033 | U | 0.033 | U | 0.033 | U | 0.66 | U | 0.033 | U |
| Nitrite + Nitrate-N | **0.018** | J | **0.0469** | J | **0.177** | | **0.0384** | J | **0.137** | | **0.267** | |
| Nitrogen | 0.033 | U | **2.21** | | **1.5** | | **1.11** | | **0.441** | | **0.299** | |
| Sulfate | **16.6** | | **3.73** | | **9.9** | | **9.97** | | **3.93** | | **3.88** | |
| TDS | **74.3** | | **211** | | **240** | | **187** | | **230** | | **256** | |
| Total Kjeldahl Nitrogen | 0.033 | U | **2.16** | | **1.32** | | **1.07** | | **0.304** | | 0.033 | U |
| TSS | **4** | J | **11.5** | | **16.4** | | **8.62** | | 1.04 | U | **1.65** | J |

**2022 Groundwater Data : General Chemistry**

**Brookhaven National Laboratory**

**Project: Current Landfill**

| Analyte | 088-22<br>Depth : 75.00<br>12/06/2022<br>ug/L | | 088-23<br>Depth : 125.00<br>12/06/2022<br>ug/L | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alkalinity (as CaCO3) | **19.6** | | **31.8** | | | | | | | | | |
| Ammonia (as N) | 0.0435 | U | 0.0177 | U | | | | | | | | |
| Chloride | **40.8** | | **14.8** | | | | | | | | | |
| Cyanide | 0.00167 | U | 0.00167 | U | | | | | | | | |
| Nitrate (as N) | **0.388** | | **0.482** | | | | | | | | | |
| Nitrite (as N) | 0.033 | U | 0.033 | U | | | | | | | | |
| Nitrite + Nitrate-N | **0.343** | | **0.451** | | | | | | | | | |
| Nitrogen | **0.343** | | **0.451** | | | | | | | | | |
| Sulfate | **9.61** | | **13.8** | | | | | | | | | |
| TDS | **99** | | **67** | | | | | | | | | |
| Total Kjeldahl Nitrogen | 0.033 | U | 0.033 | U | | | | | | | | |
| TSS | 0.671 | U | 0.671 | U | | | | | | | | |

# g-2
# Analytical
# Results

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: g-2**

| | 054-07<br>Depth : 35.00<br>04/22/2022<br>pCi/l | | | | 054-07<br>Depth : 35.00<br>10/06/2022<br>pCi/l | | | | 054-124<br>Depth : 32.50<br>04/27/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 221 | U | 371 | 229 | 304 | U | 370 | 227 | **6410** | | 375 | 819 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: g-2**

| | 054-124<br>Depth : 32.50<br>10/12/2022<br>pCi/l | | | | 054-126<br>Depth : 35.00<br>04/22/2022<br>pCi/l | | | | 054-126<br>Depth : 35.00<br>10/06/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | **6480** | DL | 514 | 954 | **5420** | | 366 | 724 | 385 | U | 467 | 280 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: g-2**

| | 054-184<br>Depth : 32.50<br>04/27/2022<br>pCi/l | | | | 054-184<br>Depth : 32.50<br>10/06/2022<br>pCi/l | | | | 054-185<br>Depth : 32.50<br>04/27/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | -89.6 | U | 371 | 194 | 295 | U | 388 | 234 | 58.6 | U | 361 | 207 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: g-2**

| | 054-185<br>Depth : 32.50<br>10/06/2022<br>pCi/l | | | | 054-65<br>Depth : 25.20<br>04/20/2022<br>pCi/l | | | | 054-65<br>Depth : 25.20<br>10/06/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 131 | U | 460 | 238 | -10.4 | U | 359 | 198 | 11.7 | U | 479 | 227 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: g-2**

| | 064-95<br>Depth : 32.50<br>04/29/2022<br>pCi/l | | | | 064-95<br>Depth : 32.50<br>10/12/2022<br>pCi/l | | | | 065-121<br>Depth : 26.50<br>10/20/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 239 | U | 361 | 227 | 309 | N2 | 286 | 192 | -236 | U | 437 | 214 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: g-2**

| | 065-122<br>Depth : 28.80<br>10/20/2022<br>pCi/l | | | | 065-123<br>Depth : 25.70<br>10/20/2022<br>pCi/l | | | | 065-124<br>Depth : 25.80<br>10/20/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | -149 | U | 435 | 223 | -27 | U | 414 | 229 | -72.1 | U | 443 | 235 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: g-2**

| | 065-193<br>Depth : 55.00<br>10/20/2022<br>pCi/l | | | | 065-194<br>Depth : 50.00<br>10/20/2022<br>pCi/l | | | | 065-321<br>Depth : 32.00<br>10/20/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | -241 | U | 425 | 208 | -131 | U | 427 | 222 | -171 | U | 420 | 214 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: g-2**

| | 065-322<br>Depth : 32.00<br>10/20/2022<br>pCi/l | | | | 065-323<br>Depth : 30.00<br>10/25/2022<br>pCi/l | | | | 065-324<br>Depth : 28.00<br>10/20/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | -236 | U | 437 | 214 | -147 | U | 402 | 210 | -72.1 | U | 429 | 230 |

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# BLIP Facility
# Analytical Results

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**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: BLIP Facility (BLIP)**

| | 064-46<br>Depth : 54.50<br>10/06/2022<br>pCi/l | | | | 064-47<br>Depth : 55.50<br>04/20/2022<br>pCi/l | | | | 064-47<br>Depth : 55.50<br>10/06/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 212 | U | 402 | 227 | -27.9 | U | 348 | 186 | 217 | U | 428 | 253 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: BLIP Facility (BLIP)**

| | 064-48<br>Depth : 55.50<br>04/20/2022<br>pCi/l | | | | 064-48<br>Depth : 55.50<br>10/06/2022<br>pCi/l | | | | 064-67<br>Depth : 58.50<br>04/20/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 164 | U | 337 | 204 | 230 | U | 400 | 243 | 55.4 | U | 350 | 197 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: BLIP Facility (BLIP)**

| | 064-67<br>Depth : 58.50<br>10/06/2022<br>pCi/l | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | | | | | | | | |
| Tritium | 245 | U | 419 | 239 | | | | | | | | |

William Floyd Wellfield Sentinel

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: William Floyd Wellfield Sentinel**

| Analyte | 109-03<br>Depth : 130.00<br>02/15/2022<br>ug/L | | 109-03<br>Depth : 130.00<br>06/28/2022<br>ug/L | | 109-03<br>Depth : 135.00<br>09/28/2022<br>ug/L | | 109-03<br>Depth : 130.00<br>01/03/2023<br>ug/L | | 109-04<br>Depth : 212.50<br>02/15/2022<br>ug/L | | 117-01<br>Depth : 80.00<br>02/15/2022<br>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 | 0.2 | 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 | 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 | 0.37 | J |
| Bromoform | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | **1.18** | |
| 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 | **0.67** | J | **0.71** | J | **1** | | **0.59** | J | 0.5 | U | **0.91** | 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 | 0.49 | J |
| 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 | 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 | 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 | | | | | | |
| 8260 TVOC | 0.67 | | 0.71 | | 1 | | 0.59 | | 0 | | 2.95 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: William Floyd Wellfield Sentinel**

| Analyte | 117-01 Depth : 80.00 06/28/2022 ug/L | | 117-01 Depth : 84.00 09/28/2022 ug/L | | 117-01 Depth : 80.00 01/04/2023 ug/L | | 117-02 Depth : 79.00 02/09/2022 ug/L | | 117-02 Depth : 79.00 06/28/2022 ug/L | | 117-02 Depth : 79.00 09/27/2022 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 | 0.2 | 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 | 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 | **0.87** | J | **0.93** | | **0.66** | J | 0.5 | U | 0.35 | J | **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 | 0.5 | U | 1 | U | 0.5 | U | 0.5 | 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 | 0.5 | U | 0.5 | U | 0.5 | U |
| Methylene chloride | 0.5 | U | 0.5 | U | 0.5 | U | **1.49** | 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 | 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 |
| 8260 TVOC | 0.87 | | 0.93 | | 0.66 | | 1.49 | | 0.35 | | 0.61 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: William Floyd Wellfield Sentinel**

| Analyte | 117-02<br>Depth : 79.00<br>01/03/2023<br>ug/L | | 117-04<br>Depth : 135.00<br>01/05/2022<br>ug/L | | 117-04<br>Depth : 135.00<br>02/09/2022<br>ug/L | | 117-04<br>Depth : 135.00<br>06/27/2022<br>ug/L | | 117-04<br>Depth : 135.00<br>09/26/2022<br>ug/L | | 117-04<br>Depth : 135.00<br>01/03/2023<br>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 | 0.5 | 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 | 0.2 | U | 0.8 | U | 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 |
| 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 | **0.51** | J | | | **0.72** | J | **0.85** | J | **0.86** | | **0.78** | 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 | 0.5 | U | | | 0.5 | 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 |
| 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 | | | **1.47** | J | 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 chloride | 0.5 | U | | | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| Xylene (total) | | | | | | | | | 1.5 | U | | |
| 8260 TVOC | 0.51 | | | | 2.19 | | 0.85 | | 0.86 | | 0.78 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: William Floyd Wellfield Sentinel**

| Analyte | 117-05<br>Depth : 135.00<br>02/08/2022<br>ug/L | | 117-05<br>Depth : 135.00<br>06/29/2022<br>ug/L | | 117-05<br>Depth : 135.00<br>09/27/2022<br>ug/L | | 117-05<br>Depth : 135.00<br>01/04/2023<br>ug/L | | 117-06<br>Depth : 135.00<br>02/08/2022<br>ug/L | | 117-06<br>Depth : 135.00<br>06/29/2022<br>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 | 0.2 | U | 0.2 | U | 0.1 | J | 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 | 0.5 | U | 0.46 | J | 0.5 | U | 0.5 | U | **0.71** | J | **0.86** | 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 | 1 | 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 | **1.61** | J | 0.5 | U | 0.5 | U | 0.5 | U | **1.5** | 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 | 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 | | | | | | |
| 8260 TVOC | 1.61 | | 0.46 | | 0 | | 0 | | 2.21 | | 0.86 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: William Floyd Wellfield Sentinel**

| Analyte | 117-06<br>Depth : 135.00<br>09/26/2022<br>ug/L | | 117-06<br>Depth : 135.00<br>01/04/2023<br>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 | | | | | | | | |
| 1,4-Dioxane | 0.14 | J | 0.2 | 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 | **1.3** | | **1.18** | | | | | | | | | |
| 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 | 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 | 0.5 | 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 | | | | | | | | | | |
| 8260 TVOC | 1.3 | | 1.18 | | | | | | | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: William Floyd Wellfield Sentinel**

| Analyte | 109-03<br>Depth : 130.00<br>02/15/2022<br>ug/L | | 109-03<br>Depth : 130.00<br>06/28/2022<br>ug/L | | 109-03<br>Depth : 135.00<br>09/28/2022<br>ug/L | | 109-03<br>Depth : 130.00<br>01/03/2023<br>ug/L | | 109-04<br>Depth : 212.50<br>02/15/2022<br>ug/L | | 117-01<br>Depth : 80.00<br>02/15/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: William Floyd Wellfield Sentinel**

| Analyte | 117-01<br>Depth : 80.00<br>06/28/2022<br>ug/L | | 117-01<br>Depth : 84.00<br>09/28/2022<br>ug/L | | 117-01<br>Depth : 80.00<br>01/04/2023<br>ug/L | | 117-02<br>Depth : 79.00<br>02/09/2022<br>ug/L | | 117-02<br>Depth : 79.00<br>06/28/2022<br>ug/L | | 117-02<br>Depth : 79.00<br>09/27/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: William Floyd Wellfield Sentinel**

| Analyte | 117-02<br>Depth : 79.00<br>01/03/2023<br>ug/L | | 117-04<br>Depth : 135.00<br>02/09/2022<br>ug/L | | 117-04<br>Depth : 135.00<br>06/27/2022<br>ug/L | | 117-04<br>Depth : 135.00<br>09/26/2022<br>ug/L | | 117-04<br>Depth : 135.00<br>01/03/2023<br>ug/L | | 117-05<br>Depth : 135.00<br>02/08/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: William Floyd Wellfield Sentinel**

| Analyte | 117-05<br>Depth : 135.00<br>06/29/2022<br>ug/L | | 117-05<br>Depth : 135.00<br>09/27/2022<br>ug/L | | 117-05<br>Depth : 135.00<br>01/04/2023<br>ug/L | | 117-06<br>Depth : 135.00<br>02/08/2022<br>ug/L | | 117-06<br>Depth : 135.00<br>06/29/2022<br>ug/L | | 117-06<br>Depth : 135.00<br>09/26/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: William Floyd Wellfield Sentinel**

| Analyte | 117-06<br>Depth : 135.00<br>01/04/2023<br>ug/L | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 0.5 | U | | | | | | | | | | |
| Hexachlorobutadiene | 0.5 | U | | | | | | | | | | |
| Naphthalene | 0.5 | U | | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: William Floyd Wellfield Sentinel**

| | 109-03<br>Depth : 130.00<br>01/19/2022<br>pCi/l | | | | 109-03<br>Depth : 130.00<br>02/15/2022<br>pCi/l | | | | 109-03<br>Depth : 130.00<br>06/28/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Americium-241 (isotope) | | | | | | | | | | | | |
| Beryllium-7 | | | | | 3.23 | U | 22.3 | 13.5 | -7.16 | U | 20 | 12.4 |
| Cesium-134 | | | | | 1.75 | U | 2.93 | 1.71 | -0.187 | U | 2.29 | 1.32 |
| Cesium-137 | | | | | 0.82 | U | 2.79 | 2.67 | -0.254 | U | 4.3 | 2.96 |
| Co-60 | | | | | -1.13 | U | 2.89 | 2.18 | -1.02 | U | 2.26 | 1.55 |
| Cobalt-57 | | | | | 0.0129 | U | 2.4 | 1.34 | 0.448 | UJ(-)B | 2.16 | 1.3 |
| Europium-152 | | | | | -1.57 | U | 7.91 | 4.54 | -0.498 | U | 6.37 | 3.6 |
| Europium-154 | | | | | 3.78 | U | 10.2 | 5.48 | -2.46 | U | 6.28 | 3.62 |
| Europium-155 | | | | | 1.18 | U | 11 | 6.04 | 0.0827 | U | 9.37 | 5.72 |
| Manganese-54 | | | | | -0.862 | U | 2.52 | 1.52 | -1.42 | U | 1.84 | 1.21 |
| Sodium-22 | | | | | 1.26 | U | 3.55 | 1.92 | -0.869 | U | 2.22 | 1.28 |
| Strontium-90 | -0.519 | U-DL | 1.45 | 0.822 | 0.181 | U | 0.541 | 0.318 | 1.02 | N2 | 0.797 | 0.506 |
| Tritium | | | | | 15.6 | U | 267 | 152 | -38.9 | U | 405 | 225 |
| Zinc-65 | | | | | 2.79 | U | 6.39 | 3.04 | -0.868 | U | 5 | 2.75 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: William Floyd Wellfield Sentinel**

| | 109-03<br>Depth : 135.00<br>09/28/2022<br>pCi/l | | | | 109-03<br>Depth : 130.00<br>01/03/2023<br>pCi/l | | | | 109-04<br>Depth : 212.50<br>02/15/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Americium-241 (isotope) | | | | | -0.468 | U | 5.52 | 3.31 | | | | |
| Beryllium-7 | 6.06 | U DL | 63.2 | 54.2 | -16.6 | U | 32.7 | 19.7 | 2.06 | U | 23.7 | 12.6 |
| Cesium-134 | 3.12 | U DL | 13.9 | 6.92 | 0.24 | U | 4.2 | 2.15 | 0.316 | U | 2.84 | 1.51 |
| Cesium-137 | 1.73 | U | 8.34 | 7.47 | 0.809 | U | 3.97 | 2.09 | -0.253 | U | 2.75 | 1.54 |
| Co-60 | 1.97 | U | 7.51 | 5.61 | 0.0469 | U | 4.23 | 2.22 | -0.308 | U | 2.77 | 1.69 |
| Cobalt-57 | 0 | U DL | 7.5 | 2.81 | 0.00562 | U | 2.31 | 1.32 | 0.0224 | U | 2.23 | 1.27 |
| Europium-152 | 13.5 | U DL | 95.3 | 13.3 | 0.0733 | U | 9.55 | 5.15 | -1.58 | U | 7.31 | 4.24 |
| Europium-154 | 26.8 | U DL | 68.1 | 29.3 | 0.247 | U | 11.6 | 6.05 | **18.4** | J-UI | 9.6 | 6.69 |
| Europium-155 | 1.92 | U | 24.7 | 19.3 | -2.46 | U | 8.72 | 6.11 | 1.99 | U | 9.79 | 5.44 |
| Manganese-54 | -2.99 | U DL | 11.4 | 8.46 | 0.398 | U | 4.5 | 2.46 | 0.625 | U | 2.69 | 1.55 |
| Sodium-22 | 3.81 | U DL | 10.3 | 6.14 | -0.627 | U | 4.08 | 2.25 | **6.46** | J-UI | 2.29 | 2.35 |
| Strontium-90 | 0.245 | N2 | 0.229 | 0.154 | 0.774 | U | 0.795 | 0.5 | -0.0886 | U | 0.614 | 0.35 |
| Tritium | 19.4 | U | 342 | 187 | -36.7 | U | 402 | 223 | -44.9 | U | 429 | 239 |
| Zinc-65 | 4.24 | U DL | 22.6 | 13.2 | -1.16 | U | 8.37 | 4.57 | 0.0679 | U | 6.09 | 3.16 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: William Floyd Wellfield Sentinel**

| | 117-01<br>Depth : 80.00<br>02/15/2022<br>pCi/l | | | | 117-01<br>Depth : 80.00<br>06/28/2022<br>pCi/l | | | | 117-01<br>Depth : 84.00<br>09/28/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Americium-241 (isotope) | | | | | | | | | | | | |
| Beryllium-7 | 1.14 | U | 27.3 | 14.8 | 7.72 | U | 19.9 | 10.6 | -34.9 | U DL | 81 | 65.9 |
| Cesium-134 | -0.331 | U | 3.12 | 1.75 | -0.49 | U | 1.85 | 1.26 | -4.48 | U DL | 17.7 | 6.88 |
| Cesium-137 | 0.0308 | U | 3.01 | 1.64 | 1.17 | U | 2.04 | 1.76 | -5.01 | U | 10.8 | 9.13 |
| Co-60 | -0.413 | U | 2.26 | 1.19 | 2.71 | J-UI | 2.15 | 2.04 | 2.39 | U | 6.98 | 4.78 |
| Cobalt-57 | -0.315 | U | 2.39 | 1.39 | -0.397 | UJ(-)B | 1.83 | 1.11 | 0 | U DL | 6.48 | 2.86 |
| Europium-152 | -1.66 | U | 8.3 | 4.59 | -1.02 | U | 5.79 | 3.29 | 17.7 | U DL | 109 | 40.6 |
| Europium-154 | 2.49 | U | 7.77 | 3.42 | 1.7 | U | 6.18 | 3.12 | -37.4 | U DL | 83.3 | 71.4 |
| Europium-155 | -0.541 | U | 9.86 | 5.66 | -2.72 | U | 7.76 | 4.75 | 5.96 | U | 26.4 | 15.9 |
| Manganese-54 | -0.718 | U | 2.78 | 1.62 | -0.715 | U | 1.74 | 1.07 | 2.74 | U DL | 9.16 | 5.47 |
| Sodium-22 | 0.927 | U | 2.77 | 1.21 | 0.599 | U | 2.18 | 1.1 | -0.349 | U DL | 9.39 | 4.91 |
| Strontium-90 | -0.0957 | U | 0.678 | 0.385 | 0.369 | U | 0.793 | 0.469 | 0.223 | U | 0.312 | 0.195 |
| Tritium | -21.6 | U | 425 | 238 | -75.5 | U | 414 | 228 | 99.5 | U | 342 | 198 |
| Zinc-65 | 0.0357 | U | 5.75 | 2.93 | 1 | U | 4.09 | 2.21 | 0 | U DL | 27.2 | 10.6 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: William Floyd Wellfield Sentinel**

| | 117-01<br>Depth : 80.00<br>01/04/2023<br>pCi/l | | | | 117-02<br>Depth : 79.00<br>02/09/2022<br>pCi/l | | | | 117-02<br>Depth : 79.00<br>06/28/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Americium-241 (isotope) | 0.246 | U | 7.51 | 4.57 | | | | | | | | |
| Beryllium-7 | -6.61 | U | 23.1 | 13.2 | 9.82 | U | 29 | 15 | 18.4 | J-UI | 17.8 | 14 |
| Cesium-134 | 0.223 | U | 3.08 | 1.66 | 0.622 | U | 3.45 | 1.7 | -0.64 | U | 2.01 | 1.2 |
| Cesium-137 | -1.41 | U | 2.19 | 1.38 | -0.214 | U | 3.07 | 1.71 | 0.0924 | U | 2.05 | 1.14 |
| Co-60 | 1.39 | U | 2.82 | 1.16 | 0.81 | U | 3.12 | 1.39 | 0.384 | U | 2.44 | 1.27 |
| Cobalt-57 | 0.748 | U | 2.24 | 1.25 | 0.644 | U | 2.47 | 1.37 | 0.454 | UJ(-)B | 1.78 | 1.01 |
| Europium-152 | 1.62 | U | 7.17 | 6.18 | 2.92 | U | 8.8 | 4.49 | -1.88 | U | 5.61 | 3.18 |
| Europium-154 | 1.6 | U | 7.75 | 3.64 | 0.457 | U | 8.38 | 4.12 | 2.84 | U | 6.91 | 3.37 |
| Europium-155 | -5.18 | U | 8.32 | 5.17 | -0.461 | U | 10.9 | 7.09 | 0.474 | U | 7.37 | 4.19 |
| Manganese-54 | 1.7 | U | 2.96 | 1.4 | 0.777 | U | 3.65 | 1.83 | 0.533 | U | 2.15 | 1.31 |
| Sodium-22 | 0.429 | U | 2.66 | 1.26 | -0.418 | U | 3.05 | 1.64 | 0.955 | U | 2.42 | 1.19 |
| Strontium-90 | 0.191 | U | 0.767 | 0.437 | 0.194 | U-DL | 1.15 | 0.674 | 0.184 | U | 0.787 | 0.447 |
| Tritium | 303 | U | 343 | 213 | -125 | U | 440 | 249 | -248 | U | 414 | 216 |
| Zinc-65 | -1.36 | U | 4.38 | 2.81 | 0.305 | U | 6.46 | 3.28 | -2.51 | U | 4.4 | 2.63 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: William Floyd Wellfield Sentinel**

| | 117-02<br>Depth : 79.00<br>09/27/2022<br>pCi/l | | | | 117-02<br>Depth : 79.00<br>01/03/2023<br>pCi/l | | | | 117-04<br>Depth : 135.00<br>02/09/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Americium-241 (isotope) | | | | | -4.04 | U | 6.67 | 4.15 | | | | |
| Beryllium-7 | -43.5 | U DL | 97.4 | 65 | -6.94 | U | 22.7 | 12.5 | -12.9 | U | 21.7 | 13.9 |
| Cesium-134 | 3.19 | U DL | 17.4 | 2.97 | -0.225 | U | 2.64 | 1.42 | -0.877 | U | 2.92 | 1.72 |
| Cesium-137 | 0.932 | U | 8.23 | 6.56 | 0.205 | U | 2.61 | 1.5 | -0.545 | U | 2.67 | 1.52 |
| Co-60 | -7.89 | U | 13.9 | 8.27 | 0.281 | U | 2.3 | 1.11 | -0.387 | U | 3.45 | 1.84 |
| Cobalt-57 | 0.658 | U DL | 5.57 | 3.26 | -0.664 | U | 2.28 | 1.31 | 0.28 | U | 2.32 | 1.32 |
| Europium-152 | 36.8 | U DL | 92.9 | 18.9 | -0.633 | U | 6.74 | 3.94 | 0.639 | U | 8.12 | 4.31 |
| Europium-154 | 26.3 | U DL | 75.5 | 22.1 | -0.702 | U | 7.41 | 4.07 | -2.66 | U | 8.04 | 5.28 |
| Europium-155 | -8.31 | U | 30.8 | 18.5 | -1.41 | U | 9.31 | 5.66 | -2.67 | U | 9.29 | 5.51 |
| Manganese-54 | 2.27 | U DL | 9.35 | 5.52 | -1.72 | U | 2.47 | 1.77 | 0.217 | U | 2.69 | 1.43 |
| Sodium-22 | -9.82 | U DL | 17.4 | 10.8 | -0.847 | U | 2.63 | 1.56 | -0.646 | U | 2.86 | 1.8 |
| Strontium-90 | 0.135 | U | 0.262 | 0.16 | 0.585 | U | 0.792 | 0.486 | 1.53 | N2 | 1.44 | 0.881 |
| Tritium | -23 | U | 345 | 183 | -36.6 | U | 403 | 224 | -102 | U | 432 | 245 |
| Zinc-65 | 4.74 | U DL | 25.5 | 14.9 | 2.01 | U | 5.95 | 2.85 | 0.491 | U | 5.83 | 3.23 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: William Floyd Wellfield Sentinel**

| | 117-04<br>Depth : 135.00<br>06/27/2022<br>pCi/l | | | | 117-04<br>Depth : 135.00<br>09/26/2022<br>pCi/l | | | | 117-04<br>Depth : 135.00<br>01/03/2023<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Americium-241 (isotope) | | | | | | | | | -6.52 | U-DL | 25.3 | 15.3 |
| Beryllium-7 | -9.52 | U | 19.4 | 12 | 20.1 | U | 53.1 | 42.3 | 14.2 | U | 35.1 | 17.2 |
| Cesium-134 | -0.617 | U | 2.48 | 1.76 | 1.15 | U DL | 18.6 | 1.44 | 2 | U | 3.65 | 2.65 |
| Cesium-137 | 0.774 | U | 2.49 | 1.31 | -2.64 | U | 9.44 | 7.8 | 0.126 | U | 3.52 | 1.88 |
| Co-60 | -0.306 | U | 2.52 | 1.37 | 2.81 | U | 5.95 | 5.01 | 0.53 | U | 3.67 | 1.8 |
| Cobalt-57 | 0.0482 | UJ(-)B | 2.06 | 1.14 | 1.76 | U DL | 7.67 | 4.39 | 0.0763 | U | 2.55 | 1.46 |
| Europium-152 | 2.57 | U | 6.97 | 3.85 | 2.32 | U DL | 113 | 4.25 | -1.44 | U | 9.66 | 5.54 |
| Europium-154 | 2.57 | U | 6.55 | 5.55 | 1.65 | U DL | 91.7 | 4.42 | -0.886 | U | 10.3 | 5.55 |
| Europium-155 | 0.337 | U | 8.27 | 5.01 | 1.5 | U | 32.2 | 19 | 4.24 | U | 12.1 | 6.61 |
| Manganese-54 | -0.355 | U | 2.24 | 1.27 | 3.12 | U DL | 8.7 | 5.18 | 0.94 | U | 3.24 | 3.01 |
| Sodium-22 | 0.91 | U | 2.22 | 1.96 | 2.45 | U DL | 10.4 | 5.96 | -0.276 | U | 3.68 | 1.97 |
| Strontium-90 | 0.691 | U | 0.785 | 0.489 | 0.331 | N2 | 0.284 | 0.19 | -0.0359 | U | 0.76 | 0.422 |
| Tritium | -67.8 | U | 410 | 226 | -18.5 | U | 346 | 184 | -87.3 | U | 342 | 183 |
| Zinc-65 | -0.168 | U | 4.58 | 2.55 | 5.99 | U DL | 17.7 | 10.5 | 0.00886 | U | 8.97 | 4.79 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: William Floyd Wellfield Sentinel**

| | 117-05<br>Depth : 135.00<br>02/08/2022<br>pCi/l | | | | 117-05<br>Depth : 135.00<br>06/29/2022<br>pCi/l | | | | 117-05<br>Depth : 135.00<br>09/27/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Americium-241 (isotope) | | | | | | | | | | | | |
| Beryllium-7 | 7.9 | U | 20.3 | 10.7 | -14 | U | 20.8 | 19 | -31.1 | U DL | 71 | 92.9 |
| Cesium-134 | -0.312 | U | 2.38 | 1.98 | 0.508 | U | 2.44 | 1.34 | -0.558 | U DL | 15.7 | 0.949 |
| Cesium-137 | 0.375 | U | 2.35 | 1.28 | -0.491 | U | 2.19 | 1.96 | -1.16 | U | 9.71 | 8.63 |
| Co-60 | 0.926 | U | 2.39 | 1.13 | -0.64 | U | 1.63 | 0.937 | 2.7 | U | 8.59 | 5.79 |
| Cobalt-57 | 1.09 | U | 2.01 | 1.11 | 0.271 | UJ(-)B | 1.78 | 1.03 | 0.417 | U DL | 7.12 | 4.2 |
| Europium-152 | 1.47 | U | 6.79 | 3.62 | 0.0982 | U | 5.94 | 3.26 | 9.29 | U DL | 102 | 16.1 |
| Europium-154 | -3.19 | U | 5.44 | 3.27 | -1.59 | U | 4.63 | 3.03 | -20.8 | U DL | 90.9 | 76.1 |
| Europium-155 | 1.23 | U | 8.61 | 4.89 | -4.4 | U | 7.01 | 5.17 | 4.14 | U | 31.1 | 18.5 |
| Manganese-54 | 0.124 | U | 1.82 | 1.11 | -0.235 | U | 2.09 | 1.21 | -6.24 | U DL | 13.9 | 8.42 |
| Sodium-22 | -1.14 | U | 1.9 | 1.15 | -0.563 | U | 1.64 | 1.07 | 1.45 | U DL | 10.3 | 5.81 |
| Strontium-90 | 1.81 | N2 | 1.28 | 0.787 | 0.501 | U-DL | 0.83 | 0.497 | 0.0575 | U | 0.349 | 0.203 |
| Tritium | 17.1 | U | 444 | 257 | -167 | U | 407 | 218 | 221 | U | 349 | 217 |
| Zinc-65 | 2.04 | U | 4.75 | 2.4 | 0.15 | U | 3.92 | 2.05 | 0 | U DL | 22.3 | 1.59 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: William Floyd Wellfield Sentinel**

| | 117-05<br>Depth : 135.00<br>01/04/2023<br>pCi/l | | | | 117-06<br>Depth : 135.00<br>02/08/2022<br>pCi/l | | | | 117-06<br>Depth : 135.00<br>06/29/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Americium-241 (isotope) | 1.58 | U | 9.81 | 5.93 | | | | | | | | |
| Beryllium-7 | 8.04 | U | 27 | 14 | 1.53 | U | 18 | 10.4 | -6.27 | U | 16.3 | 12.9 |
| Cesium-134 | -0.0485 | U | 3.25 | 1.84 | -1 | U | 2.34 | 1.8 | -0.0442 | U | 1.89 | 1.02 |
| Cesium-137 | 2.86 | N2 | 2.34 | 3.15 | -1 | U | 2.19 | 1.28 | 0.835 | U | 1.98 | 1.07 |
| Co-60 | 0.187 | U | 3.03 | 1.56 | -1.02 | U | 2.33 | 1.5 | 0.579 | U | 2.07 | 1.06 |
| Cobalt-57 | -0.518 | U | 2.02 | 1.22 | -0.00371 | U | 1.94 | 1.08 | -0.18 | UJ(-)B | 1.5 | 0.836 |
| Europium-152 | 4.22 | U | 7.98 | 4.04 | 0.959 | U | 6.56 | 3.73 | -1.38 | U | 4.94 | 2.89 |
| Europium-154 | -1.62 | U | 6.73 | 3.73 | 0.689 | U | 6.17 | 3.62 | 1.04 | U | 5.84 | 3.08 |
| Europium-155 | 2.08 | U | 8.77 | 4.99 | -0.00988 | U | 8.53 | 5.23 | 2.36 | U | 6.44 | 3.47 |
| Manganese-54 | 0.585 | U | 2.6 | 1.42 | 0.489 | U | 2.31 | 1.25 | -0.381 | U | 1.6 | 0.896 |
| Sodium-22 | -0.494 | U | 2.44 | 1.34 | -0.0202 | U | 2.16 | 1.31 | 0.668 | U | 2.07 | 1.06 |
| Strontium-90 | 0.319 | U | 0.79 | 0.459 | 0.507 | U-DL | 0.915 | 0.545 | 0.689 | U | 0.786 | 0.488 |
| Tritium | 181 | U | 345 | 205 | 39.2 | U | 439 | 255 | -169 | U | 415 | 222 |
| Zinc-65 | 1.98 | U | 5.65 | 2.61 | -1.69 | U | 4.43 | 2.66 | -0.384 | U | 3.58 | 1.97 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: William Floyd Wellfield Sentinel**

| | 117-06<br>Depth : 135.00<br>09/26/2022<br>pCi/l | | | | 117-06<br>Depth : 135.00<br>01/04/2023<br>pCi/l | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | | | | |
| Americium-241 (isotope) | | | | | 0.421 | U | 5.42 | 3.19 | | | | |
| Beryllium-7 | 4.97 | U DL | 60.2 | 49.2 | -8.16 | U | 15.3 | 8.75 | | | | |
| Cesium-134 | 5.48 | U DL | 12.1 | 10.6 | 1.08 | U | 1.94 | 1.29 | | | | |
| Cesium-137 | -0.596 | U | 9.22 | 7.8 | 0.273 | U | 1.78 | 0.946 | | | | |
| Co-60 | 3.86 | U | 7.14 | 6.62 | 0.748 | U | 1.83 | 0.905 | | | | |
| Cobalt-57 | 3.19 | U DL | 5.39 | 4.48 | 0.325 | U | 1.62 | 0.907 | | | | |
| Europium-152 | 17.6 | U DL | 96.4 | 20.4 | -0.439 | U | 4.81 | 2.86 | | | | |
| Europium-154 | -8.59 | U DL | 87.3 | 13.2 | 2.82 | U | 5.84 | 3.21 | | | | |
| Europium-155 | 1.83 | U | 27.8 | 16.4 | 2.6 | U | 6.32 | 3.46 | | | | |
| Manganese-54 | 2.53 | U DL | 6.65 | 3.97 | 0.214 | U | 1.74 | 1.04 | | | | |
| Sodium-22 | -0.14 | U DL | 7.75 | 4.04 | 1.39 | U | 2.09 | 1.08 | | | | |
| Strontium-90 | 0.106 | U | 0.272 | 0.162 | 0.138 | U | 0.79 | 0.432 | | | | |
| Tritium | 75.7 | U | 348 | 198 | 132 | U | 346 | 202 | | | | |
| Zinc-65 | 5.67 | U DL | 24.1 | 14.2 | 1.02 | U | 3.88 | 2.26 | | | | |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: William Floyd Wellfield Sentinel**

| Analyte | 109-03 Depth : 130.00 02/15/2022 ng/L | | 109-03 Depth : 130.00 06/28/2022 ng/L | | 109-03 Depth : 135.00 09/28/2022 ng/L | | 109-03 Depth : 130.00 01/03/2023 ng/L | | 109-04 Depth : 212.50 02/15/2022 ng/L | | 117-01 Depth : 80.00 02/15/2022 ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | | | | | 6.4 | U | 5.7 | U | | | | |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.39 | U | 3.47 | U | 6.4 | U | 5.7 | U | 3.51 | U | 3.35 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | | | | | 40 | U | 36 | U | | | | |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | | | | | 40 | U | 36 | U | | | | |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | | | | | 8 | U | 7.1 | U | | | | |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | | | | | 6.4 | U | 5.7 | U | | | | |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | | | | | 6.4 | U | 5.7 | U | | | | |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | | | | | 6.4 | U | 5.7 | U | | | | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.35 | U | 3.43 | U | 6.4 | U | 3.6 | J | 3.47 | U | 3.31 | U |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | | | | | 6.4 | U | 5.7 | U | | | | |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | | | | | 1.6 | U | 1.4 | U | | | | |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.53 | U | 3.62 | U | 1.6 | U | 1.4 | U | 3.65 | U | 3.49 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | | | | | 16 | U | 14 | U | | | | |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | | | | | 1.6 | U | 1.4 | U | | | | |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.53 | U | 3.62 | U | 2 | U | 1.4 | U | 3.65 | U | 3.49 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | | | | | 16 | U | 14 | U | | | | |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | | | | | 3.2 | U | 2.9 | U | | | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | | | | | 3.2 | U | 2.9 | U | | | | |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | | | | | 3.2 | U | 2.9 | U | | | | |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | | | | | 3.2 | U | 2.9 | U | | | | |
| Perfluorobutanesulfonate (PFBS) | 1.57 | U | 1.61 | U | 1.6 | U | 1.4 | U | 1.63 | U | **2.65** | |
| Perfluorobutyric acid (PFBA) | 1.77 | U | 1.81 | U | 6.4 | U | 5.7 | U | 1.83 | U | **2.06** | |
| Perfluorodecanesulfonate (PFDS) | 1.71 | U | 1.75 | U | 1.6 | U | 1.4 | U | 1.77 | U | 1.69 | U |
| Perfluorodecanoic acid (PFDA) | 1.77 | U | 1.81 | U | 3.2 | U | 1.4 | U | 1.83 | U | 1.74 | U |
| Perfluorododecane sulfonic acid (PFDoS) | | | | | 1.6 | U | 1.4 | U | | | | |
| Perfluorododecanoic acid (PFDoA) | 1.77 | U | 1.81 | U | 1.6 | U | 1.4 | U | 1.83 | U | 1.74 | U |
| Perfluoroheptanesulfonate (PFHpS) | 1.68 | U | 1.72 | U | 1.6 | U | 1.4 | U | 1.74 | U | 0.623 | J |
| Perfluoroheptanoic acid (PFHpA) | 1.77 | U | 1.81 | U | 1.6 | U | 1.4 | U | 1.83 | U | 1.33 | J |
| Perfluorohexanesulfonate (PFHxS) | 1.61 | U | 1.65 | U | 0.4 | J | 0.48 | J | 1.66 | U | **3.37** | |
| Perfluorohexanoic acid (PFHxA) | 1.77 | U | 1.81 | U | 1.6 | U | 1.4 | U | 1.83 | U | 1.49 | J |
| Perfluorononanesulfonate (PFNS) | 1.7 | U | 1.74 | U | 1.6 | U | 1.4 | U | 1.75 | U | 1.67 | U |
| Perfluorononanoic acid (PFNA) | 1.77 | U | 1.81 | U | 2 | U | 1.4 | U | 1.83 | U | 1.74 | U |
| Perfluorooctane sulfonamide (PFOSAm) | 1.77 | U | 1.81 | U | 1.6 | U | 1.4 | U | 1.83 | U | 1.74 | U |
| Perfluorooctanesulfonate (PFOS) | 1.77 | U | 1.81 | U | 1.6 | U | 1.4 | U | 1.83 | U | **13.4** | |
| Perfluorooctanoic acid (PFOA) | 1.77 | U | 1.81 | U | 1.6 | U | 1.4 | U | 1.83 | U | **9.67** | |
| Perfluoropentanesulfonate (PFPeS) | 1.66 | U | 1.7 | U | 1.6 | U | 1.4 | U | 1.72 | U | 1.64 | U |
| Perfluoropentanoic acid (PFPeA) | 1.77 | U | 1.81 | U | 3.2 | U | 2.9 | U | 1.83 | U | 1.55 | J |
| Perfluorotetradecanoic acid (PFTeDA) | 1.77 | U | 1.81 | U | 1.6 | U | 1.4 | U | 1.83 | U | 1.74 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.77 | U | 1.81 | U | 1.6 | U | 1.4 | U | 1.83 | U | 1.74 | U |
| Perfluoroundecanoic acid (PFUdA) | 1.77 | U | 1.81 | U | 1.6 | U | 1.4 | U | 1.83 | U | 1.74 | U |
| 1633 TPFAS | | | | | **0.4** | | **4.08** | | | | | |
| 537 TPFAS | 0 | | 0 | | | | | | 0 | | **36.143** | |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: William Floyd Wellfield Sentinel**

| Analyte | 117-01 Depth : 80.00 06/28/2022 ng/L | | 117-01 Depth : 84.00 09/28/2022 ng/L | | 117-01 Depth : 80.00 01/04/2023 ng/L | | 117-02 Depth : 79.00 02/09/2022 ng/L | | 117-02 Depth : 79.00 06/28/2022 ng/L | | 117-02 Depth : 79.00 09/27/2022 ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | | | 6.4 | U | 6.1 | U | | | | | 6.3 | U |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.51 | U | 6.4 | U | 6.1 | U | 3.47 | U | 3.32 | U | 6.3 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | | | 40 | U | 38 | U | | | | | 40 | U |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | | | 40 | U | 38 | U | | | | | 40 | U |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | | | 8 | U | 7.6 | U | | | | | 7.9 | U |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | | | 6.4 | U | 6.1 | U | | | | | 6.3 | U |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | | | 6.4 | U | 6.1 | U | | | | | 6.3 | U |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | | | 6.4 | U | 6.1 | U | | | | | 6.3 | U |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.47 | U | 6.4 | U | 1.7 | J | 3.44 | U | 3.29 | U | 6.3 | U |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | | | 6.4 | U | 6.1 | U | | | | | 6.3 | U |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | | | 1.6 | U | 1.5 | U | | | | | 1.6 | U |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.65 | U | 1.6 | U | 1.5 | U | 3.62 | U | 3.46 | U | 1.6 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | | | 16 | U | 15 | U | | | | | 16 | U |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | | | 1.6 | U | 1.5 | U | | | | | 1.6 | U |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.65 | U | 2 | U | 1.5 | U | 3.62 | U | 3.46 | U | 2 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | | | 16 | U | 15 | U | | | | | 16 | U |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | | | 3.2 | U | 3 | U | | | | | 3.2 | U |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | | | 3.2 | U | 3 | U | | | | | 3.2 | U |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | | | 3.2 | U | 3 | U | | | | | 3.2 | U |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | | | 3.2 | U | 3 | U | | | | | 3.2 | U |
| Perfluorobutanesulfonate (PFBS) | **1.73** | | 1.4 | J | **2** | | 1.11 | J | 0.832 | J | 0.45 | J |
| Perfluorobutyric acid (PFBA) | 1.83 | U | 1.3 | J | 1.5 | J | 1.81 | U | 1.73 | U | 6.3 | U |
| Perfluorodecanesulfonate (PFDS) | 1.77 | U | 1.6 | U | 1.5 | U | 1.76 | U | 1.68 | U | 1.6 | U |
| Perfluorodecanoic acid (PFDA) | 1.83 | U | 3.2 | U | 1.5 | U | 1.81 | U | 1.73 | U | 3.2 | U |
| Perfluorododecane sulfonic acid (PFDoS) | | | 1.6 | U | 1.5 | U | | | | | 1.6 | U |
| Perfluorododecanoic acid (PFDoA) | 1.83 | U | 1.6 | U | 1.5 | U | 1.81 | U | 1.73 | U | 1.6 | U |
| Perfluoroheptanesulfonate (PFHpS) | 1.73 | U | 1.6 | U | 1.5 | U | 1.72 | U | 1.64 | U | 1.6 | U |
| Perfluoroheptanoic acid (PFHpA) | 1.39 | J | 0.7 | J | 1.3 | J | 1.81 | U | 1.73 | U | 1.6 | U |
| Perfluorohexanesulfonate (PFHxS) | 1.17 | J | 1.3 | J | 0.87 | J | 0.651 | J | 0.872 | J | 1.6 | U |
| Perfluorohexanoic acid (PFHxA) | 1.52 | J | 1.1 | J | 1.4 | J | 1.81 | U | 1.73 | U | 1.6 | U |
| Perfluorononanesulfonate (PFNS) | 1.75 | U | 1.6 | U | 1.5 | U | 1.74 | U | 1.66 | U | 1.6 | U |
| Perfluorononanoic acid (PFNA) | 1.83 | U | 2 | U | 1.5 | U | 1.81 | U | 1.73 | U | 2 | U |
| Perfluorooctane sulfonamide (PFOSAm) | 1.83 | U | 1.6 | U | 1.5 | U | 1.81 | U | 1.73 | U | 1.6 | U |
| Perfluorooctanesulfonate (PFOS) | **4.61** | | **7** | | **5.4** | | **7.12** | | **2.06** | | **4.5** | |
| Perfluorooctanoic acid (PFOA) | **3.52** | | **3.6** | | **4.9** | | 1.35 | J | 0.667 | J | 1.4 | J |
| Perfluoropentanesulfonate (PFPeS) | 1.72 | U | 1.6 | U | 1.5 | U | 1.7 | U | 1.63 | U | 1.6 | U |
| Perfluoropentanoic acid (PFPeA) | 1.4 | J | 3.2 | U | 1.1 | J | 1.81 | U | 1.73 | U | 3.2 | U |
| Perfluorotetradecanoic acid (PFTeDA) | 1.83 | U | 1.6 | U | 1.5 | U | 1.81 | U | 1.73 | U | 1.6 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.83 | U | 1.6 | U | 1.5 | U | 1.81 | U | 1.73 | U | 1.6 | U |
| Perfluoroundecanoic acid (PFUdA) | 1.83 | U | 1.6 | U | 1.5 | U | 1.81 | U | 1.73 | U | 1.6 | U |
| 1633 TPFAS | | | **16.4** | | **20.17** | | | | | | **6.35** | |
| 537 TPFAS | **15.34** | | | | | | **10.231** | | **4.431** | | | |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: William Floyd Wellfield Sentinel**

| Analyte | 117-04 Depth : 135.00 01/05/2022 ng/L | | 117-04 Depth : 135.00 02/09/2022 ng/L | | 117-04 Depth : 135.00 06/27/2022 ng/L | | 117-04 Depth : 135.00 09/26/2022 ng/L | | 117-04 Depth : 135.00 01/03/2023 ng/L | | 117-05 Depth : 135.00 02/08/2022 ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | | | | | | | 6.4 | U | 5.7 | U | | |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.58 | U | 3.8 | U | 3.46 | U | 6.4 | U | 5.7 | U | 3.49 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | | | | | | | 40 | U | 36 | U | | |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | | | | | | | 40 | U | 36 | U | | |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | | | | | | | 8 | U | 7.2 | U | | |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | | | | | | | 6.4 | U | 5.7 | U | | |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | | | | | | | 6.4 | U | 5.7 | U | | |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | | | | | | | 6.4 | U | 5.7 | U | | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.54 | U | 3.76 | U | 3.43 | U | 6.4 | U | 5.7 | U | 3.46 | U |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | | | | | | | 6.4 | U | 5.7 | U | | |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | | | | | | | 1.6 | U | 1.4 | U | | |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.73 | U | 3.96 | U | 3.61 | U | 1.6 | U | 1.4 | U | 3.64 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | | | | | | | 16 | U | 14 | U | | |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | | | | | | | 1.6 | U | 1.4 | U | | |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.73 | U | 3.96 | U | 3.61 | U | 2 | U | 1.4 | U | 3.64 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | | | | | | | 16 | U | 14 | U | | |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | | | | | | | 3.2 | U | 2.9 | U | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | | | | | | | 3.2 | U | 2.9 | U | | |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | | | | | | | 3.2 | U | 2.9 | U | | |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | | | | | | | 3.2 | U | 2.9 | U | | |
| Perfluorobutanesulfonate (PFBS) | 1.66 | U | 1.76 | U | 1.61 | U | 1.6 | U | 1.4 | U | 1.62 | U |
| Perfluorobutyric acid (PFBA) | 1.86 | U | 1.98 | U | 1.8 | U | 6.4 | U | 5.7 | U | 1.82 | U |
| Perfluorodecanesulfonate (PFDS) | 1.81 | U | 1.92 | U | 1.75 | U | 1.6 | U | 1.4 | U | 1.76 | U |
| Perfluorodecanoic acid (PFDA) | 1.86 | U | 1.98 | U | 1.8 | U | 3.2 | U | 1.4 | U | 1.82 | U |
| Perfluorododecane sulfonic acid (PFDoS) | | | | | | | 1.6 | U | 1.4 | U | | |
| Perfluorododecanoic acid (PFDoA) | 1.86 | U | 1.98 | U | 1.8 | U | 1.6 | U | 1.4 | U | 1.82 | U |
| Perfluoroheptanesulfonate (PFHpS) | 1.77 | U | 1.88 | U | 1.71 | U | 1.6 | U | 1.4 | U | 1.73 | U |
| Perfluoroheptanoic acid (PFHpA) | 1.86 | U | 1.98 | U | 1.8 | U | 1.6 | U | 1.4 | U | 1.82 | U |
| Perfluorohexanesulfonate (PFHxS) | 1.7 | U | 1.8 | U | 1.64 | U | 1.6 | U | 0.3 | J | 1.66 | U |
| Perfluorohexanoic acid (PFHxA) | 1.86 | U | 1.98 | U | 1.8 | U | 1.6 | U | 1.4 | U | 1.82 | U |
| Perfluorononanesulfonate (PFNS) | 1.79 | U | 1.9 | U | 1.73 | U | 1.6 | U | 1.4 | U | 1.75 | U |
| Perfluorononanoic acid (PFNA) | 1.86 | U | 1.98 | U | 1.8 | U | 2 | U | 1.4 | U | 1.82 | U |
| Perfluorooctane sulfonamide (PFOSAm) | 1.86 | U | 1.98 | U | 1.8 | U | 1.6 | U | 1.4 | U | 1.82 | U |
| Perfluorooctanesulfonate (PFOS) | 1.86 | U | 1.98 | U | 1.8 | U | 1.6 | U | 1.4 | U | 1.82 | U |
| Perfluorooctanoic acid (PFOA) | 1.86 | U | 1.98 | U | 1.8 | U | 1.6 | U | 1.4 | U | 1.82 | U |
| Perfluoropentanesulfonate (PFPeS) | 1.75 | U | 1.86 | U | 1.7 | U | 1.6 | U | 1.4 | U | 1.71 | U |
| Perfluoropentanoic acid (PFPeA) | 1.86 | U | 1.98 | U | 1.8 | U | 3.2 | U | 2.9 | U | 1.82 | U |
| Perfluorotetradecanoic acid (PFTeDA) | 1.86 | U | 1.98 | U | 1.8 | U | 1.6 | U | 1.4 | U | 1.82 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.86 | U | 1.98 | U | 1.8 | U | 1.6 | U | 1.4 | U | 1.82 | U |
| Perfluoroundecanoic acid (PFUdA) | 1.86 | U | 1.98 | U | 1.8 | U | 1.6 | U | 1.4 | U | 1.82 | U |
| 1633 TPFAS | | | | | | | 0 | | **0.3** | | | |
| 537 TPFAS | 0 | | 0 | | 0 | | | | | | 0 | |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: William Floyd Wellfield Sentinel**

| Analyte | 117-05 Depth : 135.00 06/29/2022 ng/L | | 117-05 Depth : 135.00 09/27/2022 ng/L | | 117-05 Depth : 135.00 01/04/2023 ng/L | | 117-06 Depth : 135.00 02/08/2022 ng/L | | 117-06 Depth : 135.00 06/29/2022 ng/L | | 117-06 Depth : 135.00 09/26/2022 ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | | | 6.3 | U | 6.2 | U | | | | | 6.4 | U |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.53 | U | 6.3 | U | 6.2 | U | 3.45 | U | 3.6 | U | 6.4 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | | | 40 | U | 39 | U | | | | | 40 | U |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | | | 40 | U | 39 | U | | | | | 40 | U |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | | | 7.9 | U | 7.7 | U | | | | | 7.9 | U |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | | | 6.3 | U | 6.2 | U | | | | | 6.4 | U |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | | | 6.3 | U | 6.2 | U | | | | | 6.4 | U |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | | | 6.3 | U | 6.2 | U | | | | | 6.4 | U |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.5 | U | 6.3 | U | 2.4 | J | 3.41 | U | 3.56 | U | 6.4 | U |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | | | 6.3 | U | 6.2 | U | | | | | 6.4 | U |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | | | 1.6 | U | 1.5 | U | | | | | 1.6 | U |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.68 | U | 1.6 | U | 1.5 | U | 3.59 | U | 3.75 | U | 1.6 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | | | 16 | U | 15 | U | | | | | 16 | U |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | | | 1.6 | U | 1.5 | U | | | | | 1.6 | U |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.68 | U | 2 | U | 1.5 | U | 3.59 | U | 3.75 | U | 2 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | | | 16 | U | 15 | U | | | | | 16 | U |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | | | 3.2 | U | 3.1 | U | | | | | 3.2 | U |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | | | 3.2 | U | 3.1 | U | | | | | 3.2 | U |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | | | 3.2 | U | 3.1 | U | | | | | 3.2 | U |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | | | 3.2 | U | 3.1 | U | | | | | 3.2 | U |
| Perfluorobutanesulfonate (PFBS) | 1.64 | U | 1.6 | U | 0.34 | J | 1.6 | U | 1.67 | U | 1.6 | U |
| Perfluorobutyric acid (PFBA) | 1.84 | U | 6.3 | U | 6.2 | U | 1.8 | U | 1.87 | U | 6.4 | U |
| Perfluorodecanesulfonate (PFDS) | 1.79 | U | 1.6 | U | 1.5 | U | 1.74 | U | 1.82 | U | 1.6 | U |
| Perfluorodecanoic acid (PFDA) | 1.84 | U | 3.2 | U | 1.5 | U | 1.8 | U | 1.87 | U | 3.2 | U |
| Perfluorododecane sulfonic acid (PFDoS) | | | 1.6 | U | 1.5 | U | | | | | 1.6 | U |
| Perfluorododecanoic acid (PFDoA) | 1.84 | U | 1.6 | U | 1.5 | U | 1.8 | U | 1.87 | U | 1.6 | U |
| Perfluoroheptanesulfonate (PFHpS) | 1.75 | U | 1.6 | U | 1.5 | U | 1.71 | U | 1.78 | U | 1.6 | U |
| Perfluoroheptanoic acid (PFHpA) | 1.84 | U | 1.6 | U | 1.5 | U | 1.8 | U | 1.87 | U | 1.6 | U |
| Perfluorohexanesulfonate (PFHxS) | 1.68 | U | 1.6 | U | 0.46 | J | 1.64 | U | 1.71 | U | 1.6 | U |
| Perfluorohexanoic acid (PFHxA) | 1.84 | U | 1.6 | U | 1.5 | U | 1.8 | U | 1.87 | U | 1.6 | U |
| Perfluorononanesulfonate (PFNS) | 1.77 | U | 1.6 | U | 1.5 | U | 1.72 | U | 1.8 | U | 1.6 | U |
| Perfluorononanoic acid (PFNA) | 1.84 | U | 2 | U | 1.5 | U | 1.8 | U | 1.87 | U | 2 | U |
| Perfluorooctane sulfonamide (PFOSAm) | 1.84 | U | 1.6 | U | 0.27 | J | 1.8 | U | 1.87 | U | 1.6 | U |
| Perfluorooctanesulfonate (PFOS) | 1.84 | U | 1.6 | U | 1.5 | U | 1.8 | U | 1.87 | U | 1.6 | U |
| Perfluorooctanoic acid (PFOA) | 1.84 | U | 1.6 | U | 1.5 | U | 1.8 | U | 1.87 | U | 1.6 | U |
| Perfluoropentanesulfonate (PFPeS) | 1.73 | U | 1.6 | U | 1.5 | U | 1.69 | U | 1.76 | U | 1.6 | U |
| Perfluoropentanoic acid (PFPeA) | 1.84 | U | 3.2 | U | 3.1 | U | 1.8 | U | 1.87 | U | 3.2 | U |
| Perfluorotetradecanoic acid (PFTeDA) | 1.84 | U | 1.6 | U | 1.5 | U | 1.8 | U | 1.87 | U | 1.6 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.84 | U | 1.6 | U | 1.5 | U | 1.8 | U | 1.87 | U | 1.6 | U |
| Perfluoroundecanoic acid (PFUdA) | 1.84 | U | 1.6 | U | 1.5 | U | 1.8 | U | 1.87 | U | 1.6 | U |
| 1633 TPFAS | | | 0 | | **3.47** | | | | | | 0 | |
| 537 TPFAS | 0 | | | | | | 0 | | 0 | | | |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: William Floyd Wellfield Sentinel**

| Analyte | 117-06<br>Depth : 135.00<br>01/04/2023<br>ng/L | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | 7.7 | U | | | | | | | | | | |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 7.7 | U | | | | | | | | | | |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | 48 | U | | | | | | | | | | |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | 48 | U | | | | | | | | | | |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | 9.7 | U | | | | | | | | | | |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | 7.7 | U | | | | | | | | | | |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | 7.7 | U | | | | | | | | | | |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | 7.7 | U | | | | | | | | | | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 7.7 | U | | | | | | | | | | |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | 7.7 | U | | | | | | | | | | |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | 1.9 | U | | | | | | | | | | |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 1.9 | U | | | | | | | | | | |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | 19 | U | | | | | | | | | | |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | 1.9 | U | | | | | | | | | | |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 1.9 | U | | | | | | | | | | |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | 19 | U | | | | | | | | | | |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | 3.9 | U | | | | | | | | | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | 3.9 | U | | | | | | | | | | |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | 3.9 | U | | | | | | | | | | |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | 3.9 | U | | | | | | | | | | |
| Perfluorobutanesulfonate (PFBS) | 1.9 | U | | | | | | | | | | |
| Perfluorobutyric acid (PFBA) | 7.7 | U | | | | | | | | | | |
| Perfluorodecanesulfonate (PFDS) | 1.9 | U | | | | | | | | | | |
| Perfluorodecanoic acid (PFDA) | 1.9 | U | | | | | | | | | | |
| Perfluorododecane sulfonic acid (PFDoS) | 1.9 | U | | | | | | | | | | |
| Perfluorododecanoic acid (PFDoA) | 1.9 | U | | | | | | | | | | |
| Perfluoroheptanesulfonate (PFHpS) | 1.9 | U | | | | | | | | | | |
| Perfluoroheptanoic acid (PFHpA) | 1.9 | U | | | | | | | | | | |
| Perfluorohexanesulfonate (PFHxS) | 1.9 | U | | | | | | | | | | |
| Perfluorohexanoic acid (PFHxA) | 1.9 | U | | | | | | | | | | |
| Perfluorononanesulfonate (PFNS) | 1.9 | U | | | | | | | | | | |
| Perfluorononanoic acid (PFNA) | 1.9 | U | | | | | | | | | | |
| Perfluorooctane sulfonamide (PFOSAm) | 1.9 | U | | | | | | | | | | |
| Perfluorooctanesulfonate (PFOS) | 1.9 | U | | | | | | | | | | |
| Perfluorooctanoic acid (PFOA) | 1.9 | U | | | | | | | | | | |
| Perfluoropentanesulfonate (PFPeS) | 1.9 | U | | | | | | | | | | |
| Perfluoropentanoic acid (PFPeA) | 3.9 | U | | | | | | | | | | |
| Perfluorotetradecanoic acid (PFTeDA) | 1.9 | U | | | | | | | | | | |
| Perfluorotridecanoic acid (PFTrDA) | 1.9 | U | | | | | | | | | | |
| Perfluoroundecanoic acid (PFUdA) | 1.9 | U | | | | | | | | | | |
| 1633 TPFAS | 0 | | | | | | | | | | | |
| 537 TPFAS | | | | | | | | | | | | |

OU10 Former Firehouse

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: OU10 Fomer Firehouse MW**

| Analyte | 075-809<br>Depth : 37.50<br>06/21/2022<br>ng/L | | 075-810<br>Depth : 37.50<br>06/21/2022<br>ng/L | | 075-811<br>Depth : 37.50<br>06/21/2022<br>ng/L | | 085-404<br>Depth : 37.50<br>06/14/2022<br>ng/L | | 085-405<br>Depth : 55.00<br>06/14/2022<br>ng/L | | 085-406<br>Depth : 37.50<br>06/21/2022<br>ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | 1.66 | U | 1.61 | U | 1.72 | U | 1.69 | U | 1.77 | U | 1.69 | U |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.39 | U | 3.28 | U | 3.52 | U | 3.45 | U | 3.61 | U | 3.45 | U |
| 1H, 1H, 2H, 2H-perfluorododecane sulfonic acid (10:2 FTS) | 3.39 | U | 3.28 | U | 3.52 | U | 3.45 | U | 3.61 | U | 3.45 | U |
| 2-Perfluorodecyl ethanoic acid (10:2 FTA) (FDEA) | 3.53 | U | 3.42 | U | 3.66 | U | 3.6 | U | 3.76 | U | 3.6 | U |
| 2-Perfluorohexyl ethanoic acid (6:2 FTA) (FHEA) | 3.53 | U | 3.42 | U | 3.66 | U | 3.6 | U | 3.76 | U | 3.6 | U |
| 2-Perfluorooctyl ethanoic acid (8:2 FTA) (FOEA) | 3.53 | U | 3.42 | U | 3.66 | U | 3.6 | U | 3.76 | U | 3.6 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | 3.53 | U | 3.42 | U | 3.66 | U | 3.6 | U | 3.76 | U | 3.6 | U |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | 3.53 | U | 3.42 | U | 3.66 | U | 3.6 | U | 3.76 | U | 3.6 | U |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | 3.53 | U | 3.42 | U | 3.66 | U | 3.6 | U | 3.76 | U | 3.6 | U |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | 1.76 | U | 1.71 | U | 1.83 | U | 1.8 | U | 1.88 | U | 1.8 | U |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | 1.64 | U | 1.59 | U | 1.71 | U | 1.68 | U | 1.75 | U | 1.68 | U |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | 3.32 | U | 3.22 | U | 3.44 | U | 3.38 | U | 3.54 | U | 3.38 | U |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.35 | U | 3.25 | U | 3.48 | U | 3.42 | U | 3.58 | U | 3.42 | U |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | 1.76 | U | 1.71 | U | 1.83 | U | 1.8 | U | 1.88 | U | 1.8 | U |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | 3.53 | U | 3.42 | U | 3.66 | U | 3.6 | U | 3.76 | U | 3.6 | U |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.53 | U | 3.42 | U | 3.66 | U | 3.6 | U | 3.76 | U | 3.6 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | 3.53 | U | 3.42 | U | 3.66 | U | 3.6 | U | 3.76 | U | 3.6 | U |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | 3.53 | U | 3.42 | U | 3.66 | U | 3.6 | U | 3.76 | U | 3.6 | U |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.53 | U | 3.42 | U | 3.66 | U | 3.6 | U | 3.76 | U | 3.6 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | 3.53 | U | 3.42 | U | 3.66 | U | 3.6 | U | 3.76 | U | 3.6 | U |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | 3.53 | U | 3.42 | U | 3.66 | U | 3.6 | U | 3.76 | U | 3.6 | U |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | 1.76 | U | 1.71 | U | 1.83 | U | 1.8 | U | 1.88 | U | 1.8 | U |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | 3.53 | U | 3.42 | U | 3.66 | U | 3.6 | U | 3.76 | U | 3.6 | U |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | 3.53 | U | 3.42 | U | 3.66 | U | 3.6 | U | 3.76 | U | 3.6 | U |
| Perfluorobutanesulfonate (PFBS) | **26.9** | | **41.4** | | **61.1** | | **2.33** | | **3.39** | | **9.56** | |
| Perfluorobutylsulfonamide (FBSA) | **12.5** | | **12.5** | | **123** | | 3.6 | U | 3.76 | U | **5.96** | |
| Perfluorobutyric acid (PFBA) | **24.7** | | **34.3** | | **52.7** | | **7.69** | | **10.5** | | **19.6** | |
| Perfluorodecanesulfonate (PFDS) | 1.71 | U | 1.66 | U | 1.78 | U | 1.74 | U | 1.83 | U | 1.74 | U |
| Perfluorodecanoic acid (PFDA) | 1.76 | U | 1.71 | U | 1.83 | U | 1.8 | U | 1.88 | U | 1.8 | U |
| Perfluorododecane sulfonic acid (PFDoS) | 1.71 | U | 1.66 | U | 1.77 | U | 1.74 | U | 1.82 | U | 1.74 | U |
| Perfluorododecanoic acid (PFDoA) | 1.76 | U | 1.71 | U | 1.83 | U | 1.8 | U | 1.88 | U | 1.8 | U |
| Perfluoroheptanesulfonate (PFHpS) | **32.7** | | **117** | | **57.2** | | **1.74** | | 1.79 | U | **74.8** | |
| Perfluoroheptanoic acid (PFHpA) | **54.2** | | **42.6** | | **130** | | **3.2** | | **2** | | **18.9** | |
| Perfluorohexadecanoic acid (PFHxDA) | 3.53 | U | 3.42 | U | 3.66 | U | 3.6 | U | 3.76 | U | 71.9 | DU |
| Perfluorohexanesulfonate (PFHxS) | **1200** | D | **2120** | D | **10400** | D | **37.9** | | **9.63** | | **1120** | D |
| Perfluorohexanoic acid (PFHxA) | **142** | | **280** | D | **1670** | D | **6.3** | | **3.33** | | **93.8** | |
| Perfluorononanesulfonate (PFNS) | 1.69 | U | 1.64 | U | 1.76 | U | 1.73 | U | 1.81 | U | 1.73 | U |
| Perfluorononanoic acid (PFNA) | **3.02** | | **4.14** | | **9.13** | | 1.64 | J | 1.88 | U | **2.61** | |
| Perfluorooctadecanoic acid (PFODA) | 3.53 | U | 3.42 | U | 3.66 | U | 3.6 | U | 3.76 | U | 71.9 | DU |
| Perfluorooctane sulfonamide (PFOSAm) | **1.92** | | **1.9** | | **183** | | 1.8 | U | 1.88 | U | **2.33** | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonate (PFOS) | **1710** | D | **2380** | D | **2260** | D | **19** | | **16.2** | | **2350** | D |
| Perfluorooctanoic acid (PFOA) | **54.9** | | **221** | D | **758** | D | **12** | | **5.72** | | **210** | D |
| Perfluoropentanesulfonate (PFPeS) | **91.5** | | **103** | | **56.4** | D | 1.25 | J | 0.783 | J | **23.9** | |
| Perfluoropentanoic acid (PFPeA) | **30.4** | | **55.6** | | **164** | | **5.96** | | **3.3** | | **26.6** | |
| Perfluorotetradecanoic acid (PFTeDA) | 1.76 | U | 1.71 | U | 1.83 | U | 1.8 | U | 1.88 | U | 1.8 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.76 | U | 1.71 | U | 1.83 | U | 1.8 | U | 1.88 | U | 1.8 | U |
| Perfluoroundecanoic acid (PFUdA) | 1.76 | U | 1.71 | U | 1.83 | U | 1.8 | U | 1.88 | U | 1.8 | U |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: OU10 Fomer Firehouse MW**

| Analyte | 085-407<br>Depth : 65.00<br>06/21/2022<br>ng/L | | 085-408<br>Depth : 65.00<br>06/22/2022<br>ng/L | | 085-409<br>Depth : 37.50<br>06/14/2022<br>ng/L | | 085-410<br>Depth : 55.00<br>06/16/2022<br>ng/L | | 085-411<br>Depth : 55.00<br>06/30/2022<br>ng/L | | 085-412<br>Depth : 95.00<br>06/30/2022<br>ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | 1.7 | U | 1.82 | U | 1.78 | U | 1.72 | U | 1.79 | U | 1.68 | U |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.46 | U | 3.71 | U | 3.62 | U | 3.5 | U | 3.66 | U | 3.43 | U |
| 1H, 1H, 2H, 2H-perfluorododecane sulfonic acid (10:2 FTS) | 3.46 | U | 3.71 | U | 3.62 | U | 3.5 | U | 3.66 | U | 3.43 | U |
| 2-Perfluorodecyl ethanoic acid (10:2 FTA) (FDEA) | 3.6 | U | 3.86 | U | 3.78 | U | 3.65 | U | 3.81 | U | 3.57 | U |
| 2-Perfluorohexyl ethanoic acid (6:2 FTA) (FHEA) | 3.6 | U | 3.86 | U | 3.78 | U | 3.65 | U | 3.81 | U | 3.57 | U |
| 2-Perfluorooctyl ethanoic acid (8:2 FTA) (FOEA) | 3.6 | U | 3.86 | U | 3.78 | U | 3.65 | U | 3.81 | U | 3.57 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | 3.6 | U | 3.86 | U | 3.78 | U | 3.65 | U | 3.81 | U | 3.57 | U |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | 3.6 | U | 3.86 | U | 3.78 | U | 3.65 | U | 3.81 | U | 3.57 | U |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | 3.6 | U | 3.86 | U | 3.78 | U | 3.65 | U | 3.81 | U | 3.57 | U |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | 1.8 | U | 1.93 | U | 1.89 | U | 1.82 | U | 1.9 | U | 1.79 | U |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | 1.68 | U | 1.8 | U | 1.76 | U | 1.7 | U | 1.77 | U | 1.66 | U |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | 3.38 | U | 3.63 | U | 3.55 | U | 3.43 | U | 3.58 | U | 3.36 | U |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.42 | U | 3.67 | U | 3.59 | U | 3.46 | U | 3.62 | U | 3.39 | U |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | 1.8 | U | 1.93 | U | 1.89 | U | 1.82 | U | 1.9 | U | 1.79 | U |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | 3.6 | U | 3.86 | U | 3.78 | U | 3.65 | U | 3.81 | U | 3.57 | U |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.6 | U | 3.86 | U | 3.78 | U | 3.65 | U | 3.81 | U | 3.57 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | 3.6 | U | 3.86 | U | 3.78 | U | 3.65 | U | 3.81 | U | 3.57 | U |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | 3.6 | U | 3.86 | U | 3.78 | U | 3.65 | U | 3.81 | U | 3.57 | U |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.6 | U | 3.86 | U | 3.78 | U | 3.65 | U | 3.81 | U | 3.57 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | 3.6 | U | 3.86 | U | 3.78 | U | 3.65 | U | 3.81 | U | 3.57 | U |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | 3.6 | U | 3.86 | U | 3.78 | U | 3.65 | U | 3.81 | U | 3.57 | U |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | 1.8 | U | 1.93 | U | 1.89 | U | 1.82 | U | 1.9 | U | 1.79 | U |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | 3.6 | U | 3.86 | U | 3.78 | U | 3.65 | U | 3.81 | U | 3.57 | U |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | 3.6 | U | 3.86 | U | 3.78 | U | 3.65 | U | 3.81 | U | 3.57 | U |
| Perfluorobutanesulfonate (PFBS) | 0.949 | J | **2.79** | | 1.45 | J | **2.51** | | **5.48** | | 1.51 | J |
| Perfluorobutylsulfonamide (FBSA) | 3.6 | U | **5.56** | | 3.78 | U | 3.65 | U | **9.44** | | 3.57 | U |
| Perfluorobutyric acid (PFBA) | **5.43** | | **8.76** | | 6.21 | U | **5.73** | | **9.91** | | **4.45** | |
| Perfluorodecanesulfonate (PFDS) | 1.75 | U | 1.87 | U | 1.83 | U | 1.77 | U | 1.85 | U | 1.73 | U |
| Perfluorodecanoic acid (PFDA) | 1.8 | U | 1.93 | U | 1.89 | U | 1.82 | U | 1.9 | U | 1.79 | U |
| Perfluorododecane sulfonic acid (PFDoS) | 1.74 | U | 1.87 | U | 1.83 | U | 1.76 | U | 1.84 | U | 1.73 | U |
| Perfluorododecanoic acid (PFDoA) | 1.8 | U | 1.93 | U | 1.89 | U | 1.82 | U | 1.9 | U | 1.79 | U |
| Perfluoroheptanesulfonate (PFHpS) | 0.94 | J | **4.28** | | 1.79 | U | 1.73 | U | **3.97** | | 1.7 | U |
| Perfluoroheptanoic acid (PFHpA) | 1.5 | J | **5.26** | | 1.76 | J | 1.27 | J | **13.9** | | 0.733 | J |
| Perfluorohexadecanoic acid (PFHxDA) | 3.6 | U | 3.86 | U | 18.9 | DU | 3.65 | U | 3.81 | U | 3.57 | U |
| Perfluorohexanesulfonate (PFHxS) | **14.9** | | **170** | D | **21.1** | | **14.1** | | **386** | D | **9.19** | |
| Perfluorohexanoic acid (PFHxA) | **3.5** | | **29.3** | | **3.22** | | **4.91** | | **96.7** | | **2.71** | |
| Perfluorononanesulfonate (PFNS) | 1.73 | U | 1.85 | U | 1.81 | U | 1.75 | U | 1.83 | U | 1.71 | U |
| Perfluorononanoic acid (PFNA) | 1.44 | J | 1.72 | J | 1.89 | U | 0.792 | J | 1 | J | 1.79 | U |
| Perfluorooctadecanoic acid (PFODA) | 3.6 | U | 3.86 | U | 18.9 | DU | 3.65 | U | 3.81 | U | 3.57 | U |
| Perfluorooctane sulfonamide (PFOSAm) | **5.06** | | **26.2** | | 1.89 | U | 1.82 | U | **33.1** | | 1.79 | U |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonate (PFOS) | **34.5** | | **174** | D | **6.58** | | **10.4** | | **167** | | **12.4** | |
| Perfluorooctanoic acid (PFOA) | **6.78** | | **72.1** | | **5.33** | | **4.24** | | **132** | | **3.82** | |
| Perfluoropentanesulfonate (PFPeS) | 1.69 | U | **2.26** | | 1.77 | U | 0.662 | J | **5.93** | | 0.851 | J |
| Perfluoropentanoic acid (PFPeA) | **2.02** | | **5.88** | | 1.16 | J | 1.47 | J | **11.1** | | 1.1 | J |
| Perfluorotetradecanoic acid (PFTeDA) | 1.8 | U | 1.93 | U | 1.89 | U | 1.82 | U | 1.9 | U | 1.79 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.8 | U | 1.93 | U | 1.89 | U | 1.82 | U | 1.9 | U | 1.79 | U |
| Perfluoroundecanoic acid (PFUdA) | 1.8 | U | 1.93 | U | 1.89 | U | 1.82 | U | 1.9 | U | 1.79 | U |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: OU10 Fomer Firehouse MW**

| Analyte | 096-122<br>Depth : 65.00<br>06/15/2022<br>ng/L | | 096-123<br>Depth : 125.00<br>06/15/2022<br>ng/L | | 096-124<br>Depth : 75.00<br>06/15/2022<br>ng/L | | 096-125<br>Depth : 125.00<br>06/15/2022<br>ng/L | | 096-126<br>Depth : 60.00<br>06/23/2022<br>ng/L | | 096-127<br>Depth : 115.00<br>06/23/2022<br>ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | 1.68 | U | 1.66 | U | 1.72 | U | 1.67 | U | 1.61 | U | 1.71 | U |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.41 | U | 3.39 | U | 3.5 | U | 3.41 | U | 3.29 | U | 3.48 | U |
| 1H, 1H, 2H, 2H-perfluorododecane sulfonic acid (10:2 FTS) | 3.41 | U | 3.39 | U | 3.5 | U | 3.41 | U | 3.29 | U | 3.48 | U |
| 2-Perfluorodecyl ethanoic acid (10:2 FTA) (FDEA) | 3.56 | U | 3.53 | U | 3.64 | U | 3.55 | U | 3.43 | U | 3.63 | U |
| 2-Perfluorohexyl ethanoic acid (6:2 FTA) (FHEA) | 3.56 | U | 3.53 | U | 3.64 | U | 3.55 | U | 3.43 | U | 3.63 | U |
| 2-Perfluorooctyl ethanoic acid (8:2 FTA) (FOEA) | 3.56 | U | 3.53 | U | 3.64 | U | 3.55 | U | 3.43 | U | 3.63 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | 3.56 | U | 3.53 | U | 3.64 | U | 3.55 | U | 3.43 | U | 3.63 | U |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | 3.56 | U | 3.53 | U | 3.64 | U | 3.55 | U | 3.43 | U | 3.63 | U |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | 3.56 | U | 3.53 | U | 3.64 | U | 3.55 | U | 3.43 | U | 3.63 | U |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | 1.78 | U | 1.77 | U | 1.82 | U | 1.78 | U | 1.71 | U | 1.81 | U |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | 1.66 | U | 1.65 | U | 1.7 | U | 1.66 | U | 1.6 | U | 1.69 | U |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | 3.34 | U | 3.32 | U | 3.43 | U | 3.34 | U | 3.22 | U | 3.41 | U |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.38 | U | 3.36 | U | 3.46 | U | 3.37 | U | 3.26 | U | 3.45 | U |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | 1.78 | U | 1.77 | U | 1.82 | U | 1.78 | U | 1.71 | U | 1.81 | U |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | 3.56 | U | 3.53 | U | 3.64 | U | 3.55 | U | 3.43 | U | 3.63 | U |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.56 | U | 3.53 | U | 3.64 | U | 3.55 | U | 3.43 | U | 3.63 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | 3.56 | U | 3.53 | U | 3.64 | U | 3.55 | U | 3.43 | U | 3.63 | U |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | 3.56 | U | 3.53 | U | 3.64 | U | 3.55 | U | 3.43 | U | 3.63 | U |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.56 | U | 3.53 | U | 3.64 | U | 3.55 | U | 3.43 | U | 3.63 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | 3.56 | U | 3.53 | U | 3.64 | U | 3.55 | U | 3.43 | U | 3.63 | U |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | 3.56 | U | 3.53 | U | 3.64 | U | 3.55 | U | 3.43 | U | 3.63 | U |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | 1.78 | U | 1.77 | U | 1.82 | U | 1.78 | U | 1.71 | U | 1.81 | U |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | 3.56 | U | 3.53 | U | 3.64 | U | 3.55 | U | 3.43 | U | 3.63 | U |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | 3.56 | U | 3.53 | U | 3.64 | U | 3.55 | U | 3.43 | U | 3.63 | U |
| Perfluorobutanesulfonate (PFBS) | **3.14** | | **1.97** | | 1.04 | J | 1.11 | J | **2.99** | | **4.26** | |
| Perfluorobutylsulfonamide (FBSA) | 3.09 | J | 3.53 | U | 3.64 | U | 3.55 | U | 1.63 | J | **6.9** | |
| Perfluorobutyric acid (PFBA) | 6.11 | U | 4.23 | U | 4.17 | U | 4.61 | U | **7.19** | | **7.21** | |
| Perfluorodecanesulfonate (PFDS) | 1.73 | U | 1.71 | U | 1.77 | U | 1.72 | U | 1.66 | U | 1.76 | U |
| Perfluorodecanoic acid (PFDA) | 1.78 | U | 1.77 | U | 1.82 | U | 1.78 | U | 1.71 | U | 1.81 | U |
| Perfluorododecane sulfonic acid (PFDoS) | 1.72 | U | 1.71 | U | 1.76 | U | 1.72 | U | 1.66 | U | 1.76 | U |
| Perfluorododecanoic acid (PFDoA) | 1.78 | U | 1.77 | U | 1.82 | U | 1.78 | U | 1.71 | U | 1.81 | U |
| Perfluoroheptanesulfonate (PFHpS) | 1.33 | J | 1.6 | J | 1.73 | U | 0.712 | J | **3.35** | | **4.02** | |
| Perfluoroheptanoic acid (PFHpA) | **4.8** | | 1.66 | J | 0.828 | J | 1.34 | J | **3.17** | | **7.94** | |
| Perfluorohexadecanoic acid (PFHxDA) | 3.56 | U | 3.53 | U | 3.64 | U | 3.55 | U | 3.43 | U | 3.63 | U |
| Perfluorohexanesulfonate (PFHxS) | **133** | | **36.9** | | **8.41** | | **14.2** | | **78.7** | | **184** | D |
| Perfluorohexanoic acid (PFHxA) | **36** | | **3.15** | | **2.48** | | 1.32 | J | **13.5** | | **49.3** | |
| Perfluorononanesulfonate (PFNS) | 1.71 | U | 1.7 | U | 1.75 | U | 1.71 | U | 1.65 | U | 1.74 | U |
| Perfluorononanoic acid (PFNA) | 0.764 | J | 0.963 | J | 1.82 | U | 0.672 | J | 1.21 | J | 0.943 | J |
| Perfluorooctadecanoic acid (PFODA) | 3.56 | U | 3.53 | U | 3.64 | U | 3.55 | U | 3.43 | U | 3.63 | U |
| Perfluorooctane sulfonamide (PFOSAm) | **4.48** | | 1.77 | U | 1.82 | U | 1.78 | U | **4.66** | | 1.81 | U |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonate (PFOS) | **62.5** | | **26.3** | | **6.8** | | **12.6** | | **85.3** | | **152** | |
| Perfluorooctanoic acid (PFOA) | **25.2** | | **8.02** | | **3.57** | | **5.64** | | **13.2** | | **62.1** | |
| Perfluoropentanesulfonate (PFPeS) | **2.28** | | **1.7** | | 1.71 | U | 0.634 | J | **2.82** | | **3.61** | |
| Perfluoropentanoic acid (PFPeA) | **6.26** | | 1.08 | J | 1.07 | J | 0.796 | J | **5.91** | | **10** | |
| Perfluorotetradecanoic acid (PFTeDA) | 1.78 | U | 1.77 | U | 1.82 | U | 1.78 | U | 1.71 | U | 1.81 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.78 | U | 1.77 | U | 1.82 | U | 1.78 | U | 1.71 | U | 1.81 | U |
| Perfluoroundecanoic acid (PFUdA) | 1.78 | U | 1.77 | U | 1.82 | U | 1.78 | U | 1.71 | U | 1.81 | U |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: OU10 Fomer Firehouse MW**

| Analyte | 096-128<br>Depth : 60.00<br>06/17/2022<br>ng/L | | 096-129<br>Depth : 115.00<br>06/17/2022<br>ng/L | | 096-130<br>Depth : 60.00<br>06/16/2022<br>ng/L | | 096-131<br>Depth : 115.00<br>06/16/2022<br>ng/L | | 105-72<br>Depth : 105.00<br>06/24/2022<br>ng/L | | 105-73<br>Depth : 125.00<br>06/24/2022<br>ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | 1.67 | U | 1.66 | U | 1.7 | U | 1.74 | U | 1.72 | U | 1.73 | U |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.41 | U | 3.38 | U | 3.47 | U | 3.56 | U | 3.51 | U | 3.53 | U |
| 1H, 1H, 2H, 2H-perfluorododecane sulfonic acid (10:2 FTS) | 3.41 | U | 3.38 | U | 3.47 | U | 3.56 | U | 3.51 | U | 3.53 | U |
| 2-Perfluorodecyl ethanoic acid (10:2 FTA) (FDEA) | 3.55 | U | 3.52 | U | 3.61 | U | 3.7 | U | 3.65 | U | 3.68 | U |
| 2-Perfluorohexyl ethanoic acid (6:2 FTA) (FHEA) | 3.55 | U | 3.52 | U | 3.61 | U | 3.7 | U | 3.65 | U | 3.68 | U |
| 2-Perfluorooctyl ethanoic acid (8:2 FTA) (FOEA) | 3.55 | U | 3.52 | U | 3.61 | U | 3.7 | U | 3.65 | U | 3.68 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | 3.55 | U | 3.52 | U | 3.61 | U | 3.7 | U | 3.65 | U | 3.68 | U |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | 3.55 | U | 3.52 | U | 3.61 | U | 3.7 | U | 3.65 | U | 3.68 | U |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | 3.55 | U | 3.52 | U | 3.61 | U | 3.7 | U | 3.65 | U | 3.68 | U |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | 1.77 | U | 1.76 | U | 1.81 | U | 1.85 | U | 1.83 | U | 1.84 | U |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | 1.65 | U | 1.64 | U | 1.68 | U | 1.73 | U | 1.7 | U | 1.72 | U |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | 3.34 | U | 3.31 | U | 3.4 | U | 3.48 | U | 3.44 | U | 3.46 | U |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.37 | U | 3.35 | U | 3.43 | U | 3.52 | U | 3.47 | U | 3.5 | U |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | 1.77 | U | 1.76 | U | 1.81 | U | 1.85 | U | 1.83 | U | 1.84 | U |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | 3.55 | U | 3.52 | U | 3.61 | U | 3.7 | U | 3.65 | U | 3.68 | U |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.55 | U | 3.52 | U | 3.61 | U | 3.7 | U | 3.65 | U | 3.68 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | 3.55 | U | 3.52 | U | 3.61 | U | 3.7 | U | 3.65 | U | 3.68 | U |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | 3.55 | U | 3.52 | U | 3.61 | U | 3.7 | U | 3.65 | U | 3.68 | U |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.55 | U | 3.52 | U | 3.61 | U | 3.7 | U | 3.65 | U | 3.68 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | 3.55 | U | 3.52 | U | 3.61 | U | 3.7 | U | 3.65 | U | 3.68 | U |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | 3.55 | U | 3.52 | U | 3.61 | U | 3.7 | U | 3.65 | U | 3.68 | U |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | 1.77 | U | 1.76 | U | 1.81 | U | 1.85 | U | 1.83 | U | 1.84 | U |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | 3.55 | U | 3.52 | U | 3.61 | U | 3.7 | U | 3.65 | U | 3.68 | U |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | 3.55 | U | 3.52 | U | 3.61 | U | 3.7 | U | 3.65 | U | 3.68 | U |
| Perfluorobutanesulfonate (PFBS) | **3.56** | | **2.96** | | 0.782 | J | **1.82** | | **1.91** | | **3.36** | |
| Perfluorobutylsulfonamide (FBSA) | 3 | J | 2.13 | J | 3.61 | U | 3.7 | U | 1.28 | J | 3.03 | J |
| Perfluorobutyric acid (PFBA) | **8.52** | | **4.81** | | **4.12** | | **7.53** | | **6.12** | | **5.98** | |
| Perfluorodecanesulfonate (PFDS) | 1.72 | U | 1.71 | U | 1.75 | U | 1.8 | U | 1.77 | U | 1.79 | U |
| Perfluorodecanoic acid (PFDA) | 1.77 | U | 1.76 | U | 1.81 | U | 1.85 | U | 1.83 | U | 1.84 | U |
| Perfluorododecane sulfonic acid (PFDoS) | 1.72 | U | 1.71 | U | 1.75 | U | 1.79 | U | 1.77 | U | 1.78 | U |
| Perfluorododecanoic acid (PFDoA) | 1.77 | U | 1.76 | U | 1.81 | U | 1.85 | U | 1.83 | U | 1.84 | U |
| Perfluoroheptanesulfonate (PFHpS) | **4.91** | | **5.55** | | 1.72 | U | 1.76 | U | **2.35** | | **6.1** | |
| Perfluoroheptanoic acid (PFHpA) | **4.6** | | **3.31** | | 1.25 | J | **2.12** | | **2.46** | | **4.85** | |
| Perfluorohexadecanoic acid (PFHxDA) | 3.55 | U | 3.52 | U | 3.61 | U | 3.7 | U | 3.65 | U | 3.68 | U |
| Perfluorohexanesulfonate (PFHxS) | **230** | D | **140** | | **6.13** | | **8.35** | | **68.4** | | **268** | D |
| Perfluorohexanoic acid (PFHxA) | **35.4** | | **9.19** | | 1.72 | J | **3.83** | | **9.57** | | **27.7** | |
| Perfluorononanesulfonate (PFNS) | 1.7 | U | 1.69 | U | 1.73 | U | 1.78 | U | 1.75 | U | 1.77 | U |
| Perfluorononanoic acid (PFNA) | 0.753 | J | 1.61 | J | **5.15** | | 0.882 | J | **2.39** | | **3.71** | |
| Perfluorooctadecanoic acid (PFODA) | 3.55 | U | 3.52 | U | 3.61 | U | 3.7 | U | 3.65 | U | 3.68 | U |
| Perfluorooctane sulfonamide (PFOSAm) | **7.18** | | 1.76 | U | 1.81 | U | 1.85 | U | 1.14 | J | 1.84 | U |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonate (PFOS) | **150** | | **57** | | **21.2** | | **10.2** | | **55** | | **127** | |
| Perfluorooctanoic acid (PFOA) | **26.4** | | **18.3** | | **4.6** | | **6.3** | | **15.9** | | **37.2** | |
| Perfluoropentanesulfonate (PFPeS) | **3.5** | | **7.26** | | 1.7 | U | 0.681 | J | **1.75** | | **4.95** | |
| Perfluoropentanoic acid (PFPeA) | **8.54** | | **2.31** | | 1.25 | J | **3.72** | | **2.92** | | **4.48** | |
| Perfluorotetradecanoic acid (PFTeDA) | 1.77 | U | 1.76 | U | 1.81 | U | 1.85 | U | 1.83 | U | 1.84 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.77 | U | 1.76 | U | 1.81 | U | 1.85 | U | 1.83 | U | 1.84 | U |
| Perfluoroundecanoic acid (PFUdA) | 1.77 | U | 1.76 | U | 1.81 | U | 1.85 | U | 1.83 | U | 1.84 | U |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: OU10 Fomer Firehouse MW**

| Analyte | 105-74<br>Depth : 95.00<br>06/23/2022<br>ng/L | | 105-75<br>Depth : 115.00<br>06/23/2022<br>ng/L | | 105-76<br>Depth : 135.00<br>06/23/2022<br>ng/L | | 105-77<br>Depth : 105.00<br>06/27/2022<br>ng/L | | 105-78<br>Depth : 125.00<br>06/27/2022<br>ng/L | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | 1.72 | U | 1.7 | U | 1.74 | U | 1.71 | U | 1.77 | U | | |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.5 | U | 3.46 | U | 3.55 | U | 3.49 | U | 3.6 | U | | |
| 1H, 1H, 2H, 2H-perfluorododecane sulfonic acid (10:2 FTS) | 3.5 | U | 3.46 | U | 3.55 | U | 3.49 | U | 3.6 | U | | |
| 2-Perfluorodecyl ethanoic acid (10:2 FTA) (FDEA) | 3.65 | U | 3.6 | U | 3.7 | U | 3.64 | U | 3.75 | U | | |
| 2-Perfluorohexyl ethanoic acid (6:2 FTA) (FHEA) | 3.65 | U | 3.6 | U | 3.7 | U | 3.64 | U | 3.75 | U | | |
| 2-Perfluorooctyl ethanoic acid (8:2 FTA) (FOEA) | 3.65 | U | 3.6 | U | 3.7 | U | 3.64 | U | 3.75 | U | | |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | 3.65 | U | 3.6 | U | 3.7 | U | 3.64 | U | 3.75 | U | | |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | 3.65 | U | 3.6 | U | 3.7 | U | 3.64 | U | 3.75 | U | | |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | 3.65 | U | 3.6 | U | 3.7 | U | 3.64 | U | 3.75 | U | | |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | 1.82 | U | 1.8 | U | 1.85 | U | 1.82 | U | 1.87 | U | | |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | 1.7 | U | 1.68 | U | 1.72 | U | 1.7 | U | 1.75 | U | | |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | 3.43 | U | 3.38 | U | 3.47 | U | 3.42 | U | 3.52 | U | | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.47 | U | 3.42 | U | 3.51 | U | 3.46 | U | 3.56 | U | | |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | 1.82 | U | 1.8 | U | 1.85 | U | 1.82 | U | 1.87 | U | | |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | 3.65 | U | 3.6 | U | 3.7 | U | 3.64 | U | 3.75 | U | | |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.65 | U | 3.6 | U | 3.7 | U | 3.64 | U | 3.75 | U | | |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | 3.65 | U | 3.6 | U | 3.7 | U | 3.64 | U | 3.75 | U | | |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | 3.65 | U | 3.6 | U | 3.7 | U | 3.64 | U | 3.75 | U | | |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.65 | U | 3.6 | U | 3.7 | U | 3.64 | U | 3.75 | U | | |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | 3.65 | U | 3.6 | U | 3.7 | U | 3.64 | U | 3.75 | U | | |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | 3.65 | U | 3.6 | U | 3.7 | U | 3.64 | U | 3.75 | U | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | 1.82 | U | 1.8 | U | 1.85 | U | 1.82 | U | 1.87 | U | | |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | 3.65 | U | 3.6 | U | 3.7 | U | 3.64 | U | 3.75 | U | | |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | 3.65 | U | 3.6 | U | 3.7 | U | 3.64 | U | 3.75 | U | | |
| Perfluorobutanesulfonate (PFBS) | **2.51** | | **2.37** | | **1.88** | | **1.73** | | **6.06** | | | |
| Perfluorobutylsulfonamide (FBSA) | 3.65 | U | 2.53 | J | 3.7 | U | 3.64 | U | **10.8** | | | |
| Perfluorobutyric acid (PFBA) | **6.45** | | **6.16** | | **5.4** | | **6.27** | | **10.5** | | | |
| Perfluorodecanesulfonate (PFDS) | 1.77 | U | 1.75 | U | 1.79 | U | 1.77 | U | 1.82 | U | | |
| Perfluorodecanoic acid (PFDA) | 1.82 | U | 1.8 | U | 1.85 | U | 1.82 | U | 1.87 | U | | |
| Perfluorododecane sulfonic acid (PFDoS) | 1.77 | U | 1.74 | U | 1.79 | U | 1.76 | U | 1.81 | U | | |
| Perfluorododecanoic acid (PFDoA) | 1.82 | U | 1.8 | U | 1.85 | U | 1.82 | U | 1.87 | U | | |
| Perfluoroheptanesulfonate (PFHpS) | 1.48 | J | **7.35** | | **2.36** | | **2.88** | | **15.2** | | | |
| Perfluoroheptanoic acid (PFHpA) | **2.32** | | **3.7** | | **2.09** | | **1.96** | | **15.4** | | | |
| Perfluorohexadecanoic acid (PFHxDA) | 3.65 | U | 7.2 | DU | 3.7 | U | 3.64 | U | 3.75 | U | | |
| Perfluorohexanesulfonate (PFHxS) | **36** | | **158** | | **54.3** | | **61.4** | | **669** | D | | |
| Perfluorohexanoic acid (PFHxA) | **7.48** | | **16.5** | | **6.73** | | **8.13** | | **95.3** | | | |
| Perfluorononanesulfonate (PFNS) | 1.75 | U | 1.73 | U | 1.77 | U | 1.75 | U | 1.8 | U | | |
| Perfluorononanoic acid (PFNA) | **2.46** | | 1.8 | | 1.38 | J | **3.39** | | **2.45** | | | |
| Perfluorooctadecanoic acid (PFODA) | 3.65 | U | 7.2 | DU | 3.7 | U | 3.64 | U | 3.75 | U | | |
| Perfluorooctane sulfonamide (PFOSAm) | 1.06 | J | 1.8 | U | 1.85 | U | 1.82 | U | 1.87 | U | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonate (PFOS) | **33.1** | | **143** | | **38.5** | | **52.9** | | **159** | D | | |
| Perfluorooctanoic acid (PFOA) | **9.22** | | **31.7** | | **10.3** | | **11.9** | | **114** | | | |
| Perfluoropentanesulfonate (PFPeS) | **1.93** | | **3.68** | | **2.78** | | 1.66 | J | **12.6** | | | |
| Perfluoropentanoic acid (PFPeA) | **6.33** | | **4.14** | | **1.96** | | **3.21** | | **14.1** | | | |
| Perfluorotetradecanoic acid (PFTeDA) | 1.82 | U | 1.8 | U | 1.85 | U | 1.82 | U | 1.87 | U | | |
| Perfluorotridecanoic acid (PFTrDA) | 1.82 | U | 1.8 | U | 1.85 | U | 1.82 | U | 1.87 | U | | |
| Perfluoroundecanoic acid (PFUdA) | 1.82 | U | 1.8 | U | 1.85 | U | 1.82 | U | 1.87 | U | | |

OU10 Current Firehouse

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: OU10 Current Firehouse MW**

| Analyte | 073-26<br>Depth : 47.50<br>06/13/2022<br>ng/L | | 073-27<br>Depth : 47.50<br>06/13/2022<br>ng/L | | 073-28<br>Depth : 47.50<br>06/14/2022<br>ng/L | | 073-29<br>Depth : 47.50<br>06/14/2022<br>ng/L | | 073-30<br>Depth : 47.50<br>06/13/2022<br>ng/L | | 073-31<br>Depth : 42.50<br>05/25/2022<br>ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | 1.68 | U | 1.63 | U | 1.72 | U | 1.67 | U | 1.75 | U | | |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.42 | U | 3.32 | U | 3.51 | U | 3.41 | U | 3.56 | U | **19.9** | |
| 1H, 1H, 2H, 2H-perfluorododecane sulfonic acid (10:2 FTS) | 3.42 | U | 3.32 | U | 3.51 | U | 3.41 | U | 3.56 | U | 3.3 | U |
| 2-Perfluorodecyl ethanoic acid (10:2 FTA) (FDEA) | 3.56 | U | 3.46 | U | 3.66 | U | 3.56 | U | 3.71 | U | 3.44 | U |
| 2-Perfluorohexyl ethanoic acid (6:2 FTA) (FHEA) | 3.56 | U | 3.46 | U | 3.66 | U | 3.56 | U | 3.71 | U | 3.44 | U |
| 2-Perfluorooctyl ethanoic acid (8:2 FTA) (FOEA) | 3.56 | U | 3.46 | U | 3.66 | U | 3.56 | U | 3.71 | U | 3.44 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | 3.56 | U | 3.46 | U | 3.66 | U | 3.56 | U | 3.71 | U | 3.44 | U |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | 3.56 | U | 3.46 | U | 3.66 | U | 3.56 | U | 3.71 | U | 3.44 | U |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | 3.56 | U | 3.46 | U | 3.66 | U | 3.56 | U | 3.71 | U | 3.44 | U |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | 1.78 | U | 1.73 | U | 1.83 | U | 1.78 | U | 1.85 | U | | |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | 1.66 | U | 1.61 | U | 1.7 | U | 1.66 | U | 1.73 | U | | |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | 3.35 | U | 3.25 | U | 3.44 | U | 3.34 | U | 3.48 | U | | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.38 | U | 3.29 | U | **29.8** | | 3.38 | U | 3.52 | U | **117** | |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | 1.78 | U | 1.73 | U | 1.83 | U | 1.78 | U | 1.85 | U | | |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | 3.56 | U | 3.46 | U | 3.66 | U | 3.56 | U | 3.71 | U | 3.44 | U |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.56 | U | 3.46 | U | 3.66 | U | 3.56 | U | 3.71 | U | 3.41 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | 3.56 | U | 3.46 | U | 3.66 | U | 3.56 | U | 3.71 | U | 3.44 | U |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | 3.56 | U | 3.46 | U | 3.66 | U | 3.56 | U | 3.71 | U | 3.44 | U |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.56 | U | 3.46 | U | 3.66 | U | 3.56 | U | 3.71 | U | 3.41 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | 3.56 | U | 3.46 | U | 3.66 | U | 3.56 | U | 3.71 | U | 3.44 | U |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | 3.56 | U | 3.46 | U | 3.66 | U | 3.56 | U | 3.71 | U | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | 1.78 | U | 1.73 | U | 1.83 | U | 1.78 | U | 1.85 | U | | |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | 3.56 | U | 3.46 | U | 3.66 | U | 3.56 | U | 3.71 | U | | |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | 3.56 | U | 3.46 | U | 3.66 | U | 3.56 | U | 3.71 | U | | |
| Perfluorobutanesulfonate (PFBS) | **2.68** | | **3.26** | | **47.5** | | **15.1** | | **2.05** | | **142** | D |
| Perfluorobutylsulfonamide (FBSA) | 3.56 | U | 3.46 | U | **38.8** | | 3.56 | U | 3.71 | U | **186** | D |
| Perfluorobutyric acid (PFBA) | 5.76 | U | 3.49 | U | **17.9** | | **19.6** | | 2.42 | U | **74.8** | |
| Perfluorodecanesulfonate (PFDS) | 1.73 | U | 1.68 | U | 1.77 | U | 1.72 | U | 1.8 | U | **1.82** | |
| Perfluorodecanoic acid (PFDA) | 1.78 | U | 1.73 | U | 1.83 | U | 1.78 | U | 1.85 | U | **2.65** | |
| Perfluorododecane sulfonic acid (PFDoS) | 1.72 | U | 1.67 | U | 1.77 | U | 1.72 | U | 1.79 | U | **1.85** | |
| Perfluorododecanoic acid (PFDoA) | 1.78 | U | 1.73 | U | 1.83 | U | 1.78 | U | 1.85 | U | 1.7 | U |
| Perfluoroheptanesulfonate (PFHpS) | **8.92** | | 1.24 | J | **68.6** | | 1.69 | U | **2.41** | | **52.1** | D |
| Perfluoroheptanoic acid (PFHpA) | **4.31** | | 1.21 | J | **44** | | **12.3** | | **2.55** | | **163** | |
| Perfluorohexadecanoic acid (PFHxDA) | 3.56 | U | 3.46 | U | 3.66 | U | 3.56 | U | 3.71 | U | 3.44 | U |
| Perfluorohexanesulfonate (PFHxS) | **129** | | **61.5** | | **1020** | D | **73.8** | | **21.5** | | **2510** | D |
| Perfluorohexanoic acid (PFHxA) | **11** | | **6.86** | | **112** | | **39.6** | | **4.56** | | **571** | D |
| Perfluorononanesulfonate (PFNS) | 1.71 | U | 1.66 | U | 1.76 | U | 1.71 | U | 1.78 | U | **17** | D |
| Perfluorononanoic acid (PFNA) | **3.99** | | 1.73 | U | 0.996 | J | 1.78 | U | 1.29 | J | **3.65** | |
| Perfluorooctadecanoic acid (PFODA) | 3.56 | U | 3.46 | U | 3.66 | U | 3.56 | U | 3.71 | U | 3.44 | U |
| Perfluorooctane sulfonamide (PFOSAm) | 1.78 | U | 1.73 | U | 1.83 | U | 1.78 | U | 1.85 | U | **13.5** | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonate (PFOS) | **1560** | D | **212** | D | **3110** | D | **2.66** | | **752** | D | **5550** | D |
| Perfluorooctanoic acid (PFOA) | **6.6** | | **2.85** | | **70.9** | | 1.31 | J | **2.21** | | **222** | D |
| Perfluoropentanesulfonate (PFPeS) | **4.85** | | **5.15** | | **116** | | **18** | | 1.7 | J | **236** | D |
| Perfluoropentanoic acid (PFPeA) | **5.71** | | 1.64 | J | **62.4** | | **42.5** | | **2.91** | | **296** | D |
| Perfluorotetradecanoic acid (PFTeDA) | 1.78 | U | 1.73 | U | 1.83 | U | 1.78 | U | 1.85 | U | 1.7 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.18 | J | 1.73 | U | 1.83 | U | 1.78 | U | 0.724 | J | 1.7 | U |
| Perfluoroundecanoic acid (PFUdA) | **16.6** | | 1.73 | U | 1.83 | U | 1.78 | U | 1.57 | J | 1.7 | U |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: OU10 Current Firehouse MW**

| Analyte | 073-32<br>Depth : 60.00<br>05/31/2022<br>ng/L | | 073-33<br>Depth : 42.50<br>05/25/2022<br>ng/L | | 074-135<br>Depth : 60.00<br>05/25/2022<br>ng/L | | 083-33<br>Depth : 55.00<br>06/13/2022<br>ng/L | | 083-34<br>Depth : 75.00<br>06/13/2022<br>ng/L | | 083-35<br>Depth : 55.00<br>06/10/2022<br>ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | | | | | | | 1.58 | U | 1.66 | U | | |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | **10.2** | | 3.32 | U | **13.2** | | 3.22 | U | 3.39 | U | 3.39 | U |
| 1H, 1H, 2H, 2H-perfluorododecane sulfonic acid (10:2 FTS) | 3.4 | U | 3.27 | U | 3.27 | U | 3.22 | U | 3.39 | U | 3.46 | U |
| 2-Perfluorodecyl ethanoic acid (10:2 FTA) (FDEA) | 3.54 | U | 3.4 | U | 3.41 | U | 3.35 | U | 3.53 | U | 3.6 | U |
| 2-Perfluorohexyl ethanoic acid (6:2 FTA) (FHEA) | 3.54 | U | 3.4 | U | 3.41 | U | 3.35 | U | 3.53 | U | 3.6 | U |
| 2-Perfluorooctyl ethanoic acid (8:2 FTA) (FOEA) | 3.54 | U | 3.4 | U | 3.41 | U | 3.35 | U | 3.53 | U | 3.6 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | 3.54 | U | 3.4 | U | 3.41 | U | 3.35 | U | 3.53 | U | 3.6 | U |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | 3.54 | U | 3.4 | U | 3.41 | U | 3.35 | U | 3.53 | U | 3.6 | U |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | 3.54 | U | 3.4 | U | 3.41 | U | 3.35 | U | 3.53 | U | 3.6 | U |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | | | | | | | 1.68 | U | 1.76 | U | | |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | | | | | | | 1.56 | U | 1.64 | U | | |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | | | | | | | 3.15 | U | 3.32 | U | | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | **20.1** | | 3.29 | U | 2.94 | J | 3.18 | U | 3.35 | U | 3.36 | U |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | | | | | | | 1.68 | U | 1.76 | U | | |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | 3.54 | U | 3.4 | U | 3.41 | U | 3.35 | U | 3.53 | U | 3.6 | U |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.49 | U | 3.46 | U | 3.38 | U | 3.35 | U | 3.53 | U | 3.53 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | 3.54 | U | 3.4 | U | 3.41 | U | 3.35 | U | 3.53 | U | 3.6 | U |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | 3.54 | U | 3.4 | U | 3.41 | U | 3.35 | U | 3.53 | U | 3.6 | U |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.49 | U | 3.46 | U | 3.38 | U | 3.35 | U | 3.53 | U | 3.53 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | 3.54 | U | 3.4 | U | 3.41 | U | 3.35 | U | 3.53 | U | 3.6 | U |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | | | | | | | 3.35 | U | 3.53 | U | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | | | | | | | 1.68 | U | 1.76 | U | | |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | | | | | | | 3.35 | U | 3.53 | U | | |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | | | | | | | 3.35 | U | 3.53 | U | | |
| Perfluorobutanesulfonate (PFBS) | **32.4** | | **36.4** | | **22.9** | | 0.811 | J | 1.12 | J | 1.31 | J |
| Perfluorobutylsulfonamide (FBSA) | **26.4** | | **8.39** | | **4.44** | | 3.35 | U | 3.53 | U | 3.6 | U |
| Perfluorobutyric acid (PFBA) | **15.8** | | **5.27** | | **7.07** | | 1.68 | U | 1.76 | U | 1.33 | J |
| Perfluorodecanesulfonate (PFDS) | 1.69 | U | 1.68 | U | 1.64 | U | 1.63 | U | 1.71 | U | 1.71 | U |
| Perfluorodecanoic acid (PFDA) | **2.12** | | 1.73 | U | 1.35 | J | 1.68 | U | 1.76 | U | 1.77 | U |
| Perfluorododecane sulfonic acid (PFDoS) | 1.71 | U | 1.65 | U | 1.65 | U | 1.62 | U | 1.71 | U | 1.74 | U |
| Perfluorododecanoic acid (PFDoA) | 1.74 | U | 1.73 | U | 1.69 | U | 1.68 | U | 1.76 | U | 1.77 | U |
| Perfluoroheptanesulfonate (PFHpS) | **24.5** | | **1.85** | | **4.63** | | 1.59 | U | 1.68 | U | 0.883 | J |
| Perfluoroheptanoic acid (PFHpA) | **42.7** | | **5.36** | | **8.7** | | 0.796 | J | 1.76 | U | 0.903 | J |
| Perfluorohexadecanoic acid (PFHxDA) | 3.54 | U | 3.4 | U | 3.41 | U | 3.35 | U | 3.53 | U | 3.6 | U |
| Perfluorohexanesulfonate (PFHxS) | **489** | D | **119** | | **151** | | 1.35 | J | **3.8** | | **11.5** | |
| Perfluorohexanoic acid (PFHxA) | **97.3** | | **28.6** | | **27.5** | | 0.687 | J | 1.76 | U | 1.69 | J |
| Perfluorononanesulfonate (PFNS) | **2.24** | | 1.66 | U | 1.09 | J | 1.61 | U | 1.69 | U | 1.7 | U |
| Perfluorononanoic acid (PFNA) | **8.16** | | 0.59 | J | 1.36 | J | 0.553 | J | 1.76 | U | **3.54** | |
| Perfluorooctadecanoic acid (PFODA) | 3.54 | U | 3.4 | U | 3.41 | U | 3.35 | U | 3.53 | U | 3.6 | U |
| Perfluorooctane sulfonamide (PFOSAm) | 0.794 | J | 1.73 | U | 1.69 | U | 1.68 | U | 1.76 | U | 1.77 | U |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonate (PFOS) | **2190** | D | **1140** | D | **615** | D | **14.1** | | **55.8** | | **441** | D |
| Perfluorooctanoic acid (PFOA) | **66.3** | | **4.17** | | **8.76** | | **2.26** | | 1.76 | U | **2.69** | |
| Perfluoropentanesulfonate (PFPeS) | **45.8** | | **30.9** | | **24.4** | | 1.58 | U | 1.66 | U | 0.763 | J |
| Perfluoropentanoic acid (PFPeA) | **50** | | **23.8** | | **28.1** | | 1.68 | U | 0.668 | J | 0.938 | J |
| Perfluorotetradecanoic acid (PFTeDA) | 1.74 | U | 1.73 | U | 1.69 | U | 1.68 | U | 1.76 | U | 1.77 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.74 | U | 1.73 | U | 1.69 | U | 0.86 | J | 1.76 | U | 1.77 | U |
| Perfluoroundecanoic acid (PFUdA) | 1.74 | U | 1.73 | U | 1.69 | U | 1.68 | U | 1.76 | U | 0.808 | J |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: OU10 Current Firehouse MW**

| Analyte | 083-36<br>Depth : 75.00<br>06/10/2022<br>ng/L | | 083-37<br>Depth : 55.00<br>06/10/2022<br>ng/L | | 083-38<br>Depth : 75.00<br>06/10/2022<br>ng/L | | 083-39<br>Depth : 65.00<br>05/27/2022<br>ng/L | | 083-40<br>Depth : 105.00<br>05/27/2022<br>ng/L | | 083-41<br>Depth : 125.00<br>06/03/2022<br>ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | | | | | | | | | | | | |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.44 | U | 3.39 | U | 3.47 | U | 3.55 | U | 3.48 | U | 3.44 | U |
| 1H, 1H, 2H, 2H-perfluorododecane sulfonic acid (10:2 FTS) | 3.56 | U | 3.37 | U | 3.62 | U | 3.59 | U | 3.39 | U | 3.34 | U |
| 2-Perfluorodecyl ethanoic acid (10:2 FTA) (FDEA) | 3.71 | U | 3.51 | U | 3.77 | U | 3.74 | U | 3.53 | U | 3.48 | U |
| 2-Perfluorohexyl ethanoic acid (6:2 FTA) (FHEA) | 3.71 | U | 3.51 | U | 3.77 | U | 3.74 | U | 3.53 | U | 3.48 | U |
| 2-Perfluorooctyl ethanoic acid (8:2 FTA) (FOEA) | 3.71 | U | 3.51 | U | 3.77 | U | 3.74 | U | 3.53 | U | 3.48 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | 3.71 | U | 3.51 | U | 3.77 | U | 3.74 | U | 3.53 | U | 3.48 | U |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | 3.71 | U | 3.51 | U | 3.77 | U | 3.74 | U | 3.53 | U | 3.48 | U |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | 3.71 | U | 3.51 | U | 3.77 | U | 3.74 | U | 3.53 | U | 3.48 | U |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | | | | | | | | | | | | |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | | | | | | | | | | | | |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | | | | | | | | | | | | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.4 | U | 3.36 | U | 3.44 | U | 3.51 | U | 3.45 | U | 3.4 | U |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | | | | | | | | | | | | |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | 3.71 | U | 3.51 | U | 3.77 | U | 3.74 | U | 3.53 | U | 3.48 | U |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.58 | U | 3.54 | U | 3.62 | U | 3.7 | U | 3.63 | U | 3.58 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | 3.71 | U | 3.51 | U | 3.77 | U | 3.74 | U | 3.53 | U | 3.48 | U |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | 3.71 | U | 3.51 | U | 3.77 | U | 3.74 | U | 3.53 | U | 3.48 | U |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.58 | U | 3.54 | U | 3.62 | U | 3.7 | U | 3.63 | U | 3.58 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | 3.71 | U | 3.51 | U | 3.77 | U | 3.74 | U | 3.53 | U | 3.48 | U |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | | | | | | | | | | | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | | | | | | | | | | | | |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | | | | | | | | | | | | |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | | | | | | | | | | | | |
| Perfluorobutanesulfonate (PFBS) | 0.929 | J | **4.71** | | 1.61 | U | 1.65 | U | 0.974 | J | 1.59 | U |
| Perfluorobutylsulfonamide (FBSA) | 3.71 | U | 1.26 | J | 3.77 | U | 3.74 | U | 3.53 | U | 3.48 | U |
| Perfluorobutyric acid (PFBA) | 0.986 | J | **3.05** | | 0.763 | J | 1.85 | U | 1.28 | J | 1.79 | U |
| Perfluorodecanesulfonate (PFDS) | 1.74 | U | 1.71 | U | 1.75 | U | 1.79 | U | 1.76 | U | 1.74 | U |
| Perfluorodecanoic acid (PFDA) | 1.79 | U | 1.77 | U | 1.81 | U | 1.85 | U | 1.81 | U | 1.79 | U |
| Perfluorododecane sulfonic acid (PFDoS) | 1.8 | U | 1.7 | U | 1.83 | U | 1.81 | U | 1.71 | U | 1.68 | U |
| Perfluorododecanoic acid (PFDoA) | 1.79 | U | 1.77 | U | 1.81 | U | 1.85 | U | 1.81 | U | 1.79 | U |
| Perfluoroheptanesulfonate (PFHpS) | 1.7 | U | **5.72** | | 1.72 | U | 1.02 | J | 1.72 | U | 1.7 | U |
| Perfluoroheptanoic acid (PFHpA) | 0.637 | J | **2.12** | | 1.81 | U | 1.85 | U | 1.81 | U | 1.79 | U |
| Perfluorohexadecanoic acid (PFHxDA) | 3.71 | U | 3.51 | U | 3.77 | U | 3.74 | U | 3.53 | U | 3.48 | U |
| Perfluorohexanesulfonate (PFHxS) | **37.1** | | **62.9** | | **6.27** | | **11.2** | | **10.3** | | **2.15** | |
| Perfluorohexanoic acid (PFHxA) | **2.2** | | **5.9** | | 1.78 | J | 1.28 | J | **3.1** | | 1.79 | U |
| Perfluorononanesulfonate (PFNS) | 1.72 | U | 1.7 | U | 1.74 | U | 1.78 | U | 1.74 | U | 1.72 | U |
| Perfluorononanoic acid (PFNA) | 0.615 | J | **46.9** | | **2.62** | | **22.8** | | **1.86** | | 1.79 | U |
| Perfluorooctadecanoic acid (PFODA) | 3.71 | U | 3.51 | U | 3.77 | U | 3.74 | U | 3.53 | U | 3.48 | U |
| Perfluorooctane sulfonamide (PFOSAm) | 1.79 | U | 1.77 | U | 1.81 | U | 0.639 | J | 1.81 | U | 1.79 | U |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonate (PFOS) | **77.2** | | **748** | D | **55.1** | | **95.1** | | **30.2** | | **3.13** | |
| Perfluorooctanoic acid (PFOA) | **1.9** | | **9.01** | | 0.908 | J | 1.44 | J | 1.22 | J | 1.15 | J |
| Perfluoropentanesulfonate (PFPeS) | **1.99** | | **1.86** | | 1.7 | U | 0.666 | J | 1.25 | J | 1.68 | U |
| Perfluoropentanoic acid (PFPeA) | 0.979 | J | **2.77** | | 1.81 | U | 1.85 | U | 1.21 | J | 1.79 | U |
| Perfluorotetradecanoic acid (PFTeDA) | 1.79 | U | 1.77 | U | 1.81 | U | 1.85 | U | 1.81 | U | 1.79 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.79 | U | 1.77 | U | 1.81 | U | 1.85 | U | 1.81 | U | 1.79 | U |
| Perfluoroundecanoic acid (PFUdA) | 0.812 | J | **2.52** | | 1.81 | U | 1.85 | U | 1.81 | U | 1.79 | U |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: OU10 Current Firehouse MW**

| Analyte | 083-42<br>Depth : 95.00<br>06/03/2022<br>ng/L | | 083-43<br>Depth : 125.00<br>06/03/2022<br>ng/L | | 083-44<br>Depth : 75.00<br>06/03/2022<br>ng/L | | 083-47<br>Depth : 60.00<br>09/07/2022<br>ng/L | | 084-86<br>Depth : 125.00<br>05/27/2022<br>ng/L | | 084-87<br>Depth : 65.00<br>05/26/2022<br>ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | | | | | | | 1.62 | U | | | | |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.22 | U | 3.36 | U | 3.41 | U | 3.31 | U | 3.4 | U | 3.55 | U |
| 1H, 1H, 2H, 2H-perfluorododecane sulfonic acid (10:2 FTS) | 3.4 | U | 3.23 | U | 3.49 | U | 3.31 | U | 3.34 | U | 3.35 | U |
| 2-Perfluorodecyl ethanoic acid (10:2 FTA) (FDEA) | 3.54 | U | 3.37 | U | 3.63 | U | 3.44 | U | 3.48 | U | 3.49 | U |
| 2-Perfluorohexyl ethanoic acid (6:2 FTA) (FHEA) | 3.54 | U | 3.37 | U | 3.63 | U | 3.44 | U | 3.48 | U | 3.49 | U |
| 2-Perfluorooctyl ethanoic acid (8:2 FTA) (FOEA) | 3.54 | U | 3.37 | U | 3.63 | U | 3.44 | U | 3.48 | U | 3.49 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | 3.54 | U | 3.37 | U | 3.63 | U | 3.44 | U | 3.48 | U | 3.49 | U |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | 3.54 | U | 3.37 | U | 3.63 | U | 3.44 | U | 3.48 | U | 3.49 | U |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | 3.54 | U | 3.37 | U | 3.63 | U | 3.44 | U | 3.48 | U | 3.49 | U |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | | | | | | | 1.72 | U | | | | |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | | | | | | | 1.6 | U | | | | |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | | | | | | | 3.24 | U | | | | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.19 | U | 3.32 | U | 3.37 | U | 3.27 | U | 3.37 | U | 3.52 | U |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | | | | | | | 1.72 | U | | | | |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | 3.54 | U | 3.37 | U | 3.63 | U | 3.44 | U | 3.48 | U | 3.49 | U |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.36 | U | 3.5 | U | 3.55 | U | 3.44 | U | 3.55 | U | 3.7 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | 3.54 | U | 3.37 | U | 3.63 | U | 3.44 | U | 3.48 | U | 3.49 | U |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | 3.54 | U | 3.37 | U | 3.63 | U | 3.44 | U | 3.48 | U | 3.49 | U |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.36 | U | 3.5 | U | 3.55 | U | 3.44 | U | 3.55 | U | 3.7 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | 3.54 | U | 3.37 | U | 3.63 | U | 3.44 | U | 3.48 | U | 3.49 | U |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | | | | | | | 3.44 | U | | | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | | | | | | | 1.72 | U | | | | |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | | | | | | | 3.44 | U | | | | |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | | | | | | | 3.44 | U | | | | |
| Perfluorobutanesulfonate (PFBS) | 1.49 | U | 0.814 | J | 1.58 | U | 1.53 | U | 1.58 | U | **3.93** | |
| Perfluorobutylsulfonamide (FBSA) | 3.54 | U | 3.37 | U | 3.63 | U | 3.44 | U | 3.48 | U | **3.74** | |
| Perfluorobutyric acid (PFBA) | 1.68 | U | **2.42** | | 0.827 | J | 1.72 | U | 1.77 | U | **3.54** | |
| Perfluorodecanesulfonate (PFDS) | 1.63 | U | 1.7 | U | 1.72 | U | 1.67 | U | 1.72 | U | 1.8 | U |
| Perfluorodecanoic acid (PFDA) | 1.68 | U | 1.75 | U | 1.78 | U | 1.72 | U | 1.77 | U | 1.85 | U |
| Perfluorododecane sulfonic acid (PFDoS) | 1.71 | U | 1.63 | U | 1.76 | U | 1.67 | U | 1.68 | U | 1.69 | U |
| Perfluorododecanoic acid (PFDoA) | 1.68 | U | 1.75 | U | 1.78 | U | 1.72 | U | 1.77 | U | 1.85 | U |
| Perfluoroheptanesulfonate (PFHpS) | 1.59 | U | 0.649 | J | 1.69 | U | 1.64 | U | 1.68 | U | **3.84** | |
| Perfluoroheptanoic acid (PFHpA) | 1.68 | U | **1.8** | | 1.78 | U | 1.72 | U | 1.77 | U | **3.79** | |
| Perfluorohexadecanoic acid (PFHxDA) | 3.54 | U | 3.37 | U | 3.63 | U | 3.44 | U | 3.48 | U | 3.49 | U |
| Perfluorohexanesulfonate (PFHxS) | 1.53 | U | **19.2** | | 0.987 | J | **5.37** | | **4.79** | | **58.9** | |
| Perfluorohexanoic acid (PFHxA) | 1.68 | U | **9.23** | | 1.78 | U | 1.72 | U | 0.999 | J | **10.1** | |
| Perfluorononanesulfonate (PFNS) | 1.61 | U | 1.68 | U | 1.7 | U | 1.65 | U | 1.7 | U | 1.78 | U |
| Perfluorononanoic acid (PFNA) | 1.68 | U | **5.08** | | 1.78 | U | 1.72 | U | 1.77 | U | 1.31 | J |
| Perfluorooctadecanoic acid (PFODA) | 3.54 | U | 3.37 | U | 3.63 | U | 3.44 | U | 3.48 | U | 3.49 | U |
| Perfluorooctane sulfonamide (PFOSAm) | 1.68 | U | 1.75 | U | 1.78 | U | 1.72 | U | 1.77 | U | **8.95** | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonate (PFOS) | 1.68 | U | **82.2** | | **2.27** | | **8.24** | | **11.8** | | **284** | D |
| Perfluorooctanoic acid (PFOA) | 1.68 | U | **2.16** | | 1.02 | J | 1.72 | U | 0.802 | J | **14.2** | |
| Perfluoropentanesulfonate (PFPeS) | 1.58 | U | 0.767 | J | 1.67 | U | 0.667 | J | 1.67 | U | **4.25** | |
| Perfluoropentanoic acid (PFPeA) | 1.68 | U | **4.56** | | 1.78 | U | 1.72 | U | 1.77 | U | **6.45** | |
| Perfluorotetradecanoic acid (PFTeDA) | 1.68 | U | 1.75 | U | 1.78 | U | 1.72 | U | 1.77 | U | 1.85 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.68 | U | 1.75 | U | 1.78 | U | 1.72 | U | 1.77 | U | 1.85 | U |
| Perfluoroundecanoic acid (PFUdA) | 1.68 | U | 1.75 | U | 1.78 | U | 1.72 | U | 1.77 | U | 1.85 | U |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: OU10 Current Firehouse MW**

| Analyte | 084-88<br>Depth : 95.00<br>05/26/2022<br>ng/L | | 084-89<br>Depth : 125.00<br>05/26/2022<br>ng/L | | 084-90<br>Depth : 95.00<br>06/09/2022<br>ng/L | | 084-91<br>Depth : 125.00<br>06/09/2022<br>ng/L | | 084-92<br>Depth : 145.00<br>06/09/2022<br>ng/L | | 084-93<br>Depth : 95.00<br>05/31/2022<br>ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | | | | | | | | | | | | |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.27 | U | 3.66 | U | 3.57 | U | 3.45 | U | 3.47 | U | 3.4 | U |
| 1H, 1H, 2H, 2H-perfluorododecane sulfonic acid (10:2 FTS) | 3.41 | U | 3.37 | U | 3.46 | U | 3.36 | U | 3.35 | U | 3.45 | U |
| 2-Perfluorodecyl ethanoic acid (10:2 FTA) (FDEA) | 3.55 | U | 3.51 | U | 3.61 | U | 3.5 | U | 3.49 | U | 3.59 | U |
| 2-Perfluorohexyl ethanoic acid (6:2 FTA) (FHEA) | 3.55 | U | 3.51 | U | 3.61 | U | 3.5 | U | 3.49 | U | 3.59 | U |
| 2-Perfluorooctyl ethanoic acid (8:2 FTA) (FOEA) | 3.55 | U | 3.51 | U | 3.61 | U | 3.5 | U | 3.49 | U | 3.59 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | 3.55 | U | 3.51 | U | 3.61 | U | 3.5 | U | 3.49 | U | 3.59 | U |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | 3.55 | U | 3.51 | U | 3.61 | U | 3.5 | U | 3.49 | U | 3.59 | U |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | 3.55 | U | 3.51 | U | 3.61 | U | 3.5 | U | 3.49 | U | 3.59 | U |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | | | | | | | | | | | | |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | | | | | | | | | | | | |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | | | | | | | | | | | | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.24 | U | 3.62 | U | 3.53 | U | 3.42 | U | 3.11 | J | 3.37 | U |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | | | | | | | | | | | | |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | 3.55 | U | 3.51 | U | 3.61 | U | 3.5 | U | 3.49 | U | 3.59 | U |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.41 | U | 3.81 | U | 3.72 | U | 3.59 | U | 3.61 | U | 3.54 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | 3.55 | U | 3.51 | U | 3.61 | U | 3.5 | U | 3.49 | U | 3.59 | U |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | 3.55 | U | 3.51 | U | 3.61 | U | 3.5 | U | 3.49 | U | 3.59 | U |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.41 | U | 3.81 | U | 3.72 | U | 3.59 | U | 3.61 | U | 3.54 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | 3.55 | U | 3.51 | U | 3.61 | U | 3.5 | U | 3.49 | U | 3.59 | U |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | | | | | | | | | | | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | | | | | | | | | | | | |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | | | | | | | | | | | | |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | | | | | | | | | | | | |
| Perfluorobutanesulfonate (PFBS) | **3.94** | | **2.24** | | **3.48** | | **2.71** | | **47.5** | | **3.18** | |
| Perfluorobutylsulfonamide (FBSA) | 3.31 | J | 2.04 | J | 2.56 | J | 1.58 | J | **27.1** | | 1.36 | J |
| Perfluorobutyric acid (PFBA) | **2.64** | | 1.9 | U | **2.28** | | **2.63** | | **12** | | 1.58 | J |
| Perfluorodecanesulfonate (PFDS) | 1.65 | U | 1.85 | U | 1.8 | U | 1.74 | U | 1.75 | U | 1.72 | U |
| Perfluorodecanoic acid (PFDA) | 1.7 | U | 1.9 | U | 0.633 | J | 1.8 | U | 1.81 | U | 1.77 | U |
| Perfluorododecane sulfonic acid (PFDoS) | 1.72 | U | 1.7 | U | 1.75 | U | 1.69 | U | 1.69 | U | 1.74 | U |
| Perfluorododecanoic acid (PFDoA) | 1.7 | U | 1.9 | U | 1.86 | U | 1.8 | U | 1.81 | U | 1.77 | U |
| Perfluoroheptanesulfonate (PFHpS) | **3.09** | | 1.81 | J | **3.39** | | 1.45 | J | **15.6** | | 1.17 | J |
| Perfluoroheptanoic acid (PFHpA) | **3.52** | | 1.2 | J | **3.23** | | **3.16** | | **14.7** | | **2.15** | |
| Perfluorohexadecanoic acid (PFHxDA) | 3.55 | U | 3.51 | U | 3.61 | U | 3.5 | U | 3.49 | U | 3.59 | U |
| Perfluorohexanesulfonate (PFHxS) | **60.7** | | **53.2** | | **81.4** | | **50.9** | | **441** | D | **34.8** | |
| Perfluorohexanoic acid (PFHxA) | **10** | | **3.91** | | **8.42** | | **7.63** | | **104** | | **5.58** | |
| Perfluorononanesulfonate (PFNS) | 1.64 | U | 1.83 | U | 1.78 | U | 1.73 | U | 1.73 | U | 1.7 | U |
| Perfluorononanoic acid (PFNA) | 1.07 | J | 1.9 | U | **321** | D | 0.681 | J | 1.43 | J | **59.9** | |
| Perfluorooctadecanoic acid (PFODA) | 3.55 | U | 3.51 | U | 3.61 | U | 3.5 | U | 3.49 | U | 3.59 | U |
| Perfluorooctane sulfonamide (PFOSAm) | **2.84** | | 1.9 | U | **1.87** | | 1.8 | U | 1.81 | U | 0.959 | J |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonate (PFOS) | **293** | D | **98.2** | | **161** | | **56.5** | | **814** | D | **58.3** | |
| Perfluorooctanoic acid (PFOA) | **7.69** | | **2.68** | | **11.3** | | **9.26** | | **51.7** | | **4.74** | |
| Perfluoropentanesulfonate (PFPeS) | **6.39** | | **4.24** | | **5.75** | | **5.87** | | **60.4** | | **3.8** | |
| Perfluoropentanoic acid (PFPeA) | **6.16** | | **2.2** | | **4.7** | | **4.79** | | **48.9** | | **3.17** | |
| Perfluorotetradecanoic acid (PFTeDA) | 1.7 | U | 1.9 | U | 1.86 | U | 1.8 | U | 1.81 | U | 1.77 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.7 | U | 1.9 | U | 1.86 | U | 1.8 | U | 1.81 | U | 1.77 | U |
| Perfluoroundecanoic acid (PFUdA) | 1.7 | U | 1.9 | U | 1.86 | U | 1.8 | U | 1.81 | U | 1.77 | U |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: OU10 Current Firehouse MW**

| Analyte | 084-94<br>Depth : 125.00<br>05/31/2022<br>ng/L | | 084-95<br>Depth : 145.00<br>05/31/2022<br>ng/L | | 084-96<br>Depth : 95.00<br>06/01/2022<br>ng/L | | 084-97<br>Depth : 125.00<br>06/01/2022<br>ng/L | | 084-98<br>Depth : 145.00<br>06/01/2022<br>ng/L | | 093-88<br>Depth : 125.00<br>06/08/2022<br>ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | | | | | | | | | | | | |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.52 | U | 3.5 | U | 1.44 | J | 3.38 | U | 3.36 | U | 3.61 | U |
| 1H, 1H, 2H, 2H-perfluorododecane sulfonic acid (10:2 FTS) | 3.54 | U | 3.61 | U | 3.29 | U | 3.43 | U | 3.74 | U | 3.37 | U |
| 2-Perfluorodecyl ethanoic acid (10:2 FTA) (FDEA) | 3.69 | U | 3.76 | U | 3.42 | U | 3.58 | U | 3.89 | U | 3.51 | U |
| 2-Perfluorohexyl ethanoic acid (6:2 FTA) (FHEA) | 3.69 | U | 3.76 | U | 3.42 | U | 3.58 | U | 3.89 | U | 3.51 | U |
| 2-Perfluorooctyl ethanoic acid (8:2 FTA) (FOEA) | 3.69 | U | 3.76 | U | 3.42 | U | 3.58 | U | 3.89 | U | 3.51 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | 3.69 | U | 3.76 | U | 3.42 | U | 3.58 | U | 3.89 | U | 3.51 | U |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | 3.69 | U | 3.76 | U | 3.42 | U | 3.58 | U | 3.89 | U | 3.51 | U |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | 3.69 | U | 3.76 | U | 3.42 | U | 3.58 | U | 3.89 | U | 3.51 | U |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | | | | | | | | | | | | |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | | | | | | | | | | | | |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | | | | | | | | | | | | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.48 | U | 3.47 | U | 1.97 | J | 2.47 | J | 3.33 | U | 3.57 | U |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | | | | | | | | | | | | |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | 3.69 | U | 3.76 | U | 3.42 | U | 3.58 | U | 3.89 | U | 3.51 | U |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.67 | U | 3.65 | U | 3.52 | U | 3.53 | U | 3.5 | U | 3.76 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | 3.69 | U | 3.76 | U | 3.42 | U | 3.58 | U | 3.89 | U | 3.51 | U |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | 3.69 | U | 3.76 | U | 3.42 | U | 3.58 | U | 3.89 | U | 3.51 | U |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.67 | U | 3.65 | U | 3.52 | U | 3.53 | U | 3.5 | U | 3.76 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | 3.69 | U | 3.76 | U | 3.42 | U | 3.58 | U | 3.89 | U | 3.51 | U |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | | | | | | | | | | | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | | | | | | | | | | | | |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | | | | | | | | | | | | |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | | | | | | | | | | | | |
| Perfluorobutanesulfonate (PFBS) | **8.81** | | 1.51 | J | **11** | | **13.5** | | **2.53** | | 1.67 | U |
| Perfluorobutylsulfonamide (FBSA) | **6.47** | | 3.76 | U | **7.44** | | **7.75** | | 3.89 | U | 3.51 | U |
| Perfluorobutyric acid (PFBA) | **3.64** | | 1.82 | U | **4.85** | | **6.06** | | 1.75 | U | 1.88 | U |
| Perfluorodecanesulfonate (PFDS) | 1.78 | U | 1.77 | U | 1.71 | U | 1.71 | U | 1.7 | U | 1.82 | U |
| Perfluorodecanoic acid (PFDA) | 1.83 | U | 1.82 | U | 1.76 | U | 1.76 | U | 1.75 | U | 1.88 | U |
| Perfluorododecane sulfonic acid (PFDoS) | 1.79 | U | 1.82 | U | 1.66 | U | 1.73 | U | 1.88 | U | 1.7 | U |
| Perfluorododecanoic acid (PFDoA) | 1.83 | U | 1.82 | U | 1.76 | U | 1.76 | U | 1.75 | U | 1.88 | U |
| Perfluoroheptanesulfonate (PFHpS) | **2.74** | | 1.73 | U | **12.1** | | **11.6** | | 1.66 | U | 1.79 | U |
| Perfluoroheptanoic acid (PFHpA) | **4.38** | | 1.82 | U | **7.25** | | **7.35** | | 1.75 | U | 1.88 | U |
| Perfluorohexadecanoic acid (PFHxDA) | 3.69 | U | 3.76 | U | 3.42 | U | 3.58 | U | 3.89 | U | 3.51 | U |
| Perfluorohexanesulfonate (PFHxS) | **89.3** | | **6.65** | | **174** | D | **178** | D | **2.38** | | 1.71 | U |
| Perfluorohexanoic acid (PFHxA) | **17.2** | | 1.82 | U | **28.5** | | **34.9** | | 1.75 | U | 1.88 | U |
| Perfluorononanesulfonate (PFNS) | 1.76 | U | 1.75 | U | 1.69 | U | 1.69 | U | 1.68 | U | 1.81 | U |
| Perfluorononanoic acid (PFNA) | 0.956 | J | 1.82 | U | 1.71 | J | **1.81** | | 1.75 | U | 1.88 | U |
| Perfluorooctadecanoic acid (PFODA) | 3.69 | U | 3.76 | U | 3.42 | U | 3.58 | U | 3.89 | U | 3.51 | U |
| Perfluorooctane sulfonamide (PFOSAm) | 0.817 | J | 1.82 | U | 1.76 | U | 1.76 | U | 1.75 | U | 1.88 | U |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonate (PFOS) | **155** | | 1.82 | U | **776** | D | **692** | D | 1.75 | U | 0.928 | J |
| Perfluorooctanoic acid (PFOA) | **9.32** | | 1.82 | U | **16.6** | | **13.7** | | 1.75 | U | 1.12 | J |
| Perfluoropentanesulfonate (PFPeS) | **12.1** | | **1.81** | | **16.7** | | **19** | | **1.88** | | 1.77 | U |
| Perfluoropentanoic acid (PFPeA) | **10** | | 1.82 | U | **16.5** | | **20.8** | | 1.75 | U | 1.88 | U |
| Perfluorotetradecanoic acid (PFTeDA) | 1.83 | U | 1.82 | U | 1.76 | U | 1.76 | U | 1.75 | U | 1.88 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.83 | U | 1.82 | U | 1.76 | U | 1.76 | U | 1.75 | U | 1.88 | U |
| Perfluoroundecanoic acid (PFUdA) | 1.83 | U | 1.82 | U | 1.76 | U | 1.76 | U | 1.75 | U | 1.88 | U |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: OU10 Current Firehouse MW**

| Analyte | 093-89<br>Depth : 75.00<br>06/02/2022<br>ng/L | | 093-90<br>Depth : 105.00<br>06/02/2022<br>ng/L | | 093-91<br>Depth : 85.00<br>06/06/2022<br>ng/L | | 093-92<br>Depth : 105.00<br>06/06/2022<br>ng/L | | 093-93<br>Depth : 60.00<br>09/07/2022<br>ng/L | | 093-94<br>Depth : 50.00<br>09/08/2022<br>ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | | | | | | | | | 1.58 | U | 1.54 | U |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.34 | U | 3.38 | U | 3.35 | U | 3.45 | U | 3.21 | U | 3.16 | U |
| 1H, 1H, 2H, 2H-perfluorododecane sulfonic acid (10:2 FTS) | 3.28 | U | 3.43 | U | 16.5 | DU | 16.6 | DU | 3.21 | U | 3.16 | U |
| 2-Perfluorodecyl ethanoic acid (10:2 FTA) (FDEA) | 3.41 | U | 3.57 | U | 17.2 | DU | 3.47 | U | 3.35 | U | 3.29 | U |
| 2-Perfluorohexyl ethanoic acid (6:2 FTA) (FHEA) | 3.41 | U | 3.57 | U | 17.2 | DU | 3.47 | U | 3.35 | U | 3.29 | U |
| 2-Perfluorooctyl ethanoic acid (8:2 FTA) (FOEA) | 3.41 | U | 3.57 | U | 17.2 | DU | 3.47 | U | 3.35 | U | 3.29 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | 3.41 | U | 3.57 | U | 17.2 | DU | 3.47 | U | 3.35 | U | 3.29 | U |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | 3.41 | U | 3.57 | U | 17.2 | DU | 3.47 | U | 3.35 | U | 3.29 | U |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | 3.41 | U | 3.57 | U | 17.2 | DU | 3.47 | U | 3.35 | U | 3.29 | U |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | | | | | | | | | 1.67 | U | 1.65 | U |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | | | | | | | | | 1.56 | U | 1.52 | U |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | | | | | | | | | 3.15 | U | 3.1 | U |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.31 | U | 3.34 | U | 3.31 | U | 3.41 | U | 3.18 | U | 3.13 | U |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | | | | | | | | | 1.67 | U | 1.65 | U |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | 3.41 | U | 3.57 | U | 17.2 | DU | 17.3 | DU | 3.35 | U | 3.29 | U |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.48 | U | 3.52 | U | 3.49 | U | 3.59 | U | 3.35 | U | 3.29 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | 3.41 | U | 3.57 | U | 17.2 | DU | 3.47 | U | 3.35 | U | 3.29 | U |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | 3.41 | U | 3.57 | U | 17.2 | DU | 17.3 | DU | 3.35 | U | 3.29 | U |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.48 | U | 3.52 | U | 3.49 | U | 3.59 | U | 3.35 | U | 3.29 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | 3.41 | U | 3.57 | U | 17.2 | DU | 3.47 | U | 3.35 | U | 3.29 | U |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | | | | | | | | | 3.35 | U | 3.29 | U |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | | | | | | | | | 1.67 | U | 1.65 | U |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | | | | | | | | | 3.35 | U | 3.29 | U |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | | | | | | | | | 3.35 | U | 3.29 | U |
| Perfluorobutanesulfonate (PFBS) | 1.55 | U | 1.57 | U | 0.76 | J | 0.963 | J | **1.54** | | **18.1** | |
| Perfluorobutylsulfonamide (FBSA) | 3.41 | U | 3.57 | U | 17.2 | DU | 2.09 | J | 3.35 | U | **42.9** | |
| Perfluorobutyric acid (PFBA) | 0.73 | J | 1.76 | U | 0.804 | J | 0.845 | J | 1.06 | J | **3.63** | |
| Perfluorodecanesulfonate (PFDS) | 1.69 | U | 1.71 | U | 1.69 | U | 1.74 | U | 1.62 | U | 1.59 | U |
| Perfluorodecanoic acid (PFDA) | 1.74 | U | 1.76 | U | 1.74 | U | 1.79 | U | 1.67 | U | 1.65 | U |
| Perfluorododecane sulfonic acid (PFDoS) | 1.65 | U | 1.73 | U | 8.33 | DU | 1.68 | U | 1.62 | U | 1.59 | U |
| Perfluorododecanoic acid (PFDoA) | 1.74 | U | 1.76 | U | 1.74 | U | 1.79 | U | 1.67 | U | 1.65 | U |
| Perfluoroheptanesulfonate (PFHpS) | 1.65 | U | 1.67 | U | 1.66 | U | 1.47 | J | **2.8** | | **139** | D |
| Perfluoroheptanoic acid (PFHpA) | 1.74 | U | 1.76 | U | 1.74 | U | 1.79 | U | 0.622 | J | **4.09** | |
| Perfluorohexadecanoic acid (PFHxDA) | 3.41 | U | 3.57 | U | 17.2 | DU | 3.47 | U | 16.7 | DU | 3.29 | U |
| Perfluorohexanesulfonate (PFHxS) | 1.58 | U | **2.41** | | **9.12** | | **31.3** | | **29.6** | | **392** | D |
| Perfluorohexanoic acid (PFHxA) | 1.74 | U | 0.87 | J | 1.16 | J | 1.41 | J | **2.31** | | **15.3** | |
| Perfluorononanesulfonate (PFNS) | 1.67 | U | 1.69 | U | 1.67 | U | 1.72 | U | 1.61 | U | 1.57 | U |
| Perfluorononanoic acid (PFNA) | 1.74 | U | 1.76 | U | **2.85** | | **4.26** | | 1.67 | U | 1.22 | J |
| Perfluorooctadecanoic acid (PFODA) | 3.41 | U | 3.57 | U | 17.2 | DU | 3.47 | U | 16.7 | DU | 3.29 | U |
| Perfluorooctane sulfonamide (PFOSAm) | 1.74 | U | 1.76 | U | 1.74 | U | 1.79 | U | 1.67 | U | 1.65 | U |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonate (PFOS) | **2.07** | | **10.4** | | **33.4** | | **164** | | **310** | D | **4090** | D |
| Perfluorooctanoic acid (PFOA) | 1.74 | U | 1.76 | U | 0.841 | J | 1.5 | J | **2.46** | | **39.1** | |
| Perfluoropentanesulfonate (PFPeS) | 1.64 | U | 1.65 | U | 0.774 | J | **2.14** | | **2.39** | | **37** | |
| Perfluoropentanoic acid (PFPeA) | 1.74 | U | 1.76 | U | 0.687 | J | 0.737 | J | 1.14 | J | **4.42** | |
| Perfluorotetradecanoic acid (PFTeDA) | 1.74 | U | 1.76 | U | 1.74 | U | 1.79 | U | 1.67 | U | 1.65 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.74 | U | 1.76 | U | 1.74 | U | 1.79 | U | 1.67 | U | 1.65 | U |
| Perfluoroundecanoic acid (PFUdA) | 1.74 | U | 1.76 | U | 1.74 | U | 1.79 | U | 1.67 | U | 1.65 | U |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: OU10 Current Firehouse MW**

| Analyte | 093-95<br>Depth : 65.00<br>09/08/2022<br>ng/L | | 093-96<br>Depth : 60.00<br>09/08/2022<br>ng/L | | 093-97<br>Depth : 63.00<br>09/07/2022<br>ng/L | | 093-98<br>Depth : 65.00<br>09/07/2022<br>ng/L | | 094-275<br>Depth : 85.00<br>06/06/2022<br>ng/L | | 094-276<br>Depth : 105.00<br>06/06/2022<br>ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | 1.69 | U | 1.58 | U | 1.56 | U | 1.63 | U | | | | |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.44 | U | 3.21 | U | 3.18 | U | 3.22 | U | 3.4 | U | 3.44 | U |
| 1H, 1H, 2H, 2H-perfluorododecane sulfonic acid (10:2 FTS) | 3.44 | U | 3.21 | U | 3.18 | U | 3.22 | U | 3.28 | U | 3.28 | U |
| 2-Perfluorodecyl ethanoic acid (10:2 FTA) (FDEA) | 3.58 | U | 3.34 | U | 3.31 | U | 3.35 | U | 3.41 | U | 3.42 | U |
| 2-Perfluorohexyl ethanoic acid (6:2 FTA) (FHEA) | 3.58 | U | 3.34 | U | 3.31 | U | 3.35 | U | 3.41 | U | 3.42 | U |
| 2-Perfluorooctyl ethanoic acid (8:2 FTA) (FOEA) | 3.58 | U | 3.34 | U | 3.31 | U | 3.35 | U | 3.41 | U | 3.42 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | 3.58 | U | 3.34 | U | 3.31 | U | 3.35 | U | 3.41 | U | 3.42 | U |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | 3.58 | U | 3.34 | U | 3.31 | U | 3.35 | U | 3.41 | U | 3.42 | U |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | 3.58 | U | 3.34 | U | 3.31 | U | 3.35 | U | 3.41 | U | 3.42 | U |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | 1.79 | U | 1.67 | U | 1.66 | U | 1.67 | U | | | | |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | 1.67 | U | 1.56 | U | 1.54 | U | 1.62 | U | | | | |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | 3.37 | U | 3.14 | U | 3.11 | U | 3.15 | U | | | | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.4 | U | 3.18 | U | 1.54 | J | **3.27** | | 3.36 | U | 3.41 | U |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | 1.79 | U | 1.67 | U | 1.66 | U | 1.67 | U | | | | |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | 3.58 | U | 3.34 | U | 3.31 | U | 3.35 | U | 3.41 | U | 3.42 | U |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.58 | U | 3.34 | U | 3.31 | U | 3.35 | U | 3.54 | U | 3.59 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | 3.58 | U | 3.34 | U | 3.31 | U | 3.35 | U | 3.41 | U | 3.42 | U |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | 3.58 | U | 3.34 | U | 3.31 | U | 3.35 | U | 3.41 | U | 3.42 | U |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.58 | U | 3.34 | U | 3.31 | U | 3.35 | U | 3.54 | U | 3.59 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | 3.58 | U | 3.34 | U | 3.31 | U | 3.35 | U | 3.41 | U | 3.42 | U |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | 3.58 | U | 3.34 | U | 3.31 | U | 3.35 | U | | | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | 1.79 | U | 1.67 | U | 1.66 | U | 1.67 | U | | | | |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | 3.58 | U | 3.34 | U | 3.31 | U | 3.35 | U | | | | |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | 3.58 | U | 3.34 | U | 3.31 | U | 3.35 | U | | | | |
| Perfluorobutanesulfonate (PFBS) | 1.36 | J | **4.74** | | **12.2** | | **17.6** | | 1.57 | U | **1.79** | |
| Perfluorobutylsulfonamide (FBSA) | 3.58 | U | **6.35** | | **11.9** | | **20.6** | | 3.41 | U | 1.21 | J |
| Perfluorobutyric acid (PFBA) | 1.33 | J | 0.879 | J | **3.64** | | **10.1** | | 1.38 | J | 1.08 | J |
| Perfluorodecanesulfonate (PFDS) | 1.74 | U | 1.62 | U | 1.61 | U | 1.68 | U | 1.72 | U | 1.74 | U |
| Perfluorodecanoic acid (PFDA) | 1.79 | U | 1.67 | U | 1.66 | U | 1.67 | U | 1.77 | U | 1.79 | U |
| Perfluorododecane sulfonic acid (PFDoS) | 1.73 | U | 1.62 | U | 1.6 | U | 1.62 | U | 1.65 | U | 1.65 | U |
| Perfluorododecanoic acid (PFDoA) | 1.79 | U | 1.67 | U | 1.66 | U | 1.67 | U | 1.77 | U | 1.79 | U |
| Perfluoroheptanesulfonate (PFHpS) | 0.697 | J | **3.49** | | **14.1** | | **61** | | 1.68 | U | 0.991 | J |
| Perfluoroheptanoic acid (PFHpA) | 1.06 | J | 0.631 | J | **4.1** | | **13.5** | | 1.77 | U | 0.826 | J |
| Perfluorohexadecanoic acid (PFHxDA) | 3.58 | U | 3.34 | U | 3.31 | U | 3.35 | U | 3.41 | U | 3.42 | U |
| Perfluorohexanesulfonate (PFHxS) | **26.2** | | **60.3** | | **313** | D | **774** | D | **5.02** | | **23.5** | |
| Perfluorohexanoic acid (PFHxA) | **3.03** | | **1.84** | | **16** | | **50** | | 1.34 | J | **2.48** | |
| Perfluorononanesulfonate (PFNS) | 1.72 | U | 1.61 | U | 1.59 | U | 1.66 | U | 1.7 | U | 1.72 | U |
| Perfluorononanoic acid (PFNA) | 1.79 | U | 1.67 | U | 1.66 | U | **2.06** | | **4.77** | | **33.5** | |
| Perfluorooctadecanoic acid (PFODA) | 3.58 | U | 3.34 | U | 3.31 | U | 3.35 | U | 3.41 | U | 3.42 | U |
| Perfluorooctane sulfonamide (PFOSAm) | 1.79 | U | 1.67 | U | 1.66 | U | 1.67 | U | 1.77 | U | 1.79 | U |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonate (PFOS) | **355** | D | **127** | | **420** | D | **1870** | D | **22** | | **82** | |
| Perfluorooctanoic acid (PFOA) | 1.12 | J | **4.92** | | **14.2** | | **44.2** | | 1.56 | J | **2.78** | |
| Perfluoropentanesulfonate (PFPeS) | **2.08** | | **6.03** | | **28.2** | | **48.6** | | 1.66 | U | **2.27** | |
| Perfluoropentanoic acid (PFPeA) | 1.54 | J | 0.985 | J | **5.73** | | **18.3** | | 0.84 | J | 1.63 | J |
| Perfluorotetradecanoic acid (PFTeDA) | 1.79 | U | 1.67 | U | 1.66 | U | 1.67 | U | 1.77 | U | 1.79 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.79 | U | 1.67 | U | 1.66 | U | 1.67 | U | 1.77 | U | 1.79 | U |
| Perfluoroundecanoic acid (PFUdA) | 1.79 | U | 1.67 | U | 1.66 | U | 1.67 | U | 1.77 | U | 1.79 | U |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: OU10 Current Firehouse MW**

| Analyte | 094-277<br>Depth : 75.00<br>06/30/2022<br>ng/L | | 094-278<br>Depth : 105.00<br>06/30/2022<br>ng/L | | 102-26<br>Depth : 95.00<br>06/07/2022<br>ng/L | | 102-27<br>Depth : 115.00<br>06/07/2022<br>ng/L | | 102-28<br>Depth : 145.00<br>06/07/2022<br>ng/L | | 102-29<br>Depth : 95.00<br>06/07/2022<br>ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | 1.59 | U | 1.72 | U | | | | | | | | |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.24 | U | 3.51 | U | 3.45 | U | 3.58 | U | 3.48 | U | 3.72 | U |
| 1H, 1H, 2H, 2H-perfluorododecane sulfonic acid (10:2 FTS) | 3.24 | U | 3.51 | U | 3.6 | U | 3.49 | U | 3.71 | U | 3.37 | U |
| 2-Perfluorodecyl ethanoic acid (10:2 FTA) (FDEA) | 3.38 | U | 3.66 | U | 3.75 | U | 3.63 | U | 3.86 | U | 3.51 | U |
| 2-Perfluorohexyl ethanoic acid (6:2 FTA) (FHEA) | 3.38 | U | 3.66 | U | 3.75 | U | 3.63 | U | 3.86 | U | 3.51 | U |
| 2-Perfluorooctyl ethanoic acid (8:2 FTA) (FOEA) | 3.38 | U | 3.66 | U | 3.75 | U | 3.63 | U | 3.86 | U | 3.51 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | 3.38 | U | 3.66 | U | 3.75 | U | 3.63 | U | 3.86 | U | 3.51 | U |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | 3.38 | U | 3.66 | U | 3.75 | U | 3.63 | U | 3.86 | U | 3.51 | U |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | 3.38 | U | 3.66 | U | 3.75 | U | 3.63 | U | 3.86 | U | 3.51 | U |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | 1.69 | U | 1.83 | U | | | | | | | | |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | 1.57 | U | 1.7 | U | | | | | | | | |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | 3.17 | U | 3.44 | U | | | | | | | | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.21 | U | 3.47 | U | 3.42 | U | 3.54 | U | 3.44 | U | 3.68 | U |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | 1.69 | U | 1.83 | U | | | | | | | | |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | 3.38 | U | 3.66 | U | 3.75 | U | 3.63 | U | 3.86 | U | 3.51 | U |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.38 | U | 3.66 | U | 3.6 | U | 3.72 | U | 3.62 | U | 3.88 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | 3.38 | U | 3.66 | U | 3.75 | U | 3.63 | U | 3.86 | U | 3.51 | U |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | 3.38 | U | 3.66 | U | 3.75 | U | 3.63 | U | 3.86 | U | 3.51 | U |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.38 | U | 3.66 | U | 3.6 | U | 3.72 | U | 3.62 | U | 3.88 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | 3.38 | U | 3.66 | U | 3.75 | U | 3.63 | U | 3.86 | U | 3.51 | U |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | 3.38 | U | 3.66 | U | | | | | | | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | 1.69 | U | 1.83 | U | | | | | | | | |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | 3.38 | U | 3.66 | U | | | | | | | | |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | 3.38 | U | 3.66 | U | | | | | | | | |
| Perfluorobutanesulfonate (PFBS) | **3.53** | | **13.2** | | 1.6 | U | 1.66 | U | 1.61 | U | **1.84** | |
| Perfluorobutylsulfonamide (FBSA) | 2.2 | J | **11** | | 3.75 | U | 3.63 | U | 3.86 | U | 1.58 | J |
| Perfluorobutyric acid (PFBA) | **4.62** | | **7.38** | | 0.767 | J | 1.86 | U | 1.81 | U | 1.49 | J |
| Perfluorodecanesulfonate (PFDS) | 1.64 | U | 1.77 | U | 1.75 | U | 1.81 | U | 1.76 | U | 1.88 | U |
| Perfluorodecanoic acid (PFDA) | 1.69 | U | 1.83 | U | 1.8 | U | 1.86 | U | 1.81 | U | 1.94 | U |
| Perfluorododecane sulfonic acid (PFDoS) | 1.63 | U | 1.77 | U | 1.81 | U | 1.76 | U | 1.87 | U | 1.7 | U |
| Perfluorododecanoic acid (PFDoA) | 1.69 | U | 1.83 | U | 1.8 | U | 1.86 | U | 1.81 | U | 1.94 | U |
| Perfluoroheptanesulfonate (PFHpS) | 0.841 | J | **3.03** | | 1.71 | U | 1.77 | U | 1.72 | U | 1.36 | J |
| Perfluoroheptanoic acid (PFHpA) | **2.39** | | **5.64** | | 1.8 | U | 1.86 | U | 1.81 | U | 1.49 | J |
| Perfluorohexadecanoic acid (PFHxDA) | 3.38 | U | 3.66 | U | 3.75 | U | 3.63 | U | 3.86 | U | 17.6 | DU |
| Perfluorohexanesulfonate (PFHxS) | **36.6** | | **125** | | **9.87** | | 1.02 | J | 0.904 | J | **26.9** | |
| Perfluorohexanoic acid (PFHxA) | **3.95** | | **24.2** | | 1.1 | J | 0.772 | J | 1.81 | U | **7.3** | |
| Perfluorononanesulfonate (PFNS) | 1.62 | U | 1.76 | U | 1.73 | U | 1.79 | U | 1.74 | U | 1.86 | U |
| Perfluorononanoic acid (PFNA) | **2.43** | | 1.76 | J | 1.8 | U | 1.86 | U | 1.81 | U | **10.5** | |
| Perfluorooctadecanoic acid (PFODA) | 3.38 | U | 3.66 | U | 3.75 | U | 3.63 | U | 3.86 | U | 17.6 | DU |
| Perfluorooctane sulfonamide (PFOSAm) | 1.69 | U | 1.83 | U | 1.8 | U | 1.86 | U | 1.81 | U | 1.94 | U |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonate (PFOS) | **43.2** | | **176** | | **20.5** | | **7.46** | | 1.81 | U | **88.4** | |
| Perfluorooctanoic acid (PFOA) | **5.34** | | **8.8** | | 1.22 | J | 0.726 | J | 1.81 | U | **2.67** | |
| Perfluoropentanesulfonate (PFPeS) | **5.57** | | **19.5** | | 0.851 | J | 1.75 | U | 1.7 | U | **2.02** | |
| Perfluoropentanoic acid (PFPeA) | **3.98** | | **15.6** | | 0.609 | J | 1.86 | U | 1.81 | U | **2.89** | |
| Perfluorotetradecanoic acid (PFTeDA) | 1.69 | U | 1.83 | U | 1.8 | U | 1.86 | U | 1.81 | U | 1.94 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.69 | U | 1.83 | U | 1.8 | U | 1.86 | U | 1.81 | U | 1.94 | U |
| Perfluoroundecanoic acid (PFUdA) | 1.69 | U | 1.83 | U | 1.8 | U | 1.86 | U | 1.81 | U | 1.94 | U |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: OU10 Current Firehouse MW**

| Analyte | 102-30<br>Depth : 115.00<br>06/07/2022<br>ng/L | | 102-31<br>Depth : 145.00<br>06/30/2022<br>ng/L | | 102-36<br>Depth : 75.00<br>09/08/2022<br>ng/L | | 102-37<br>Depth : 70.00<br>09/08/2022<br>ng/L | | 102-38<br>Depth : 75.00<br>09/08/2022<br>ng/L | | 102-39<br>Depth : 75.00<br>09/08/2022<br>ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | | | 1.61 | U | 1.56 | U | 1.56 | U | 1.62 | U | 1.49 | U |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.23 | U | 3.27 | U | 3.19 | U | 3.18 | U | 3.31 | U | 3.04 | U |
| 1H, 1H, 2H, 2H-perfluorododecane sulfonic acid (10:2 FTS) | 3.43 | U | 3.27 | U | 3.19 | U | 3.18 | U | 3.31 | U | 3.04 | U |
| 2-Perfluorodecyl ethanoic acid (10:2 FTA) (FDEA) | 3.58 | U | 3.41 | U | 3.32 | U | 3.32 | U | 3.45 | U | 3.16 | U |
| 2-Perfluorohexyl ethanoic acid (6:2 FTA) (FHEA) | 3.58 | U | 3.41 | U | 3.32 | U | 3.32 | U | 3.45 | U | 3.16 | U |
| 2-Perfluorooctyl ethanoic acid (8:2 FTA) (FOEA) | 3.58 | U | 3.41 | U | 3.32 | U | 3.32 | U | 3.45 | U | 3.16 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | 3.58 | U | 3.41 | U | 3.32 | U | 3.32 | U | 3.45 | U | 3.16 | U |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | 3.58 | U | 3.41 | U | 3.32 | U | 3.32 | U | 3.45 | U | 3.16 | U |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | 3.58 | U | 3.41 | U | 3.32 | U | 3.32 | U | 3.45 | U | 3.16 | U |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | | | 1.7 | U | 1.66 | U | 1.66 | U | 1.72 | U | 1.58 | U |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | | | 1.59 | U | 1.55 | U | 1.55 | U | 1.61 | U | 1.47 | U |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | | | 3.2 | U | 3.12 | U | 3.12 | U | 3.24 | U | 2.97 | U |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.2 | U | 3.24 | U | 3.15 | U | 1.24 | J | 3.28 | U | 3 | U |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | | | 1.7 | U | 1.66 | U | 1.66 | U | 1.72 | U | 1.58 | U |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | 3.58 | U | 3.41 | U | 3.32 | U | 3.32 | U | 3.45 | U | 3.16 | U |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.37 | U | 3.41 | U | 3.32 | U | 3.32 | U | 3.45 | U | 3.16 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | 3.58 | U | 3.41 | U | 3.32 | U | 3.32 | U | 3.45 | U | 3.16 | U |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | 3.58 | U | 3.41 | U | 3.32 | U | 3.32 | U | 3.45 | U | 3.16 | U |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.37 | U | 3.41 | U | 3.32 | U | 3.32 | U | 3.45 | U | 3.16 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | 3.58 | U | 3.41 | U | 3.32 | U | 3.32 | U | 3.45 | U | 3.16 | U |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | | | 3.41 | U | 3.32 | U | 3.32 | U | 3.45 | U | 3.16 | U |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | | | 1.7 | U | 1.66 | U | 1.66 | U | 1.72 | U | 1.58 | U |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | | | 3.41 | U | 3.32 | U | 3.32 | U | 3.45 | U | 3.16 | U |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | | | 3.41 | U | 3.32 | U | 3.32 | U | 3.45 | U | 3.16 | U |
| Perfluorobutanesulfonate (PFBS) | **2.03** | | **20.2** | | 0.797 | J | **4.2** | | **3.12** | | **11.3** | |
| Perfluorobutylsulfonamide (FBSA) | 2.09 | J | **14.5** | | 3.32 | U | 3.05 | J | 3.45 | U | **18.8** | |
| Perfluorobutyric acid (PFBA) | 1.25 | J | **5.42** | | 1.66 | U | **4.63** | | 1.72 | U | **4.22** | |
| Perfluorodecanesulfonate (PFDS) | 1.63 | U | 1.65 | U | 1.61 | U | 1.61 | U | 1.67 | U | 1.53 | U |
| Perfluorodecanoic acid (PFDA) | 1.68 | U | 1.7 | U | 1.66 | U | 1.66 | U | 1.72 | U | 1.58 | U |
| Perfluorododecane sulfonic acid (PFDoS) | 1.73 | U | 1.65 | U | 1.61 | U | 1.61 | U | 1.67 | U | 1.53 | U |
| Perfluorododecanoic acid (PFDoA) | 1.68 | U | 1.7 | U | 1.66 | U | 1.66 | U | 1.72 | U | 1.58 | U |
| Perfluoroheptanesulfonate (PFHpS) | **1.63** | | **7.8** | | 1.06 | J | **11** | | 0.708 | J | **7.83** | |
| Perfluoroheptanoic acid (PFHpA) | 1.27 | J | **4.52** | | 1.66 | U | **3.51** | | 1.72 | U | **3.14** | |
| Perfluorohexadecanoic acid (PFHxDA) | 3.58 | U | 3.41 | U | 3.32 | U | 3.32 | U | 3.45 | U | 3.16 | U |
| Perfluorohexanesulfonate (PFHxS) | **32.3** | | **213** | D | **15.4** | | **181** | D | **28.5** | | **250** | D |
| Perfluorohexanoic acid (PFHxA) | **6.63** | | **21.4** | | **1.73** | | **10.6** | | 1.72 | U | **21.3** | |
| Perfluorononanesulfonate (PFNS) | 1.62 | U | 1.64 | U | 1.59 | U | 1.59 | U | 1.66 | U | 1.52 | U |
| Perfluorononanoic acid (PFNA) | **9.76** | | 0.973 | J | 1.66 | U | 1.66 | U | 1.72 | U | 1.58 | U |
| Perfluorooctadecanoic acid (PFODA) | 3.58 | U | 3.41 | U | 3.32 | U | 3.32 | U | 3.45 | U | 3.16 | U |
| Perfluorooctane sulfonamide (PFOSAm) | 1.68 | U | 1.7 | U | 1.66 | U | 1.66 | U | 1.72 | U | 1.58 | U |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonate (PFOS) | **164** | | **410** | D | **27.1** | | **590** | D | **8.1** | | **471** | D |
| Perfluorooctanoic acid (PFOA) | **3.07** | | **11** | | **1.94** | | **9.93** | | 0.887 | J | **7.6** | |
| Perfluoropentanesulfonate (PFPeS) | **2.63** | | **27** | | 1.25 | J | **9.18** | | **3.82** | | **28.2** | |
| Perfluoropentanoic acid (PFPeA) | **2.77** | | **10.3** | | 1.66 | U | **3.98** | | 1.72 | U | **8.07** | |
| Perfluorotetradecanoic acid (PFTeDA) | 1.68 | U | 1.7 | U | 1.66 | U | 1.66 | U | 1.72 | U | 1.58 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.68 | U | 1.7 | U | 1.66 | U | 1.66 | U | 1.72 | U | 1.58 | U |
| Perfluoroundecanoic acid (PFUdA) | 1.68 | U | 1.7 | U | 1.66 | U | 1.66 | U | 1.72 | U | 1.58 | U |

**2022 Groundwater Data : PFAS/PFOA**

**Brookhaven National Laboratory**

**Project: OU10 Current Firehouse MW**

| Analyte | 102-40<br>Depth : 150.00<br>06/30/2022<br>ng/L | | 103-30<br>Depth : 95.00<br>06/02/2022<br>ng/L | | 103-31<br>Depth : 115.00<br>06/02/2022<br>ng/L | | 103-32<br>Depth : 135.00<br>06/02/2022<br>ng/L | | 103-33<br>Depth : 95.00<br>06/08/2022<br>ng/L | | 103-34<br>Depth : 125.00<br>06/08/2022<br>ng/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS) | 1.8 | U | | | | | | | | | | |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 3.68 | U | 3.49 | U | 3.3 | U | 3.33 | U | 3.53 | U | 3.41 | U |
| 1H, 1H, 2H, 2H-perfluorododecane sulfonic acid (10:2 FTS) | 3.68 | U | 3.57 | U | 3.38 | U | 3.29 | U | 3.32 | U | 3.41 | U |
| 2-Perfluorodecyl ethanoic acid (10:2 FTA) (FDEA) | 3.83 | U | 3.71 | U | 3.52 | U | 3.42 | U | 3.45 | U | 3.55 | U |
| 2-Perfluorohexyl ethanoic acid (6:2 FTA) (FHEA) | 3.83 | U | 3.71 | U | 3.52 | U | 3.42 | U | 3.45 | U | 3.55 | U |
| 2-Perfluorooctyl ethanoic acid (8:2 FTA) (FOEA) | 3.83 | U | 3.71 | U | 3.52 | U | 3.42 | U | 3.45 | U | 3.55 | U |
| 2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA) | 3.83 | U | 3.71 | U | 3.52 | U | 3.42 | U | 3.45 | U | 3.55 | U |
| 2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA) | 3.83 | U | 3.71 | U | 3.52 | U | 3.42 | U | 3.45 | U | 3.55 | U |
| 4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA) | 3.83 | U | 3.71 | U | 3.52 | U | 3.42 | U | 3.45 | U | 3.55 | U |
| 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | 1.91 | U | | | | | | | | | | |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS) | 1.78 | U | | | | | | | | | | |
| Fluorotelomer sulfonate 4:2 (4:2 FTS) | 3.6 | U | | | | | | | | | | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3.64 | U | 3.45 | U | 3.27 | U | 3.29 | U | 3.5 | U | 3.38 | U |
| Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X) | 1.91 | U | | | | | | | | | | |
| N-Ethylperfluorooctane sulfonamide (EtFOSAm) | 3.83 | U | 3.71 | U | 3.52 | U | 3.42 | U | 3.45 | U | 3.55 | U |
| N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA) | 3.83 | U | 3.63 | U | 3.44 | U | 3.47 | U | 3.68 | U | 3.55 | U |
| N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE) | 3.83 | U | 3.71 | U | 3.52 | U | 3.42 | U | 3.45 | U | 3.55 | U |
| N-Methylperfluorooctane sulfonamide (NMeFOSAA) | 3.83 | U | 3.71 | U | 3.52 | U | 3.42 | U | 3.45 | U | 3.55 | U |
| N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA) | 3.83 | U | 3.63 | U | 3.44 | U | 3.47 | U | 3.68 | U | 3.55 | U |
| N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE) | 3.83 | U | 3.71 | U | 3.52 | U | 3.42 | U | 3.45 | U | 3.55 | U |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) | 3.83 | U | | | | | | | | | | |
| Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA) | 1.91 | U | | | | | | | | | | |
| Perfluoro-3-methoxypropanoic acid (PFMPA) | 3.83 | U | | | | | | | | | | |
| Perfluoro-4-methoxybutanoic acid (PFMBA) | 3.83 | U | | | | | | | | | | |
| Perfluorobutanesulfonate (PFBS) | **7.35** | | **4.92** | | **13.3** | | **14.7** | | **3.63** | | **2.85** | |
| Perfluorobutylsulfonamide (FBSA) | **6.57** | | **4.92** | | **12.9** | | **18.2** | | 1.29 | J | 2.05 | J |
| Perfluorobutyric acid (PFBA) | **2.35** | | **2.25** | | **4.91** | | 0.854 | J | **2.26** | | 1.36 | J |
| Perfluorodecanesulfonate (PFDS) | 1.86 | U | 1.76 | U | 1.67 | U | 1.68 | U | 1.79 | U | 1.72 | U |
| Perfluorodecanoic acid (PFDA) | 1.91 | U | 1.82 | U | 1.72 | U | 1.73 | U | 1.84 | U | 1.78 | U |
| Perfluorododecane sulfonic acid (PFDoS) | 1.85 | U | 1.8 | U | 1.71 | U | 1.66 | U | 1.67 | U | 1.72 | U |
| Perfluorododecanoic acid (PFDoA) | 1.91 | U | 1.82 | U | 1.72 | U | 1.73 | U | 1.84 | U | 1.78 | U |
| Perfluoroheptanesulfonate (PFHpS) | **1.97** | | 1.63 | J | **4.9** | | 0.959 | J | 1.75 | U | 1.69 | U |
| Perfluoroheptanoic acid (PFHpA) | 1.38 | J | 1.73 | J | **4.5** | | 0.959 | J | 1.04 | J | 0.845 | J |
| Perfluorohexadecanoic acid (PFHxDA) | 3.83 | U | 3.71 | U | 3.52 | U | 3.42 | U | 3.45 | U | 3.55 | U |
| Perfluorohexanesulfonate (PFHxS) | **83.6** | | **48.9** | | **175** | D | **137** | | **19.1** | | **22** | |
| Perfluorohexanoic acid (PFHxA) | **8.91** | | **11.2** | | **25.1** | | **3.44** | | **2.67** | | **3.08** | |
| Perfluorononanesulfonate (PFNS) | 1.84 | U | 1.74 | U | 1.65 | U | 1.66 | U | 1.77 | U | 1.71 | U |
| Perfluorononanoic acid (PFNA) | 1.91 | U | **18.2** | | **3.07** | | 1.73 | U | 0.691 | J | 1.78 | U |
| Perfluorooctadecanoic acid (PFODA) | 3.83 | U | 3.71 | U | 3.52 | U | 3.42 | U | 3.45 | U | 3.55 | U |
| Perfluorooctane sulfonamide (PFOSAm) | 1.91 | U | 1.82 | U | 1.72 | U | 1.73 | U | 1.84 | U | 1.78 | U |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonate (PFOS) | **84.9** | | **89** | | **319** | D | **94.4** | | **17** | | **20.9** | |
| Perfluorooctanoic acid (PFOA) | **7.44** | | **5.42** | | **10.4** | | **3.51** | | **4.28** | | **2.71** | |
| Perfluoropentanesulfonate (PFPeS) | **9.55** | | **6.28** | | **17** | | **18.2** | | **3.38** | | **3.3** | |
| Perfluoropentanoic acid (PFPeA) | 1.89 | J | **4.86** | | **12.4** | | 0.96 | J | 1.4 | J | 0.864 | J |
| Perfluorotetradecanoic acid (PFTeDA) | 1.91 | U | 1.82 | U | 1.72 | U | 1.73 | U | 1.84 | U | 1.78 | U |
| Perfluorotridecanoic acid (PFTrDA) | 1.91 | U | 1.82 | U | 1.72 | U | 1.73 | U | 1.84 | U | 1.78 | U |
| Perfluoroundecanoic acid (PFUdA) | 1.91 | U | 1.82 | U | 1.72 | U | 1.73 | U | 1.84 | U | 1.78 | U |

# Appendix D
# 2022 Facility Monitoring
# Groundwater Results

# AGS Research Areas
# Analytical Results

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 054-07<br>Depth : 35.00<br>04/22/2022<br>pCi/l | | | | 054-07<br>Depth : 35.00<br>10/06/2022<br>pCi/l | | | | 054-08<br>Depth : 47.50<br>11/18/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 221 | U | 371 | 229 | 304 | U | 370 | 227 | -4.05 | U | 443 | 230 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 054-124<br>Depth : 32.50<br>04/27/2022<br>pCi/l | | | | 054-124<br>Depth : 32.50<br>10/12/2022<br>pCi/l | | | | 054-125<br>Depth : 32.50<br>11/15/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | **6410** | | 375 | 819 | **6480** | DL | 514 | 954 | -211 | U | 365 | 177 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 054-126<br>Depth : 35.00<br>04/22/2022<br>pCi/l | | | | 054-126<br>Depth : 35.00<br>10/06/2022<br>pCi/l | | | | 054-127<br>Depth : 29.50<br>11/16/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | **5420** | | 366 | 724 | 385 | U | 467 | 280 | -114 | U | 372 | 191 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 054-128<br>Depth : 29.50<br>11/15/2022<br>pCi/l | | | | 054-129<br>Depth : 28.50<br>11/15/2022<br>pCi/l | | | | 054-130<br>Depth : 29.50<br>11/15/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | -159 | U | 386 | 191 | **2130** | | 361 | 413 | -132 | U | 364 | 186 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 054-168<br>Depth : 25.00<br>11/15/2022<br>pCi/l | | | | 054-169<br>Depth : 25.00<br>11/16/2022<br>pCi/l | | | | 054-184<br>Depth : 32.50<br>04/27/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | **1010** | | 351 | 301 | -137 | U | 357 | 182 | -89.6 | U | 371 | 194 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 054-184<br>Depth : 32.50<br>10/06/2022<br>pCi/l | | | | 054-185<br>Depth : 32.50<br>04/27/2022<br>pCi/l | | | | 054-185<br>Depth : 32.50<br>10/06/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 295 | U | 388 | 234 | 58.6 | U | 361 | 207 | 131 | U | 460 | 238 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 054-191<br>Depth : 26.00<br>11/18/2022<br>pCi/l | | | | 054-62<br>Depth : 25.70<br>11/17/2022<br>pCi/l | | | | 054-63<br>Depth : 49.80<br>11/17/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 223 | U | 428 | 261 | -1.8 | U | 437 | 228 | 177 | U | 424 | 252 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 054-64<br>Depth : 49.50<br>11/17/2022<br>pCi/l | | | | 054-65<br>Depth : 25.20<br>04/20/2022<br>pCi/l | | | | 054-65<br>Depth : 25.20<br>10/06/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 254 | U | 424 | 264 | -10.4 | U | 359 | 198 | 11.7 | U | 479 | 227 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 054-66<br>Depth : 25.50<br>11/16/2022<br>pCi/l | | | | 054-67<br>Depth : 25.10<br>11/15/2022<br>pCi/l | | | | 054-68<br>Depth : 24.80<br>11/15/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | -222 | U | 369 | 177 | -67.6 | U | 341 | 184 | -133 | U | 352 | 180 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 054-69<br>Depth : 24.80<br>11/15/2022<br>pCi/l | | | | 055-14<br>Depth : 24.70<br>11/16/2022<br>pCi/l | | | | 055-15<br>Depth : 25.50<br>11/16/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | -113 | U | 361 | 187 | -159 | U | 356 | 179 | 86 | U | 424 | 238 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 055-16<br>Depth : 25.20<br>11/16/2022<br>pCi/l | | | | 055-29<br>Depth : 52.00<br>11/16/2022<br>pCi/l | | | | 055-30<br>Depth : 27.50<br>11/17/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 72.5 | U | 426 | 236 | 4.95 | U | 420 | 223 | 137 | U | 424 | 246 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 055-31<br>Depth : 50.00<br>10/25/2022<br>pCi/l | | | | 055-32<br>Depth : 47.50<br>11/16/2022<br>pCi/l | | | | 064-03<br>Depth : 48.00<br>11/17/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | -163 | U | 421 | 216 | -3.15 | U | 424 | 223 | 195 | U | 424 | 255 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 064-51<br>Depth : 46.00<br>11/17/2022<br>pCi/l | | | | 064-53<br>Depth : 39.80<br>11/18/2022<br>pCi/l | | | | 064-54<br>Depth : 40.50<br>11/17/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 110 | U | 430 | 244 | 51.8 | U | 430 | 234 | 105 | U | 430 | 243 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 064-55<br>Depth : 33.00<br>11/17/2022<br>pCi/l | | | | 064-56<br>Depth : 29.50<br>11/17/2022<br>pCi/l | | | | 064-80<br>Depth : 29.50<br>11/17/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | -18.9 | U | 358 | 196 | **817** | | 363 | 286 | -68.5 | U | 357 | 190 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 064-95<br>Depth : 32.50<br>04/29/2022<br>pCi/l | | | | 064-95<br>Depth : 32.50<br>10/12/2022<br>pCi/l | | | | 065-120<br>Depth : 29.90<br>11/17/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 239 | U | 361 | 227 | 309 | N2 | 286 | 192 | 227 | U | 430 | 262 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 065-121<br>Depth : 26.50<br>10/20/2022<br>pCi/l | | | | 065-122<br>Depth : 28.80<br>10/20/2022<br>pCi/l | | | | 065-123<br>Depth : 25.70<br>10/20/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | -236 | U | 437 | 214 | -149 | U | 435 | 223 | -27 | U | 414 | 229 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 065-124<br>Depth : 25.80<br>10/20/2022<br>pCi/l | | | | 065-125<br>Depth : 26.50<br>10/25/2022<br>pCi/l | | | | 065-126<br>Depth : 26.00<br>10/25/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | -72.1 | U | 443 | 235 | **2090** | | 425 | 447 | -280 | U | 421 | 203 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 065-192<br>Depth : 52.50<br>11/17/2022<br>pCi/l | | | | 065-193<br>Depth : 55.00<br>10/20/2022<br>pCi/l | | | | 065-194<br>Depth : 50.00<br>10/20/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | -90.5 | U | 422 | 206 | -241 | U | 425 | 208 | -131 | U | 427 | 222 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 065-195<br>Depth : 50.00<br>10/25/2022<br>pCi/l | | | | 065-321<br>Depth : 32.00<br>10/20/2022<br>pCi/l | | | | 065-322<br>Depth : 32.00<br>10/20/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | -290 | U | 431 | 205 | -171 | U | 420 | 214 | -236 | U | 437 | 214 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: AGS Research Areas (AGS)**

| | 065-323<br>Depth : 30.00<br>10/25/2022<br>pCi/l | | | | 065-324<br>Depth : 28.00<br>10/20/2022<br>pCi/l | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | | | | |
| Tritium | -147 | U | 402 | 210 | -72.1 | U | 429 | 230 | | | | |

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# Motor Pool Area
# Analytical Results

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: Motor Pool Area (MTP)**

| Analyte | 102-05<br>Depth : 56.74<br>10/18/2022<br>ug/L | | 102-06<br>Depth : 56.20<br>10/18/2022<br>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 | 0.18 | J | 0.12 | J | | | | | | | | |
| 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 | 0.18 | | 0.12 | | | | | | | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: Motor Pool Area (MTP)**

| Analyte | 102-05<br>Depth : 56.74<br>10/18/2022<br>ug/L | | 102-06<br>Depth : 56.20<br>10/18/2022<br>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**

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: Major Petroleum Facility (MPF)**

| Analyte | 076-16<br>Depth : 35.00<br>04/13/2022<br>ug/L | | 076-16<br>Depth : 35.00<br>10/10/2022<br>ug/L | | 076-17<br>Depth : 35.00<br>04/12/2022<br>ug/L | | 076-17<br>Depth : 35.00<br>10/10/2022<br>ug/L | | 076-18<br>Depth : 30.00<br>04/14/2022<br>ug/L | | 076-18<br>Depth : 30.00<br>10/10/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 5 | U | 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 | 5 | U |
| 1,1,2-Trichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-Dichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-Dichloroethylene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-Dichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-Dichloropropane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 2-Hexanone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| Acetone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| Benzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Bromodichloromethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Bromoform | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Carbon disulfide | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Carbon tetrachloride | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Chlorobenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Chloroethane | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| Chloroform | 5 | U | 5 | U | 5 | U | 5 | U | 0.4 | J | 1.4 | J |
| cis-1,3-Dichloropropene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Dibromochloromethane | 5 | U | 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 | 5 | U |
| Ethylbenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| m-Dichlorobenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Methyl bromide | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| Methyl chloride | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| Methyl ethyl ketone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| Methyl isobutyl ketone (MIBK) | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| Methyl tert-butyl ether | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| Methylene chloride | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| o-Dichlorobenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| p-Dichlorobenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Tetrachloroethylene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Toluene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| trans-1,3-Dichloropropene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Trichloroethylene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Trichlorofluoromethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Vinyl acetate | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| Vinyl chloride | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: Major Petroleum Facility (MPF)**

| Analyte | 076-19 Depth : 30.00 04/14/2022 ug/L | | 076-19 Depth : 30.00 10/12/2022 ug/L | | 076-25 Depth : 42.00 04/12/2022 ug/L | | 076-25 Depth : 42.00 10/12/2022 ug/L | | 076-378 Depth : 34.50 04/13/2022 ug/L | | 076-378 Depth : 34.50 10/10/2022 ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 5 | U | 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 | 5 | U |
| 1,1,2-Trichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-Dichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-Dichloroethylene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-Dichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-Dichloropropane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 2-Hexanone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| Acetone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| Benzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Bromodichloromethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Bromoform | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Carbon disulfide | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Carbon tetrachloride | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Chlorobenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Chloroethane | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| Chloroform | 5 | U | 5 | U | 0.49 | J | 5 | U | 5 | U | 5 | U |
| cis-1,3-Dichloropropene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Dibromochloromethane | 5 | U | 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 | 5 | U |
| Ethylbenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| m-Dichlorobenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Methyl bromide | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| Methyl chloride | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| Methyl ethyl ketone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| Methyl isobutyl ketone (MIBK) | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| Methyl tert-butyl ether | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| Methylene chloride | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| o-Dichlorobenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| p-Dichlorobenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Tetrachloroethylene | 5 | U | 5 | U | 4.3 | J | **5.5** | | 5 | U | 5 | U |
| Toluene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| trans-1,3-Dichloropropene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Trichloroethylene | 5 | U | 5 | U | 0.41 | J | 5 | U | 5 | U | 5 | U |
| Trichlorofluoromethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Vinyl acetate | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| Vinyl chloride | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: Major Petroleum Facility (MPF)**

| Analyte | 076-379<br>Depth : 35.50<br>04/12/2022<br>ug/L | | 076-379<br>Depth : 35.50<br>10/11/2022<br>ug/L | | 076-380<br>Depth : 34.50<br>04/13/2022<br>ug/L | | 076-380<br>Depth : 34.50<br>10/11/2022<br>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 | 2.7 | J | 3.9 | J | | | | |
| 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 | | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: Major Petroleum Facility (MPF)**

| Analyte | 076-16<br>Depth : 35.00<br>04/13/2022<br>ug/L | | 076-16<br>Depth : 35.00<br>10/10/2022<br>ug/L | | 076-17<br>Depth : 35.00<br>04/12/2022<br>ug/L | | 076-17<br>Depth : 35.00<br>10/10/2022<br>ug/L | | 076-18<br>Depth : 30.00<br>04/14/2022<br>ug/L | | 076-18<br>Depth : 30.00<br>10/10/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| 2,4,6-Trichlorophenol | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| 2,4-Dichlorophenol | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| 2,4-Dimethylphenol | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| 2,4-Dinitrophenol | 29 | U | 31 | U | 29 | U | 31 | U | 31 | U | 31 | U |
| 2,4-Dinitrotoluene | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| 2,6-Dinitrotoluene | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| 2-Chloronaphthalene | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| 2-Chlorophenol | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| 3,3'-Dichlorobenzidine | 48 | U | 52 | U | 48 | U | 52 | U | 51 | U | 51 | U |
| 4,6-Dinitro-o-cresol | 48 | U | 52 | U | 48 | U | 52 | U | 51 | U | 51 | U |
| 4-Bromophenyl phenyl ether | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| 4-Chlorophenyl phenyl ether | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| Acenaphthene | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| Acenaphthylene | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| Anthracene | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| Benzo(a)anthracene | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| Benzo(a)pyrene | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| Benzo(b)fluoranthene | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| Benzo(ghi)perylene | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| Benzo(k)fluoranthene | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| Bis(2-chloroethoxy)methane | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| Bis(2-chloroethyl)ether | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| Bis(2-ethylhexyl)phthalate | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| bis-chloroisopropyl ether | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| Butyl benzyl phthalate | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| Chrysene | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| Di-n-butyl phthalate | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| Di-n-octyl phthalate | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| Dibenzo(a,h)anthracene | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| Diethyl phthalate | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| Dimethyl phthalate | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| Fluoranthene | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| Fluorene | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| Hexachlorobenzene | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| Hexachlorobutadiene | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| Hexachlorocyclopentadiene | 48 | U | 52 | U | 48 | U | 52 | U | 51 | U | 51 | U |
| Hexachloroethane | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| Indeno(1,2,3-cd)pyrene | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| Isophorone | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 0.38 | J | 10 | U |
| N-Nitrosodimethylamine | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| N-Nitrosodiphenylamine | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| N-Nitrosodipropylamine | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 0.36 | J | 10 | U |
| Naphthalene | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| Nitrobenzene | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| o-Nitrophenol | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 2.9 | J | 10 | U |
| p-Chloro-m-cresol | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| p-Nitrophenol | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| PCP | 48 | U | 52 | U | 48 | U | 52 | U | 51 | U | 51 | U |
| Phenanthrene | 3.8 | U | 4.2 | U | 3.9 | U | 4.2 | U | 4.1 | U | 4.1 | U |
| Phenol | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |
| Pyrene | 9.6 | U | 10 | U | 9.6 | U | 10 | U | 10 | U | 10 | U |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: Major Petroleum Facility (MPF)**

| Analyte | 076-19 Depth : 30.00 04/14/2022 ug/L | | 076-19 Depth : 30.00 10/12/2022 ug/L | | 076-25 Depth : 42.00 04/12/2022 ug/L | | 076-25 Depth : 42.00 10/12/2022 ug/L | | 076-378 Depth : 34.50 04/13/2022 ug/L | | 076-378 Depth : 34.50 10/10/2022 ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 4.2 | U | 4 | U | 4.2 | U | 3.9 | U | 3.8 | U | 4.1 | U |
| 2,4,6-Trichlorophenol | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| 2,4-Dichlorophenol | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| 2,4-Dimethylphenol | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| 2,4-Dinitrophenol | 32 | U | 30 | U | 32 | U | 29 | U | 29 | U | 30 | U |
| 2,4-Dinitrotoluene | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| 2,6-Dinitrotoluene | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| 2-Chloronaphthalene | 4.2 | U | 4 | U | 4.2 | U | 3.9 | U | 3.8 | U | 4.1 | U |
| 2-Chlorophenol | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| 3,3'-Dichlorobenzidine | 53 | U | 50 | U | 53 | U | 48 | U | 48 | U | 51 | U |
| 4,6-Dinitro-o-cresol | 53 | U | 50 | U | 53 | U | 48 | U | 48 | U | 51 | U |
| 4-Bromophenyl phenyl ether | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| 4-Chlorophenyl phenyl ether | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| Acenaphthene | 4.2 | U | 4 | U | 4.2 | U | 3.9 | U | 3.8 | U | 4.1 | U |
| Acenaphthylene | 4.2 | U | 4 | U | 4.2 | U | 3.9 | U | 3.8 | U | 4.1 | U |
| Anthracene | 4.2 | U | 4 | U | 4.2 | U | 3.9 | U | 3.8 | U | 4.1 | U |
| Benzo(a)anthracene | 4.2 | U | 4 | U | 4.2 | U | 3.9 | U | 3.8 | U | 4.1 | U |
| Benzo(a)pyrene | 4.2 | U | 4 | U | 4.2 | U | 3.9 | U | 3.8 | U | 4.1 | U |
| Benzo(b)fluoranthene | 4.2 | U | 4 | U | 4.2 | U | 3.9 | U | 3.8 | U | 4.1 | U |
| Benzo(ghi)perylene | 4.2 | U | 4 | U | 4.2 | U | 3.9 | U | 3.8 | U | 4.1 | U |
| Benzo(k)fluoranthene | 4.2 | U | 4 | U | 4.2 | U | 3.9 | U | 3.8 | U | 4.1 | U |
| Bis(2-chloroethoxy)methane | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| Bis(2-chloroethyl)ether | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| Bis(2-ethylhexyl)phthalate | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| bis-chloroisopropyl ether | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| Butyl benzyl phthalate | 4.2 | U | 4 | U | 4.2 | U | 3.9 | U | 3.8 | U | 4.1 | U |
| Chrysene | 4.2 | U | 4 | U | 4.2 | U | 3.9 | U | 3.8 | U | 4.1 | U |
| Di-n-butyl phthalate | 4.2 | U | 4 | U | 4.2 | U | 3.9 | U | 3.8 | U | 4.1 | U |
| Di-n-octyl phthalate | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| Dibenzo(a,h)anthracene | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| Diethyl phthalate | 4.2 | U | 4 | U | **11** | | 3.9 | U | 3.8 | U | 4.1 | U |
| Dimethyl phthalate | 4.2 | U | 4 | U | 4.2 | U | 3.9 | U | 3.8 | U | 4.1 | U |
| Fluoranthene | 4.2 | U | 4 | U | 4.2 | U | 3.9 | U | 3.8 | U | 4.1 | U |
| Fluorene | 4.2 | U | 4 | U | 4.2 | U | 3.9 | U | 3.8 | U | 4.1 | U |
| Hexachlorobenzene | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| Hexachlorobutadiene | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| Hexachlorocyclopentadiene | 53 | U | 50 | U | 53 | U | 48 | U | 48 | U | 51 | U |
| Hexachloroethane | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| Indeno(1,2,3-cd)pyrene | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| Isophorone | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| N-Nitrosodimethylamine | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| N-Nitrosodiphenylamine | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| N-Nitrosodipropylamine | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| Naphthalene | 4.2 | U | 4 | U | 4.2 | U | 3.9 | U | 3.8 | U | 4.1 | U |
| Nitrobenzene | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| o-Nitrophenol | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| p-Chloro-m-cresol | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| p-Nitrophenol | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| PCP | 53 | U | 50 | U | 53 | U | 48 | U | 48 | U | 51 | U |
| Phenanthrene | 4.2 | U | 4 | U | 4.2 | U | 3.9 | U | 3.8 | U | 4.1 | U |
| Phenol | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |
| Pyrene | 11 | U | 10 | U | 11 | U | 9.6 | U | 9.5 | U | 10 | U |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: Major Petroleum Facility (MPF)**

| Analyte | 076-379<br>Depth : 35.50<br>04/12/2022<br>ug/L | | 076-379<br>Depth : 35.50<br>10/11/2022<br>ug/L | | 076-380<br>Depth : 34.50<br>04/13/2022<br>ug/L | | 076-380<br>Depth : 34.50<br>10/11/2022<br>ug/L | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 3.9 | U | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| 2,4,6-Trichlorophenol | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| 2,4-Dichlorophenol | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| 2,4-Dimethylphenol | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| 2,4-Dinitrophenol | 30 | U | 30 | U | 29 | U | 30 | UJ | | | | |
| 2,4-Dinitrotoluene | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| 2,6-Dinitrotoluene | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| 2-Chloronaphthalene | 3.9 | U | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| 2-Chlorophenol | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| 3,3'-Dichlorobenzidine | 49 | U | 51 | U | 48 | U | 51 | UJ | | | | |
| 4,6-Dinitro-o-cresol | 49 | U | 51 | U | 48 | U | 51 | UJ | | | | |
| 4-Bromophenyl phenyl ether | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| 4-Chlorophenyl phenyl ether | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| Acenaphthene | 3.9 | U | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| Acenaphthylene | 3.9 | U | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| Anthracene | 3.9 | U | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| Benzo(a)anthracene | 3.9 | U | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| Benzo(a)pyrene | 3.9 | U | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| Benzo(b)fluoranthene | 3.9 | U | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| Benzo(ghi)perylene | 3.9 | U | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| Benzo(k)fluoranthene | 3.9 | U | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| Bis(2-chloroethoxy)methane | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| Bis(2-chloroethyl)ether | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| Bis(2-ethylhexyl)phthalate | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| bis-chloroisopropyl ether | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| Butyl benzyl phthalate | 3.9 | U | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| Chrysene | 3.9 | U | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| Di-n-butyl phthalate | 3.9 | U | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| Di-n-octyl phthalate | 9.9 | U | 10 | U | 5.1 | J | 10 | UJ | | | | |
| Dibenzo(a,h)anthracene | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| Diethyl phthalate | **12** | | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| Dimethyl phthalate | 3.9 | U | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| Fluoranthene | 3.9 | U | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| Fluorene | 3.9 | U | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| Hexachlorobenzene | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| Hexachlorobutadiene | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| Hexachlorocyclopentadiene | 49 | U | 51 | U | 48 | U | 51 | UJ | | | | |
| Hexachloroethane | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| Indeno(1,2,3-cd)pyrene | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| Isophorone | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| N-Nitrosodimethylamine | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| N-Nitrosodiphenylamine | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| N-Nitrosodipropylamine | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| Naphthalene | 3.9 | U | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| Nitrobenzene | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| o-Nitrophenol | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| p-Chloro-m-cresol | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| p-Nitrophenol | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| PCP | 49 | U | 51 | U | 48 | U | 51 | UJ | | | | |
| Phenanthrene | 3.9 | U | 4.1 | U | 3.8 | U | 4.1 | UJ | | | | |
| Phenol | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |
| Pyrene | 9.9 | U | 10 | U | 9.5 | U | 10 | UJ | | | | |

# RHIC Facility
# Analytical Results

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**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: RHIC Facility (RHIC)**

| | 025-03<br>Depth : 45.70<br>02/15/2022<br>pCi/l | | | | 025-03<br>Depth : 45.70<br>08/29/2022<br>pCi/l | | | | 025-04<br>Depth : 45.80<br>02/15/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 108 | U | 384 | 223 | 149 | U | 344 | 202 | -17.6 | U | 381 | 206 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: RHIC Facility (RHIC)**

| | 025-04<br>Depth : 45.80<br>08/30/2022<br>pCi/l | | | | 025-05<br>Depth : 11.80<br>02/08/2022<br>pCi/l | | | | 025-05<br>Depth : 11.80<br>08/30/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 49.5 | U | 328 | 183 | -123 | U | 379 | 193 | 116 | U | 320 | 188 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: RHIC Facility (RHIC)**

| | 025-06<br>Depth : 12.40<br>02/08/2022<br>pCi/l | | | | 025-06<br>Depth : 12.40<br>08/30/2022<br>pCi/l | | | | 025-07<br>Depth : 13.30<br>02/08/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 15.3 | U | 384 | 212 | 83.8 | U | 315 | 182 | 18 | U | 379 | 210 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: RHIC Facility (RHIC)**

| | 025-07<br>Depth : 13.30<br>08/29/2022<br>pCi/l | | | | 025-08<br>Depth : 12.30<br>02/08/2022<br>pCi/l | | | | 025-08<br>Depth : 12.30<br>08/29/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 45.5 | U | 314 | 176 | 67.6 | U | 377 | 216 | 154 | U | 333 | 199 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: RHIC Facility (RHIC)**

| | 034-05<br>Depth : 42.50<br>02/15/2022<br>pCi/l | | | | 034-05<br>Depth : 42.50<br>08/29/2022<br>pCi/l | | | | 034-06<br>Depth : 41.80<br>02/15/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | -27.5 | U | 377 | 204 | -23.9 | U | 319 | 169 | 36 | U | 386 | 215 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: RHIC Facility (RHIC)**

| | 034-06<br>Depth : 41.80<br>08/29/2022<br>pCi/l | | | | 043-01<br>Depth : 41.30<br>02/08/2022<br>pCi/l | | | | 043-01<br>Depth : 41.30<br>08/30/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 149 | U | 322 | 194 | -160 | U | 386 | 190 | 73 | U | 309 | 178 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: RHIC Facility (RHIC)**

| | 043-02<br>Depth : 63.80<br>02/08/2022<br>pCi/l | | | | 043-02<br>Depth : 63.80<br>08/30/2022<br>pCi/l | | | | 044-13<br>Depth : 38.30<br>02/08/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | -18 | U | 384 | 208 | 221 | U | 338 | 210 | -24.3 | U | 373 | 202 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: RHIC Facility (RHIC)**

| | 044-13<br>Depth : 38.30<br>08/15/2022<br>pCi/l | | | | 044-14<br>Depth : 59.00<br>02/08/2022<br>pCi/l | | | | 044-14<br>Depth : 59.00<br>08/15/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 112 | U | 317 | 186 | 58.6 | U | 382 | 216 | 109 | U | 318 | 186 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: RHIC Facility (RHIC)**

| | 044-29<br>Depth : 35.00<br>02/08/2022<br>pCi/l | | | | 044-29<br>Depth : 35.00<br>08/22/2022<br>pCi/l | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | | | | |
| Tritium | -5.41 | U | 381 | 208 | 199 | U | 365 | 218 | | | | |

**Service Station Analytical Results**

**(No groundwater samples were collected in 2022)**

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# Sewage Treatment Plant and Peconic River
# Analytical Results

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**2022 Groundwater Data : Metals**
**Brookhaven National Laboratory**
**Project: STP and Peconic River (STP)**

| Analyte | 039-115<br>Depth : 17.50<br>11/03/2022<br>ug/L | | 039-87<br>Depth : 17.50<br>11/03/2022<br>ug/L | | 039-88<br>Depth : 24.50<br>11/03/2022<br>ug/L | | 039-89<br>Depth : 22.50<br>11/03/2022<br>ug/L | | 048-08<br>Depth : 17.50<br>11/03/2022<br>ug/L | | 048-09<br>Depth : 17.50<br>11/03/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | **6.67** | B | 3.5 | U | **3.61** | B | 3.5 | U | **4.49** | B | 3.5 | U |
| Arsenic | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| Barium | **18.3** | B | **7.95** | B | **50.4** | B | **73.1** | B | **27** | B | **13.3** | 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 | **34400** | | **6290** | | **19400** | | **16700** | | **8700** | | **1780** | B |
| Chromium | **1.49** | B | **1.17** | B | **1.55** | B | **1.4** | B | **1.57** | B | **1.54** | B |
| Cobalt | 1 | U | 1 | U | 1 | U | **1.43** | B | 1 | U | 1 | U |
| Copper | **5.69** | B | 3 | U | **3.85** | B | **6.55** | B | 3 | U | 3 | U |
| Iron | **67.3** | B | **83.6** | B | 30 | U | **35.5** | B | 30 | U | 30 | U |
| Lead | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U | 0.5 | U |
| Magnesium | **8400** | | **1320** | B | **6880** | | **4960** | B | **3220** | B | **646** | B |
| Manganese | 2 | U | **11.4** | B | **5.37** | B | 2 | U | **49.7** | | **8.34** | B |
| Mercury | 0.067 | U | 0.067 | U | 0.067 | U | 0.067 | U | 0.067 | U | 0.067 | U |
| Nickel | **2.94** | B | 1.5 | U | **1.81** | B | **3.15** | B | **2.39** | B | **2.79** | B |
| Potassium | **4510** | B | **608** | B | **4930** | B | **5560** | | **853** | B | **430** | B |
| Selenium | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U | 1.5 | U |
| Silver | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U | 1 | U |
| Sodium | **84400** | | **2130** | B | **102000** | | **108000** | | **55700** | | **6740** | |
| 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 | 3.3 | U | **4.07** | B | 3.3 | U | 3.3 | U | 3.3 | U | 3.3 | U |

**2022 Groundwater Data : Metals**
**Brookhaven National Laboratory**
**Project: STP and Peconic River (STP)**

| Analyte | 048-10<br>Depth : 17.50<br>11/03/2022<br>ug/L | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 3.5 | U | | | | | | | | | | |
| Arsenic | 2 | U | | | | | | | | | | |
| Barium | **6.23** | B | | | | | | | | | | |
| Beryllium | 1 | U | | | | | | | | | | |
| Cadmium | 1 | U | | | | | | | | | | |
| Calcium | **840** | B | | | | | | | | | | |
| Chromium | **1.01** | B | | | | | | | | | | |
| Cobalt | 1 | U | | | | | | | | | | |
| Copper | 3 | U | | | | | | | | | | |
| Iron | **399** | | | | | | | | | | | |
| Lead | 0.5 | U | | | | | | | | | | |
| Magnesium | **540** | B | | | | | | | | | | |
| Manganese | **27.5** | | | | | | | | | | | |
| Mercury | 0.067 | U | | | | | | | | | | |
| Nickel | **2.35** | B | | | | | | | | | | |
| Potassium | **292** | B | | | | | | | | | | |
| Selenium | 1.5 | U | | | | | | | | | | |
| Silver | 1 | U | | | | | | | | | | |
| Sodium | **4120** | B | | | | | | | | | | |
| Thallium | 0.6 | U | | | | | | | | | | |
| Vanadium | 1 | U | | | | | | | | | | |
| Zinc | 3.3 | U | | | | | | | | | | |

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**Waste Management Facility**

**Analytical Results**

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: New Waste Mgt Facility (WMF)**

| Analyte | 055-03<br>Depth : 50.00<br>02/03/2022<br>ug/L | | 055-03<br>Depth : 50.00<br>08/19/2022<br>ug/L | | 055-10<br>Depth : 94.00<br>02/03/2022<br>ug/L | | 055-10<br>Depth : 94.00<br>08/19/2022<br>ug/L | | 056-21<br>Depth : 51.00<br>02/03/2022<br>ug/L | | 056-21<br>Depth : 51.00<br>08/19/2022<br>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 | 0.5 | U | 0.5 | U | **0.61** | J | **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 | 0.5 | 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 | 1 | 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 | 0.5 | 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 |
| 8260 TVOC | 0 | | 0 | | 0.61 | | 0.52 | | 0 | | 0 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: New Waste Mgt Facility (WMF)**

| Analyte | 056-22<br>Depth : 51.00<br>02/03/2022<br>ug/L | | 056-22<br>Depth : 51.00<br>08/22/2022<br>ug/L | | 056-23<br>Depth : 51.00<br>02/03/2022<br>ug/L | | 066-220<br>Depth : 46.00<br>02/03/2022<br>ug/L | | 066-220<br>Depth : 46.00<br>08/14/2022<br>ug/L | | 066-221<br>Depth : 47.00<br>02/02/2022<br>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 | 0.5 | 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 | 0.5 | 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 | 1 | U | 0.5 | 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 | 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 | | |
| 8260 TVOC | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

**2022 Groundwater Data : Volatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: New Waste Mgt Facility (WMF)**

| Analyte | 066-221<br>Depth : 47.00<br>08/22/2022<br>ug/L | | 066-222<br>Depth : 48.00<br>02/02/2022<br>ug/L | | 066-222<br>Depth : 48.00<br>08/22/2022<br>ug/L | | 066-223<br>Depth : 48.00<br>02/02/2022<br>ug/L | | 066-223<br>Depth : 48.00<br>08/22/2022<br>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 | 0.5 | 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 | 0.5 | 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 | 0.5 | 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 | 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 | | |
| 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 | 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 | | |
| 8260 TVOC | 0 | | 0 | | 0 | | 0 | | 0 | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: New Waste Mgt Facility (WMF)**

| Analyte | 055-03<br>Depth : 50.00<br>02/03/2022<br>ug/L | | 055-03<br>Depth : 50.00<br>08/19/2022<br>ug/L | | 055-10<br>Depth : 94.00<br>02/03/2022<br>ug/L | | 055-10<br>Depth : 94.00<br>08/19/2022<br>ug/L | | 056-21<br>Depth : 51.00<br>02/03/2022<br>ug/L | | 056-21<br>Depth : 51.00<br>08/19/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: New Waste Mgt Facility (WMF)**

| Analyte | 056-22<br>Depth : 51.00<br>02/03/2022<br>ug/L | | 056-22<br>Depth : 51.00<br>08/22/2022<br>ug/L | | 056-23<br>Depth : 51.00<br>02/03/2022<br>ug/L | | 066-220<br>Depth : 46.00<br>02/03/2022<br>ug/L | | 066-220<br>Depth : 46.00<br>08/14/2022<br>ug/L | | 066-221<br>Depth : 47.00<br>02/02/2022<br>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 |

**2022 Groundwater Data : Semivolatile Organic Compounds**

**Brookhaven National Laboratory**

**Project: New Waste Mgt Facility (WMF)**

| Analyte | 066-221<br>Depth : 47.00<br>08/22/2022<br>ug/L | | 066-222<br>Depth : 48.00<br>02/02/2022<br>ug/L | | 066-222<br>Depth : 48.00<br>08/22/2022<br>ug/L | | 066-223<br>Depth : 48.00<br>02/02/2022<br>ug/L | | 066-223<br>Depth : 48.00<br>08/22/2022<br>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 | | |

**2022 Groundwater Data : Metals**
**Brookhaven National Laboratory**
**Project: New Waste Mgt Facility (WMF)**

| Analyte | 055-03<br>Depth : 50.00<br>08/19/2022<br>ug/L | | 055-10<br>Depth : 94.00<br>08/19/2022<br>ug/L | | 056-21<br>Depth : 51.00<br>08/19/2022<br>ug/L | | 056-22<br>Depth : 51.00<br>08/22/2022<br>ug/L | | 066-220<br>Depth : 46.00<br>08/14/2022<br>ug/L | | 066-221<br>Depth : 47.00<br>08/22/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | **60** | | **110** | | **35** | | **41** | | 14 | B | **48** | |
| Beryllium | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| Cadmium | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U | 0.27 | B |
| Calcium | **12000** | | **27000** | | **13000** | | **11000** | | **5900** | | **34000** | |
| Chromium | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 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 | **170** | | 22 | B | 50 | U | 50 | U | 28 | B | **110** | |
| Lead | 1 | B | 3 | U | 3 | U | 3 | U | 3 | U | 1.6 | B |
| Magnesium | **3300** | | **8700** | | **2800** | | **3500** | | **1000** | | **3600** | |
| Manganese | **7.1** | | 5 | U | 5 | U | 5 | U | **5.1** | | **16** | |
| 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 | 10 | U | 10 | U |
| Potassium | 900 | B | **3000** | | 1100 | B | 1300 | B | 680 | B | 1400 | 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 | **160000** | | **93000** | | **28000** | | **50000** | | **4700** | | **61000** | |
| Thallium | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Vanadium | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| Zinc | 20 | U | 20 | U | 20 | U | 20 | U | 20 | U | 20 | U |

**2022 Groundwater Data : Metals**
**Brookhaven National Laboratory**
**Project: New Waste Mgt Facility (WMF)**

| Analyte | 066-222<br>Depth : 48.00<br>08/22/2022<br>ug/L | | 066-223<br>Depth : 48.00<br>08/22/2022<br>ug/L | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | 5 | U | 5 | U | | | | | | | | |
| Arsenic | 5 | U | 5 | U | | | | | | | | |
| Barium | **23** | | **26** | | | | | | | | | |
| Beryllium | 2 | U | 2 | U | | | | | | | | |
| Cadmium | 2 | U | 2 | U | | | | | | | | |
| Calcium | **9600** | | **10000** | | | | | | | | | |
| Chromium | 10 | U | 10 | U | | | | | | | | |
| Cobalt | 5 | U | 5 | U | | | | | | | | |
| Copper | 10 | U | 10 | U | | | | | | | | |
| Iron | 25 | B | 33 | B | | | | | | | | |
| Lead | 3 | U | 3 | U | | | | | | | | |
| Magnesium | **1500** | | **2800** | | | | | | | | | |
| Manganese | 5 | U | 5 | U | | | | | | | | |
| Mercury | 0.2 | U | 0.2 | U | | | | | | | | |
| Nickel | 10 | U | 10 | U | | | | | | | | |
| Potassium | 1400 | B | 1200 | B | | | | | | | | |
| Selenium | 5 | U | 5 | U | | | | | | | | |
| Silver | 2 | U | 2 | U | | | | | | | | |
| Sodium | **23000** | | **26000** | | | | | | | | | |
| Thallium | 5 | U | 5 | U | | | | | | | | |
| Vanadium | 5 | U | 5 | U | | | | | | | | |
| Zinc | 20 | U | 20 | U | | | | | | | | |

**2022 Groundwater Data : General Chemistry**

**Brookhaven National Laboratory**

**Project: New Waste Mgt Facility (WMF)**

| Analyte | 055-03<br>Depth : 50.00<br>08/19/2022<br>ug/L | | 055-10<br>Depth : 94.00<br>08/19/2022<br>ug/L | | 056-21<br>Depth : 51.00<br>08/19/2022<br>ug/L | | 056-22<br>Depth : 51.00<br>08/22/2022<br>ug/L | | 066-220<br>Depth : 46.00<br>08/14/2022<br>ug/L | | 066-221<br>Depth : 47.00<br>08/22/2022<br>ug/L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | **230** | | **190** | | **50** | | **65** | | **4** | | **120** | |
| Nitrite + Nitrate-N | **0.34** | | **1.8** | | **1.7** | | **1.3** | | **2.6** | | **3.6** | |
| Sulfate | **9.3** | | **10** | | **13** | | **16** | | **5.4** | | **22** | |

**2022 Groundwater Data : General Chemistry**

**Brookhaven National Laboratory**

**Project: New Waste Mgt Facility (WMF)**

| Analyte | 066-222<br>Depth : 48.00<br>08/22/2022<br>ug/L | | 066-223<br>Depth : 48.00<br>08/22/2022<br>ug/L | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | **20** | | **31** | | | | | | | | | |
| Nitrite + Nitrate-N | **1.4** | | **1.9** | | | | | | | | | |
| Sulfate | **18** | | **27** | | | | | | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: New Waste Mgt Facility (WMF)**

| | 055-03<br>Depth : 50.00<br>02/03/2022<br>pCi/l | | | | 055-03<br>Depth : 50.00<br>08/19/2022<br>pCi/l | | | | 055-10<br>Depth : 94.00<br>02/03/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Beryllium-7 | 3.83 | U | 26.5 | 14.3 | -33.3 | U DL | 74.6 | 63.3 | 0.986 | U | 19.8 | 10.8 |
| Cesium-134 | -0.6 | U | 2.94 | 1.71 | 1.68 | U DL | 13.8 | 2.38 | -0.772 | U | 2.37 | 1.41 |
| Cesium-137 | 1.63 | U | 3.31 | 1.65 | -0.255 | U | 9.6 | 8.12 | 0.376 | U | 2.52 | 1.53 |
| Co-60 | 0.265 | U | 3.31 | 1.68 | 2.27 | U | 9.66 | 1.93 | -0.898 | U | 2.65 | 1.52 |
| Cobalt-57 | -0.12 | U | 2.7 | 1.61 | -0.111 | U DL | 6.48 | 3.79 | 0.185 | U | 2.18 | 1.26 |
| Europium-152 | -0.05 | U | 8.81 | 5.39 | 10 | U DL | 97.9 | 14.1 | -1.26 | U | 6.8 | 3.78 |
| Europium-154 | -0.017 | U | 8.39 | 4.3 | 5.9 | U DL | 87.3 | 13.5 | -1.97 | U | 6.96 | 3.9 |
| Europium-155 | -0.239 | U | 11.4 | 6.74 | -9 | U | 31.2 | 18.7 | 5.11 | U | 9.23 | 9.11 |
| Gross Alpha | 0.703 | U | 1.91 | 1.08 | 4.22 | U DL | 5.38 | 3.52 | 0.0888 | U | 2 | 0.947 |
| Gross Beta | 1.14 | U | 1.89 | 1.15 | 1.46 | U | 1.92 | 1.27 | 3.26 | J | 3.23 | 2.06 |
| Manganese-54 | -0.0633 | U | 3.03 | 1.93 | 2.53 | U DL | 7.33 | 4.35 | 1.16 | U | 2.65 | 1.38 |
| Sodium-22 | -0.296 | U | 2.95 | 1.56 | -4.35 | U DL | 11.6 | 6.91 | -0.751 | U | 2.41 | 1.36 |
| Strontium-90 | | | | | 0.227 | U | 0.251 | 0.162 | | | | |
| Tritium | -67 | U | 401 | 221 | -86.5 | U | 382 | 197 | -210 | U | 407 | 215 |
| Zinc-65 | 0.134 | U | 6.08 | 3.54 | 7.39E-08 | U DL | 22.6 | 12.7 | -2.47 | U | 5.26 | 3.04 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: New Waste Mgt Facility (WMF)**

| | 055-10<br>Depth : 94.00<br>08/19/2022<br>pCi/l | | | | 056-21<br>Depth : 51.00<br>02/03/2022<br>pCi/l | | | | 056-21<br>Depth : 51.00<br>08/19/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Beryllium-7 | -29.3 | U DL | 68.9 | 55.7 | -2.92 | U | 21.2 | 13.6 | -11.6 | U DL | 66.8 | 55.3 |
| Cesium-134 | 5.6 | U DL | 11.2 | 9.54 | -0.0487 | U | 2.78 | 1.46 | 3.08 | U DL | 15.5 | 5.58 |
| Cesium-137 | -1.35 | U | 8.82 | 7.11 | -0.142 | U | 2.41 | 1.36 | 3.24 | U | 6.99 | 6.03 |
| Co-60 | -8.55 | U | 14 | 10.2 | 0.726 | U | 3.35 | 1.75 | -5.3 | U | 12.4 | 11.8 |
| Cobalt-57 | 0 | U DL | 6.66 | 2.06 | -0.737 | U | 2.08 | 1.29 | -0.135 | U DL | 6.39 | 3.74 |
| Europium-152 | 17.1 | U DL | 95.3 | 24.7 | 2.14 | U | 7.93 | 4.23 | 12 | U DL | 113 | 16.6 |
| Europium-154 | 6.74 | U DL | 79.4 | 13.1 | -1.47 | U | 7.99 | 4.46 | 22.7 | U DL | 63.9 | 25 |
| Europium-155 | -9.34 | U | 30.8 | 24.9 | 0.879 | U | 8.62 | 5.04 | -3.65 | U | 30 | 17.7 |
| Gross Alpha | -0.455 | U DL | 4.45 | 2.35 | 0.693 | U | 1.76 | 1.02 | -0.59 | U | 1.54 | 0.655 |
| Gross Beta | **1.91** | | 0.969 | 0.735 | 0.954 | U | 1.89 | 1.13 | 0.816 | U | 0.86 | 0.568 |
| Manganese-54 | 1.78 | U DL | 9.92 | 5.7 | -0.228 | U | 2.73 | 1.47 | -3.21 | U DL | 11.6 | 6.85 |
| Sodium-22 | -1.05 | U DL | 11.2 | 6.11 | -0.569 | U | 2.78 | 1.56 | 6.46 | N2 | 5.81 | 4.42 |
| Strontium-90 | 0.141 | U | 0.262 | 0.16 | 0.847 | U-DL | 0.997 | 0.602 | **0.489** | | 0.274 | 0.203 |
| Tritium | -125 | U | 383 | 193 | -106 | U | 412 | 225 | -54.5 | U | 476 | 235 |
| Zinc-65 | 0 | U DL | 24.4 | 5.43 | 0.915 | U | 6.16 | 3.57 | 0 | U DL | 25 | 8.04 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: New Waste Mgt Facility (WMF)**

| | 056-22<br>Depth : 51.00<br>02/03/2022<br>pCi/l | | | | 056-22<br>Depth : 51.00<br>08/22/2022<br>pCi/l | | | | 056-23<br>Depth : 51.00<br>02/03/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Beryllium-7 | -6.17 | U | 20.9 | 12 | 34.7 | U | 43 | 36 | -8.99 | U | 27.9 | 16.2 |
| Cesium-134 | 0.278 | U | 2.61 | 1.59 | 2.27 | U DL | 18 | 2.29 | -1.5 | U | 3.97 | 2.43 |
| Cesium-137 | 0.805 | U | 2.62 | 1.38 | -0.565 | U | 8.99 | 7.25 | -0.678 | U | 3.43 | 1.97 |
| Co-60 | -0.497 | U | 2.34 | 1.28 | 1.47 | U | 6.57 | 3.53 | -2.31 | U | 2.94 | 1.98 |
| Cobalt-57 | -0.0073 | U | 2.33 | 1.36 | -2.33 | U DL | 7.01 | 4.21 | 0.14 | U | 2.16 | 1.23 |
| Europium-152 | -0.259 | U | 7.45 | 4.09 | 7.55 | U DL | 118 | 15.7 | 1.98 | U | 9.25 | 4.82 |
| Europium-154 | 2.16 | U | 7.28 | 3.84 | 8.49 | U DL | 78.8 | 25.1 | -5.01 | U | 8.15 | 5.17 |
| Europium-155 | 2.55 | U | 9.85 | 7.29 | -9.76 | U | 32.9 | 8.93 | 5.07 | U | 8.94 | 4.79 |
| Gross Alpha | 0.73 | U | 1.91 | 1.1 | -0.118 | U | 1.68 | 0.815 | 0.3 | U | 1.94 | 0.91 |
| Gross Beta | 2.46 | J | 2.21 | 1.46 | **1.55** | | 0.86 | 0.644 | 0.251 | U | 1.94 | 1.05 |
| Manganese-54 | -0.622 | U | 2.23 | 1.32 | -6.27 | U DL | 13.5 | 9.38 | -0.324 | U | 3.59 | 1.9 |
| Sodium-22 | 0.782 | U | 2.57 | 1.35 | 0 | U DL | 10.4 | 3.1 | -1.96 | U | 2.87 | 1.86 |
| Strontium-90 | **1.76** | | 0.596 | 0.388 | -0.0267 | U | 0.237 | 0.128 | -1.58 | U-DL | 0.837 | 0.44 |
| Tritium | -60.2 | U | 407 | 225 | -30.2 | U | 383 | 205 | 205 | U | 411 | 244 |
| Zinc-65 | -2.23 | U | 4.81 | 3.22 | 0 | U DL | 26.8 | 1.95 | 0.0174 | U | 7.87 | 4.64 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: New Waste Mgt Facility (WMF)**

| | 066-220<br>Depth : 46.00<br>02/03/2022<br>pCi/l | | | | 066-220<br>Depth : 46.00<br>08/14/2022<br>pCi/l | | | | 066-221<br>Depth : 47.00<br>02/02/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Beryllium-7 | -2.75 | U | 29.2 | 16.2 | -4.42 | U DL | 64.7 | 53 | 4.15 | U | 21.5 | 11 |
| Cesium-134 | 1.29 | U | 4.41 | 2.27 | 4.26 | U DL | 12.4 | 8.13 | 0.919 | U | 2.71 | 1.3 |
| Cesium-137 | -0.489 | U | 3.72 | 2.11 | -4.51 | U | 9.96 | 8.72 | 0.11 | U | 2.73 | 1.46 |
| Co-60 | 1.02 | U | 4.15 | 1.96 | 0.367 | U | 9.66 | 0.631 | 0.175 | U | 2.63 | 1.29 |
| Cobalt-57 | 0.717 | U | 2.33 | 1.3 | 0.0961 | U DL | 6.25 | 3.65 | -0.142 | U | 1.88 | 1.06 |
| Europium-152 | 0.997 | U | 8.94 | 4.73 | 24.4 | U DL | 97.1 | 31.2 | 0.231 | U | 7.21 | 4.19 |
| Europium-154 | 0.995 | U | 11.4 | 5.68 | 24.9 | U DL | 63.9 | 30.9 | 0.781 | U | 7.63 | 3.72 |
| Europium-155 | -0.94 | U | 8.4 | 4.87 | 6.81 | U | 27.2 | 16.2 | 3.31 | U | 8.52 | 4.53 |
| Gross Alpha | 0.361 | U | 1.86 | 0.942 | 0.0114 | U | 1.13 | 0.585 | 0.999 | U | 1.9 | 1.18 |
| Gross Beta | 1.32 | U | 1.64 | 1.06 | 1.24 | N2 | 0.822 | 0.589 | 1.01 | U | 2.01 | 1.2 |
| Manganese-54 | -0.264 | U | 3.91 | 2.07 | 4.13 | U DL | 11.3 | 6.8 | -0.212 | U | 2.39 | 1.32 |
| Sodium-22 | -0.0257 | U | 4.01 | 2.08 | 2.81 | U DL | 7.75 | 4.57 | -0.146 | U | 2.65 | 1.36 |
| Strontium-90 | **0.962** | | 0.518 | 0.327 | 0.266 | N2 | 0.248 | 0.164 | 0.69 | U | 0.722 | 0.44 |
| Tritium | 8.06 | U | 408 | 230 | 0.45 | U | 383 | 209 | 13.3 | U | 404 | 228 |
| Zinc-65 | 0.428 | U | 9.22 | 4.83 | 2.88 | U DL | 24.7 | 14.2 | -1.39 | U | 4.19 | 2.67 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: New Waste Mgt Facility (WMF)**

| | 066-221<br>Depth : 47.00<br>08/22/2022<br>pCi/l | | | | 066-222<br>Depth : 48.00<br>02/02/2022<br>pCi/l | | | | 066-222<br>Depth : 48.00<br>08/22/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Beryllium-7 | 19.7 | U | 53.9 | 42.7 | 3.75 | U | 20.8 | 10.6 | -23.8 | U DL | 79.2 | 63.8 |
| Cesium-134 | 4.47 | U DL | 11.4 | 5.78 | 2.38 | U | 2.83 | 2.63 | 5.84 | U DL | 13 | 7 |
| Cesium-137 | 0.725 | U | 10.8 | 8.81 | 0.505 | U | 2.38 | 1.3 | -1.04 | U | 9.86 | 8.04 |
| Co-60 | 2.68 | U | 4.75 | 3.71 | -0.596 | U | 2.5 | 1.46 | 2.43 | U | 8.37 | 4.4 |
| Cobalt-57 | 1.57 | U DL | 6.88 | 3.75 | -0.186 | U | 1.97 | 1.13 | 1.09 | U DL | 6.89 | 4.72 |
| Europium-152 | 7.1 | U DL | 108 | 13.3 | -2.5 | U | 6.28 | 3.93 | 26.7 | U | 73.8 | 43.8 |
| Europium-154 | 4.8 | U DL | 99.9 | 8.6 | 2.62 | U | 8.9 | 4.39 | -57.8 | U DL | 113 | 98.9 |
| Europium-155 | 6.12 | U | 27.2 | 16.3 | 0.995 | U | 8.28 | 4.6 | 8.76 | U | 30.4 | 18.4 |
| Gross Alpha | 0.288 | U DL | 3.45 | 1.79 | -0.398 | U | 1.88 | 0.48 | 0.741 | U DL | 2.03 | 1.19 |
| Gross Beta | 1.92 | U | 2.17 | 1.42 | 0.811 | U | 1.68 | 0.992 | 0.954 | U | 0.982 | 0.652 |
| Manganese-54 | 2.42 | U DL | 7.11 | 4.19 | -0.0253 | U | 2.74 | 1.48 | -3.13 | U DL | 10.5 | 12.7 |
| Sodium-22 | -0.349 | U DL | 9.39 | 4.91 | 1.25 | U | 3.14 | 1.49 | -6.2 | U DL | 13.1 | 7.99 |
| Strontium-90 | 0.364 | N2 | 0.252 | 0.178 | -0.607 | U | 0.76 | 0.419 | 0.289 | N2 | 0.234 | 0.159 |
| Tritium | 122 | U | 382 | 223 | 219 | U | 408 | 243 | 10.4 | U | 380 | 209 |
| Zinc-65 | 7.58 | U DL | 22.3 | 13.2 | 0.881 | U | 5.58 | 3.18 | 5.99 | U DL | 19.3 | 11.4 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: New Waste Mgt Facility (WMF)**

| | 066-223<br>Depth : 48.00<br>02/02/2022<br>pCi/l | | | | 066-223<br>Depth : 48.00<br>08/22/2022<br>pCi/l | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | | | | |
| Beryllium-7 | -7.97 | U | 21 | 11.9 | -29.6 | U DL | 78.8 | 63.7 | | | | |
| Cesium-134 | -1.24 | U | 2.91 | 2.68 | 0.534 | U DL | 17.3 | 0.852 | | | | |
| Cesium-137 | 0.443 | U | 2.84 | 1.46 | 2.28 | U | 9.37 | 7.66 | | | | |
| Co-60 | 0.658 | U | 3.37 | 1.59 | 2.24 | U | 7.77 | 6.36 | | | | |
| Cobalt-57 | -0.0876 | U | 2.25 | 1.27 | 0 | U DL | 7.75 | 2.78 | | | | |
| Europium-152 | -0.475 | U | 7.44 | 4.38 | 16.2 | U DL | 117 | 37.9 | | | | |
| Europium-154 | 2.88 | U | 10.1 | 4.7 | 44.1 | U DL | 61.4 | 26 | | | | |
| Europium-155 | 1.56 | U | 10.4 | 5.76 | -3.61 | U | 31.4 | 19.4 | | | | |
| Gross Alpha | 1.75 | U | 1.85 | 1.37 | 1.12 | U DL | 3.91 | 2.26 | | | | |
| Gross Beta | 0.636 | U | 2.02 | 1.16 | 0.344 | U | 2.61 | 1.51 | | | | |
| Manganese-54 | -0.865 | U | 2.76 | 1.61 | -1.87 | U DL | 13.8 | 7.99 | | | | |
| Sodium-22 | 0.806 | U | 3.51 | 1.67 | -11.5 | U DL | 20.1 | 12.4 | | | | |
| Strontium-90 | **1.07** | | 0.616 | 0.386 | 0.175 | U | 0.245 | 0.154 | | | | |
| Tritium | -54 | U | 418 | 232 | 3.15 | U | 374 | 205 | | | | |
| Zinc-65 | -1.83 | U | 6.12 | 4.27 | -0.784 | U DL | 28.5 | 16.1 | | | | |

# NSLS II

## Analytical Results

**2022 Groundwater Data : Volatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: NSLS II (NSLS)**

| Analyte | 076-18<br>Depth : 30.00<br>04/14/2022<br>ug/L | | 076-18<br>Depth : 30.00<br>10/10/2022<br>ug/L | | 076-19<br>Depth : 30.00<br>04/14/2022<br>ug/L | | 076-19<br>Depth : 30.00<br>10/12/2022<br>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 | 0.4 | J | 1.4 | J | 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 | | | | |

**2022 Groundwater Data : Semivolatile Organic Compounds**
**Brookhaven National Laboratory**
**Project: NSLS II (NSLS)**

| Analyte | 076-18<br>Depth : 30.00<br>04/14/2022<br>ug/L | | 076-18<br>Depth : 30.00<br>10/10/2022<br>ug/L | | 076-19<br>Depth : 30.00<br>04/14/2022<br>ug/L | | 076-19<br>Depth : 30.00<br>10/12/2022<br>ug/L | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| 2,4,6-Trichlorophenol | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| 2,4-Dichlorophenol | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| 2,4-Dimethylphenol | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| 2,4-Dinitrophenol | 31 | U | 31 | U | 32 | U | 30 | U | | | | |
| 2,4-Dinitrotoluene | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| 2,6-Dinitrotoluene | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| 2-Chloronaphthalene | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| 2-Chlorophenol | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| 3,3'-Dichlorobenzidine | 51 | U | 51 | U | 53 | U | 50 | U | | | | |
| 4,6-Dinitro-o-cresol | 51 | U | 51 | U | 53 | U | 50 | U | | | | |
| 4-Bromophenyl phenyl ether | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| 4-Chlorophenyl phenyl ether | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| Acenaphthene | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| Acenaphthylene | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| Anthracene | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| Benzo(a)anthracene | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| Benzo(a)pyrene | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| Benzo(b)fluoranthene | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| Benzo(ghi)perylene | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| Benzo(k)fluoranthene | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| Bis(2-chloroethoxy)methane | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| Bis(2-chloroethyl)ether | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| Bis(2-ethylhexyl)phthalate | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| bis-chloroisopropyl ether | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| Butyl benzyl phthalate | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| Chrysene | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| Di-n-butyl phthalate | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| Di-n-octyl phthalate | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| Dibenzo(a,h)anthracene | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| Diethyl phthalate | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| Dimethyl phthalate | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| Fluoranthene | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| Fluorene | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| Hexachlorobenzene | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| Hexachlorobutadiene | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| Hexachlorocyclopentadiene | 51 | U | 51 | U | 53 | U | 50 | U | | | | |
| Hexachloroethane | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| Indeno(1,2,3-cd)pyrene | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| Isophorone | 0.38 | J | 10 | U | 11 | U | 10 | U | | | | |
| N-Nitrosodimethylamine | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| N-Nitrosodiphenylamine | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| N-Nitrosodipropylamine | 0.36 | J | 10 | U | 11 | U | 10 | U | | | | |
| Naphthalene | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| Nitrobenzene | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| o-Nitrophenol | 2.9 | J | 10 | U | 11 | U | 10 | U | | | | |
| p-Chloro-m-cresol | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| p-Nitrophenol | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| PCP | 51 | U | 51 | U | 53 | U | 50 | U | | | | |
| Phenanthrene | 4.1 | U | 4.1 | U | 4.2 | U | 4 | U | | | | |
| Phenol | 10 | U | 10 | U | 11 | U | 10 | U | | | | |
| Pyrene | 10 | U | 10 | U | 11 | U | 10 | U | | | | |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: NSLS II (NSLS)**

| | 076-18<br>Depth : 30.00<br>10/10/2022<br>pCi/l | | | | 076-19<br>Depth : 30.00<br>10/12/2022<br>pCi/l | | | | 086-123<br>Depth : 34.50<br>12/12/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | 259 | U | 291 | 188 | 23 | U | 467 | 246 | -226 | U | 450 | 237 |

**2022 Groundwater Data : Radionuclides**
**Brookhaven National Laboratory**
**Project: NSLS II (NSLS)**

| | 086-124<br>Depth : 47.00<br>12/12/2022<br>pCi/l | | | | 086-125<br>Depth : 37.00<br>12/12/2022<br>pCi/l | | | | 086-126<br>Depth : 36.50<br>12/12/2022<br>pCi/l | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Result | Qual | MDA | Error | Result | Qual | MDA | Error | Result | Qual | MDA | Error |
| Tritium | -199 | U | 453 | 241 | -235 | U | 449 | 236 | -104 | U | 451 | 246 |

# APPENDIX E
# SAMPLE COLLECTION, TRACKING, AND QA/QC RESULTS

APPENDIX E SAMPLE COLLECTION, TRACKING, AND QA/QC RESULTS

1.0 Groundwater Sampling....1
1.1 Sample Collection 1
1.1.1 Decontamination....2
1.2 Sample Tracking System....2
1.2.1 Sample Identification....2
1.2.2 Sample Tracking....3
1.2.3 Sample Packaging and Shipping....3
1.2.4 Sample Documentation....4
1.3 Analytical Methods....4
1.3.1 Chemical Analytical Methods....4
1.3.2 Radiological Analytical Methods....5
1.4 Quality Assurance and Quality Control....5
1.4.1 Calibration and Preventive Maintenance of Field Instruments....5
1.4.2 QA/QC Sample Collection....5
1.4.2.1 Equipment Blanks....6
1.4.2.2 Field Blanks....6
1.4.2.3 Trip Blanks....6
1.4.2.4 Duplicate Samples....7
1.4.2.5 Requirements for Matrix Spike/Matrix Spike Duplicate Volumes....7
1.4.4 Data Verification....8
1.4.5 Data Usability 8....
1.4.6 Data Qualification....9

## 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 2022 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.

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 downgradient from the wellhead. If the groundwater contains chemical contaminants above action levels, the purge water is run through granular activated carbon (GAC). If this takes place in the field using a portable GAC filter, the treated water is 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 will receive an electronic copy of the data validation package (when applicable).

5. 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 2022 were analyzed for organic, inorganic, and various wet-chemistry analytes. 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-chemistry 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, the 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. Radiological analyses were performed by GEL Laboratories, Eberline Analytical, and Eurofins-Test America.

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 2022 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 field duplicates.

Remediation Treatment System Sampling: trip blanks.

FM Groundwater Monitoring: trip blanks, field blanks, equipment blanks, and blind field 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 field 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 major constituent found in field blanks collected for VOCs in 2022 was chloroform (detected in 8 of 35 samples.) The highest concentration of any organic compound in a field blank was trichloroethylene, a volatile analyte, detected at 2.6 µg/L

#### 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. For 2022 trip blanks were 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. For 2023, BNL will be obtaining trip blanks from the contract analytical laboratories that supply the sample VOA vials as a way to more clearly track shipping contamination. 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. The total number of trip blanks collected in 2022 was 74. The constituent detected most frequently in the Trip blanks was chloroform which was detected 14 times. The chloroform 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 1.46 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 40 duplicate samples were collected for non-radiological analyses and 40 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 1677 non-radiologic parameters analyzed; 51 parameters (3%) were above 50% RPD. For the radiologic parameters 23 of the 202 parameters (11%) 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 2022, just under 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 2022 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.

# Appendix F
# 2022 Remediation System Data Tables

**Table F-1**
**Extraction Wells Radiological and VOC Data**
**OU I South Boundary System**

2022 BNL Groundwater Status Report

The extraction wells did not operate in 2022.

**Table F-2**
**Air Stripper Influent Radiological and VOC Data**
**OU I South Boundary System**

2022 BNL Groundwater Status Report

OU I South Boundary Treatment System was in standby mode during 2022.

**Table F-3**
**Air Stripper Effluent Radiological and VOC Data**
**OU I South Boundary System**

2022 BNL Groundwater Status Report

OU I South Boundary Treatment System was in standby mode during 2022.

**Table F-4**
**Cumulative Mass Removal**
**OU I South Boundary System**

2022 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**

2022 BNL Groundwater Status Report

**Site ID :** 095-151 (RTW-1 Influent)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 8260 TVOC | 1/6/2022 | 2.67 | 0 | UG/L | 0 | |
| Chloroform | 1/6/2022 | 0.47 | 0.5 | UG/L | 0 | J |
| Tetrachloroethylene | 1/6/2022 | 2.2 | 0.5 | UG/L | 0 | |
| 8260 TVOC | 1/20/2022 | 3.3 | 0 | UG/L | 0 | |
| Chloroform | 1/20/2022 | 0.6 | 0.5 | UG/L | 0 | |
| Tetrachloroethylene | 1/20/2022 | 2.7 | 0.5 | UG/L | 0 | |
| 8260 TVOC | 2/3/2022 | 2.2 | 0 | UG/L | 0 | |
| Tetrachloroethylene | 2/3/2022 | 2.2 | 0.5 | UG/L | 0 | |
| 8260 TVOC | 2/14/2022 | 3.1 | 0 | UG/L | 0 | |
| Chloroform | 2/14/2022 | 0.6 | 0.5 | UG/L | 0 | |
| Tetrachloroethylene | 2/14/2022 | 2.5 | 0.5 | UG/L | 0 | |
| 8260 TVOC | 3/4/2022 | 3.14 | 0 | UG/L | 0 | |
| Chloroform | 3/4/2022 | 0.54 | 0.5 | UG/L | 0 | |
| Tetrachloroethylene | 3/4/2022 | 2.6 | 0.5 | UG/L | 0 | |
| 8260 TVOC | 3/18/2022 | 3.11 | 0 | UG/L | 0 | |
| Chloroform | 3/18/2022 | 0.51 | 0.5 | UG/L | 0 | |
| Tetrachloroethylene | 3/18/2022 | 2.6 | 0.5 | UG/L | 0 | |
| 8260 TVOC | 4/4/2022 | 2.5 | 0 | UG/L | 0 | |
| Tetrachloroethylene | 4/4/2022 | 2.5 | 0.5 | UG/L | 0 | |
| 8260 TVOC | 4/19/2022 | 3.07 | 0 | UG/L | 0 | |
| Chloroform | 4/19/2022 | 0.57 | 0.5 | UG/L | 0 | |
| Tetrachloroethylene | 4/19/2022 | 2.5 | 0.5 | UG/L | 0 | |
| 8260 TVOC | 6/3/2022 | 3.01 | 0 | UG/L | 0 | |
| Chloroform | 6/3/2022 | 0.41 | 0.5 | UG/L | 0 | J |
| Tetrachloroethylene | 6/3/2022 | 2.6 | 0.5 | UG/L | 0 | |
| 8260 TVOC | 8/3/2022 | 3.18 | 0 | UG/L | 0 | |
| Chloroform | 8/3/2022 | 0.58 | 0.5 | UG/L | 0 | |
| Tetrachloroethylene | 8/3/2022 | 2.6 | 0.5 | UG/L | 0 | |
| 8260 TVOC | 10/7/2022 | 2.71 | 0 | UG/L | 0 | |
| Chloroform | 10/7/2022 | 0.51 | 0.5 | UG/L | 0 | |
| Tetrachloroethylene | 10/7/2022 | 2.2 | 0.5 | UG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/7/2022 | 1.2 | 1.6 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 10/7/2022 | 6.9 | 6.3 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/7/2022 | 1.7 | 1.6 | NG/L | 0 | |
| Perfluorohexanesulfonate | 10/7/2022 | 3 | 1.6 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/7/2022 | 3.1 | 1.6 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/7/2022 | 0.83 | 2 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 10/7/2022 | 6.8 | 1.6 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 10/7/2022 | 4.2 | 1.6 | NG/L | 0 | |
| 8260 TVOC | 12/1/2022 | 1.4 | 0 | UG/L | 0 | |
| Tetrachloroethylene | 12/1/2022 | 1.4 | 0.5 | UG/L | 0 | |

**Table F-5**
**Influent VOC Data**
**OU III Building 96 System**

2022 BNL Groundwater Status Report

**Site ID :** 095-153 (RTW-2 Influent)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 8260 TVOC | 1/10/2022 | 2.12 | 0 | UG/L | 0 | |
| Chloroform | 1/10/2022 | 0.58 | 0.5 | UG/L | 0 | |
| m/p xylene | 1/10/2022 | 0.41 | 1 | UG/L | 0 | J |
| Toluene | 1/10/2022 | 0.72 | 0.5 | UG/L | 0 | |
| Xylene (total) | 1/10/2022 | 0.41 | 1.5 | UG/L | 0 | J |
| 8260 TVOC | 4/4/2022 | 0.45 | 0 | UG/L | 0 | |
| Tetrachloroethylene | 4/4/2022 | 0.45 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 7/7/2022 | 0.84 | 0 | UG/L | 0 | |
| Chloroform | 7/7/2022 | 0.64 | 0.5 | UG/L | 0 | |
| Tetrachloroethylene | 7/7/2022 | 0.2 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 10/7/2022 | 0.75 | 0 | UG/L | 0 | |
| Chloroform | 10/7/2022 | 0.75 | 0.5 | UG/L | 0 | |

**Site ID :** 095-155 (RTW-3 Influent)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 8260 TVOC | 1/10/2022 | 0.65 | 0 | UG/L | 0 | |
| Chloroform | 1/10/2022 | 0.65 | 0.5 | UG/L | 0 | |
| 8260 TVOC | 4/4/2022 | 0.62 | 0 | UG/L | 0 | |
| m/p xylene | 4/4/2022 | 0.17 | 1 | UG/L | 0 | J |
| Tetrachloroethylene | 4/4/2022 | 0.28 | 0.5 | UG/L | 0 | J |
| Xylene (total) | 4/4/2022 | 0.17 | 1.5 | UG/L | 0 | J |
| 8260 TVOC | 7/7/2022 | 0.81 | 0 | UG/L | 0 | |
| Chloroform | 7/7/2022 | 0.61 | 0.5 | UG/L | 0 | |
| Tetrachloroethylene | 7/7/2022 | 0.2 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 10/7/2022 | 0.87 | 0 | UG/L | 0 | |
| Chloroform | 10/7/2022 | 0.87 | 0.5 | UG/L | 0 | |

**Site ID :** 095-157 (RTW-4 Influent)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 8260 TVOC | 1/10/2022 | 0 | 0 | UG/L | 0 | |
| 8260 TVOC | 4/4/2022 | 0.6 | 0 | UG/L | 0 | |
| Ethylbenzene | 4/4/2022 | 0.32 | 0.5 | UG/L | 0 | J |
| Tetrachloroethylene | 4/4/2022 | 0.28 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 7/7/2022 | 0.25 | 0 | UG/L | 0 | |
| Chloroform | 7/7/2022 | 0.25 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 10/7/2022 | 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**
**System Effluent VOC Data**
**OU III Building 96 System**

2022 BNL Groundwater Status Report

**Site ID:** 095-152 (Effluent)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 8260 TVOC | 1/6/2022 | 0 | 0 | UG/L | 0 | |
| 8260 TVOC | 1/20/2022 | 0 | 0 | UG/L | 0 | |
| 8260 TVOC | 2/3/2022 | 0 | 0 | UG/L | 0 | |
| 8260 TVOC | 2/14/2022 | 0 | 0 | UG/L | 0 | |
| 8260 TVOC | 3/4/2022 | 0 | 0 | UG/L | 0 | |
| 8260 TVOC | 3/18/2022 | 0 | 0 | UG/L | 0 | |
| 8260 TVOC | 4/4/2022 | 0 | 0 | UG/L | 0 | |
| 8260 TVOC | 4/19/2022 | 0 | 0 | UG/L | 0 | |
| 8260 TVOC | 6/3/2022 | 0 | 0 | UG/L | 0 | |
| 8260 TVOC | 8/3/2022 | 0 | 0 | UG/L | 0 | |
| Thallium | 8/3/2022 | 0.09 | 0.2 | UG/L | 0 | B |
| 8260 TVOC | 10/7/2022 | 0 | 0 | UG/L | 0 | |
| 1633 TPFAS | 10/7/2022 | 31.1 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/7/2022 | 1.2 | 1.6 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 10/7/2022 | 6.8 | 6.3 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/7/2022 | 1.7 | 1.6 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/7/2022 | 2.9 | 1.6 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/7/2022 | 2.8 | 1.6 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/7/2022 | 0.84 | 2 | NG/L | 0 | J X |
| Perfluorooctanesulfonate (PFOS) | 10/7/2022 | 7.2 | 1.6 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 10/7/2022 | 5 | 1.6 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/7/2022 | 0.46 | 1.6 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 10/7/2022 | 2.2 | 3.1 | NG/L | 0 | J |
| 8260 TVOC | 12/1/2022 | 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-7**
**Pumpage and Mass Removal**
**OU III Building 96 System**

2022 BNL Groundwater Status Report

| | RTW-1 | | RTW-2 | | RTW-3 | | RTW-4 | |
|---|---|---|---|---|---|---|---|---|
| **Date** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** |
| | *(Gallons)* | *(lbs)* | *(Gallons)* | *(lbs)* | *(Gallons)* | *(lbs)* | *(Gallons)* | *(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**
**OU III Building 96 System**

2022 BNL Groundwater Status Report

| | RTW-1 | | RTW-2 | | RTW-3 | | RTW-4 | |
|---|---|---|---|---|---|---|---|---|
| **Date** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** |
| | *(Gallons)* | *(lbs)* | *(Gallons)* | *(lbs)* | *(Gallons)* | *(lbs)* | *(Gallons)* | *(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**
**OU III Building 96 System**

2022 BNL Groundwater Status Report

| | RTW-1 | | RTW-2 | | RTW-3 | | RTW-4 | |
|---|---|---|---|---|---|---|---|---|
| **Date** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** |
| | *(Gallons)* | *(lbs)* | *(Gallons)* | *(lbs)* | *(Gallons)* | *(lbs)* | *(Gallons)* | *(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**
**OU III Building 96 System**

2022 BNL Groundwater Status Report

| | RTW-1 | | RTW-2 | | RTW-3 | | RTW-4 | |
|---|---|---|---|---|---|---|---|---|
| **Date** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** |
| | *(Gallons)* | *(lbs)* | *(Gallons)* | *(lbs)* | *(Gallons)* | *(lbs)* | *(Gallons)* | *(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**
**OU III Building 96 System**

2022 BNL Groundwater Status Report

| | RTW-1 | | RTW-2 | | RTW-3 | | RTW-4 | |
|---|---|---|---|---|---|---|---|---|
| **Date** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** |
| | *(Gallons)* | *(lbs)* | *(Gallons)* | *(lbs)* | *(Gallons)* | *(lbs)* | *(Gallons)* | *(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**
**Pumpage and Mass Removal**
**OU III Building 96 System**

2022 BNL Groundwater Status Report

| | RTW-1 | | RTW-2 | | RTW-3 | | RTW-4 | |
|---|---|---|---|---|---|---|---|---|
| **Date** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** |
| | *(Gallons)* | *(lbs)* | *(Gallons)* | *(lbs)* | *(Gallons)* | *(lbs)* | *(Gallons)* | *(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**
**OU III Building 96 System**

2022 BNL Groundwater Status Report

| | RTW-1 | | RTW-2 | | RTW-3 | | RTW-4 | |
|---|---|---|---|---|---|---|---|---|
| **Date** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** | **Total Pumped*** | **Mass Recovered** |
| | *(Gallons)* | *(lbs)* | *(Gallons)* | *(lbs)* | *(Gallons)* | *(lbs)* | *(Gallons)* | *(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 |
| **1/31/2022** | 268,439,173 | 0.06 | 129,987,788 | 0.00 | 127,513,683 | 0.00 | 70,730,501 | 0.00 |
| **2/28/2022** | 270,929,279 | 0.06 | 129,987,788 | 0.00 | 127,513,683 | 0.00 | 70,730,501 | 0.00 |
| **3/31/2022** | 273,419,385 | 0.06 | 129,987,788 | 0.00 | 127,513,683 | 0.00 | 70,730,501 | 0.00 |
| **4/30/2022** | 275,909,491 | 0.06 | 129,987,788 | 0.00 | 127,513,683 | 0.00 | 70,730,501 | 0.00 |
| **5/31/2022** | 275,909,491 | 0.00 | 129,987,788 | 0.00 | 127,513,683 | 0.00 | 70,730,501 | 0.00 |
| **6/30/2022** | 278,399,597 | 0.06 | 129,987,788 | 0.00 | 127,513,683 | 0.00 | 70,730,501 | 0.00 |
| **7/31/2022** | 278,399,597 | 0.00 | 129,987,788 | 0.00 | 127,513,683 | 0.00 | 70,730,501 | 0.00 |
| **8/31/2022** | 280,889,703 | 0.07 | 129,987,788 | 0.00 | 127,513,683 | 0.00 | 70,730,501 | 0.00 |
| **9/30/2022** | 280,889,703 | 0.00 | 129,987,788 | 0.00 | 127,513,683 | 0.00 | 70,730,501 | 0.00 |
| **10/31/2022** | 283,379,809 | 0.06 | 129,987,788 | 0.00 | 127,513,683 | 0.00 | 70,730,501 | 0.00 |
| **11/30/2022** | 283,379,809 | 0.00 | 129,987,788 | 0.00 | 127,513,683 | 0.00 | 70,730,501 | 0.00 |
| **12/31/2022** | 285,869,915 | 0.03 | 129,987,788 | 0.00 | 127,513,683 | 0.00 | 70,730,501 | 0.00 |
| **Total** | | 112.83 | | 6.88 | | 20.13 | | 6.45 |

Total lbs. Removed = 146.30

**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**

2022 BNL Groundwater Status Report

**Site ID : 113-23 (RW-1)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 01/25/22 | 0.43 | 0 | UG/L | |
| Chloroform | 01/25/22 | 0.43 | 0.5 | UG/L | J |
| 8260 TVOC | 04/18/22 | 0.53 | 0 | UG/L | |
| Chloroform | 04/18/22 | 0.37 | 0.5 | UG/L | J |
| Tetrachloroethylene | 04/18/22 | 0.16 | 0.5 | UG/L | J |
| 8260 TVOC | 07/14/22 | 0.35 | 0 | UG/L | |
| Chloroform | 07/14/22 | 0.35 | 0.5 | UG/L | J |
| 8260 TVOC | 10/14/22 | 0 | 0 | UG/L | |

**Site ID : 113-24 (RW-2)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 01/25/22 | 8.82 | 0 | UG/L | |
| Carbon tetrachloride | 01/25/22 | 0.55 | 0.5 | UG/L | |
| Tetrachloroethylene | 01/25/22 | 8.1 | 0.5 | UG/L | |
| Trichloroethylene | 01/25/22 | 0.17 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 04/18/22 | 0.16 | 0.5 | UG/L | J |
| 8260 TVOC | 04/18/22 | 9.24 | 0 | UG/L | |
| Carbon tetrachloride | 04/18/22 | 0.68 | 0.5 | UG/L | |
| Chloroform | 04/18/22 | 0.51 | 0.5 | UG/L | |
| Tetrachloroethylene | 04/18/22 | 7.4 | 0.5 | UG/L | |
| Trichloroethylene | 04/18/22 | 0.49 | 0.5 | UG/L | J |
| 8260 TVOC | 07/14/22 | 10.13 | 0 | UG/L | |
| Carbon tetrachloride | 07/14/22 | 0.67 | 0.5 | UG/L | |
| Chloroform | 07/14/22 | 0.53 | 0.5 | UG/L | |
| Tetrachloroethylene | 07/14/22 | 8.5 | 0.5 | UG/L | |
| Trichloroethylene | 07/14/22 | 0.43 | 0.5 | UG/L | J |
| 8260 TVOC | 10/14/22 | 6.45 | 0 | UG/L | |
| Carbon tetrachloride | 10/14/22 | 0.32 | 0.5 | UG/L | J |
| Chloroform | 10/14/22 | 0.24 | 0.5 | UG/L | J |
| Tetrachloroethylene | 10/14/22 | 5.5 | 0.5 | UG/L | |
| Trichloroethylene | 10/14/22 | 0.39 | 0.5 | UG/L | J |

**Site ID : 113-25 (RW-3)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 01/25/22 | 1.7 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 01/25/22 | 0.37 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 01/25/22 | 0.72 | 0.5 | UG/L | |
| 8260 TVOC | 01/25/22 | 3.5 | 0 | UG/L | |
| Tetrachloroethylene | 01/25/22 | 0.19 | 0.5 | UG/L | J |
| Trichloroethylene | 01/25/22 | 0.52 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 04/18/22 | 1.7 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 04/18/22 | 0.4 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 04/18/22 | 0.67 | 0.5 | UG/L | |
| 8260 TVOC | 04/18/22 | 3.67 | 0 | UG/L | |
| Trichloroethylene | 04/18/22 | 0.9 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 10/14/22 | 1.9 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 10/14/22 | 0.4 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 10/14/22 | 0.45 | 0.5 | UG/L | J |
| 8260 TVOC | 10/14/22 | 3.55 | 0 | UG/L | |
| Trichloroethylene | 10/14/22 | 0.8 | 0.5 | UG/L | |

**Table F-8**
**Extraction Well VOC Data**
**OUIII Middle Road System**

2022 BNL Groundwater Status Report

**Site ID : 113-26 (RW-4)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 01/25/22 | 0.99 | 0 | UG/L | |
| Chloroform | 01/25/22 | 0.27 | 0.5 | UG/L | J |
| Tetrachloroethylene | 01/25/22 | 0.38 | 0.5 | UG/L | J |
| Trichloroethylene | 01/25/22 | 0.34 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 04/18/22 | 0.48 | 0.5 | UG/L | J |
| 8260 TVOC | 04/18/22 | 5.39 | 0 | UG/L | |
| Carbon tetrachloride | 04/18/22 | 0.49 | 0.5 | UG/L | J |
| Chloroform | 04/18/22 | 0.57 | 0.5 | UG/L | |
| Tetrachloroethylene | 04/18/22 | 3.2 | 0.5 | UG/L | |
| Trichloroethylene | 04/18/22 | 0.65 | 0.5 | UG/L | |
| 8260 TVOC | 07/14/22 | 2.93 | 0 | UG/L | |
| Carbon tetrachloride | 07/14/22 | 0.8 | 0.5 | UG/L | |
| Chloroform | 07/14/22 | 0.89 | 0.5 | UG/L | |
| Tetrachloroethylene | 07/14/22 | 0.41 | 0.5 | UG/L | J |
| Trichloroethylene | 07/14/22 | 0.83 | 0.5 | UG/L | |
| 8260 TVOC | 10/14/22 | 1.29 | 0 | UG/L | |
| Carbon tetrachloride | 10/14/22 | 0.28 | 0.5 | UG/L | J |
| Chloroform | 10/14/22 | 0.55 | 0.5 | UG/L | |
| Trichloroethylene | 10/14/22 | 0.46 | 0.5 | UG/L | J |

**Site ID : 113-27 (RW-5)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 01/25/22 | 0 | 0 | UG/L | |
| 8260 TVOC | 04/18/22 | 0.89 | 0 | UG/L | |
| Chloroform | 04/18/22 | 0.89 | 0.5 | UG/L | |
| 8260 TVOC | 07/14/22 | 0.93 | 0 | UG/L | |
| Chloroform | 07/14/22 | 0.93 | 0.5 | UG/L | |
| 8260 TVOC | 10/14/22 | 0 | 0 | UG/L | |

**Site ID : 106-66 (RW-6)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 01/25/22 | 1.3 | 0 | UG/L | |
| Tetrachloroethylene | 01/25/22 | 1.3 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 04/18/22 | 1.1 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 04/18/22 | 0.25 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 04/18/22 | 1.1 | 0.5 | UG/L | |
| 8260 TVOC | 04/18/22 | 9.73 | 0 | UG/L | |
| Carbon tetrachloride | 04/18/22 | 0.64 | 0.5 | UG/L | |
| Chloroform | 04/18/22 | 0.51 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 04/18/22 | 0.33 | 0.5 | UG/L | J |
| Tetrachloroethylene | 04/18/22 | 5.2 | 0.5 | UG/L | |
| Trichloroethylene | 04/18/22 | 0.6 | 0.5 | UG/L | |
| 8260 TVOC | 07/14/22 | 1.9 | 0 | UG/L | |
| Chloroform | 07/14/22 | 0.2 | 0.5 | UG/L | J |
| Tetrachloroethylene | 07/14/22 | 1.7 | 0.5 | UG/L | |
| 8260 TVOC | 10/14/22 | 0.82 | 0 | UG/L | |
| Tetrachloroethylene | 10/14/22 | 0.82 | 0.5 | UG/L | |

**Table F-8**
**Extraction Well VOC Data**
**OUIII Middle Road System**

2022 BNL Groundwater Status Report

**Site ID : 113-33 (RW-7)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 01/25/22 | 0.65 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 01/25/22 | 0.18 | 0.5 | UG/L | J |
| 8260 TVOC | 01/25/22 | 43.24 | 0 | UG/L | |
| Carbon tetrachloride | 01/25/22 | 5.6 | 0.5 | UG/L | |
| Chloroform | 01/25/22 | 0.22 | 0.5 | UG/L | J |
| Tetrachloroethylene | 01/25/22 | 36 | 0.5 | UG/L | |
| Trichloroethylene | 01/25/22 | 0.59 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 04/18/22 | 0.85 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 04/18/22 | 0.5 | 0.5 | UG/L | |
| 8260 TVOC | 04/18/22 | 43.62 | 0 | UG/L | |
| Carbon tetrachloride | 04/18/22 | 5.8 | 0.5 | UG/L | |
| Chloroform | 04/18/22 | 0.62 | 0.5 | UG/L | |
| Tetrachloroethylene | 04/18/22 | 35 | 0.5 | UG/L | |
| Trichloroethylene | 04/18/22 | 0.85 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 07/14/22 | 0.74 | 0.5 | UG/L | |
| 1,1,2,2-Tetrachloroethane | 07/14/22 | 0.19 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 07/14/22 | 0.26 | 0.5 | UG/L | J |
| 8260 TVOC | 07/14/22 | 42.94 | 0 | UG/L | |
| Carbon tetrachloride | 07/14/22 | 4.5 | 0.5 | UG/L | |
| Chloroform | 07/14/22 | 0.56 | 0.5 | UG/L | |
| Tetrachloroethylene | 07/14/22 | 36 | 0.5 | UG/L | |
| Trichloroethylene | 07/14/22 | 0.69 | 0.5 | UG/L | |
| 8260 TVOC | 10/13/22 | 36.4 | 0 | UG/L | |
| Carbon tetrachloride | 10/13/22 | 3.4 | 1 | UG/L | D |
| Tetrachloroethylene | 10/13/22 | 33 | 1 | UG/L | D |

**Table F-9**
**Air Stripper Influent VOC Data**
**OU III Middle Road System**

2022 BNL Groundwater Status Report

**Site ID : 113-34 (Influent)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 01/25/22 | 0.46 | 0.5 | UG/L | J |
| 8260 TVOC | 01/25/22 | 16.16 | 0 | UG/L | |
| Carbon tetrachloride | 01/25/22 | 1.7 | 0.5 | UG/L | |
| Tetrachloroethylene | 01/25/22 | 14 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 02/09/22 | 0.47 | 0.5 | UG/L | J |
| 8260 TVOC | 02/09/22 | 17.65 | 0 | UG/L | |
| Carbon tetrachloride | 02/09/22 | 1.9 | 0.5 | UG/L | |
| Tetrachloroethylene | 02/09/22 | 15 | 0.5 | UG/L | |
| Trichloroethylene | 02/09/22 | 0.28 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 03/12/22 | 0.84 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 03/12/22 | 0.38 | 0.5 | UG/L | J |
| 524.2 TVOC | 03/12/22 | 18.41 | 0 | UG/L | |
| Carbon tetrachloride | 03/12/22 | 2.2 | 0.5 | UG/L | |
| Chloroform | 03/12/22 | 0.45 | 0.5 | UG/L | J |
| Tetrachloroethylene | 03/12/22 | 14 | 0.5 | UG/L | |
| Trichloroethylene | 03/12/22 | 0.54 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 04/18/22 | 0.69 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 04/18/22 | 0.39 | 0.5 | UG/L | J |
| 524.2 TVOC | 04/18/22 | 16.14 | 0 | UG/L | |
| Carbon tetrachloride | 04/18/22 | 2 | 0.5 | UG/L | |
| Chloroform | 04/18/22 | 0.44 | 0.5 | UG/L | J |
| Tetrachloroethylene | 04/18/22 | 12 | 0.5 | UG/L | |
| Trichloroethylene | 04/18/22 | 0.62 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 05/09/22 | 0.79 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 05/09/22 | 0.22 | 0.5 | UG/L | J |
| 8260 TVOC | 05/09/22 | 18.15 | 0 | UG/L | |
| Carbon tetrachloride | 05/09/22 | 2 | 0.5 | UG/L | |
| Chloroform | 05/09/22 | 0.47 | 0.5 | UG/L | J |
| Tetrachloroethylene | 05/09/22 | 14 | 0.5 | UG/L | |
| Trichloroethylene | 05/09/22 | 0.67 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 06/06/22 | 0.52 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 06/06/22 | 0.21 | 0.5 | UG/L | J |
| 8260 TVOC | 06/06/22 | 18.28 | 0 | UG/L | |
| Carbon tetrachloride | 06/06/22 | 1.7 | 0.5 | UG/L | |
| Chloroform | 06/06/22 | 0.41 | 0.5 | UG/L | J |
| Tetrachloroethylene | 06/06/22 | 15 | 0.5 | UG/L | |
| Trichloroethylene | 06/06/22 | 0.44 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 07/14/22 | 0.22 | 0.5 | UG/L | J |
| 8260 TVOC | 07/14/22 | 13.73 | 0 | UG/L | |
| Carbon tetrachloride | 07/14/22 | 1.4 | 0.5 | UG/L | |
| Chloroform | 07/14/22 | 0.6 | 0.5 | UG/L | |
| Tetrachloroethylene | 07/14/22 | 11 | 0.5 | UG/L | |
| Trichloroethylene | 07/14/22 | 0.51 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 08/05/22 | 0.4 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 08/05/22 | 0.3 | 0.5 | UG/L | J |
| 8260 TVOC | 08/05/22 | 21.49 | 0 | UG/L | |
| Carbon tetrachloride | 08/05/22 | 2.2 | 0.5 | UG/L | |
| Tetrachloroethylene | 08/05/22 | 18 | 0.5 | UG/L | |
| Trichloroethylene | 08/05/22 | 0.59 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 09/07/22 | 1.3 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 09/07/22 | 0.28 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 09/07/22 | 0.6 | 0.5 | UG/L | |
| 8260 TVOC | 09/07/22 | 21.22 | 0 | UG/L | |
| Carbon tetrachloride | 09/07/22 | 1.9 | 0.5 | UG/L | |
| Chloroform | 09/07/22 | 0.34 | 0.5 | UG/L | J |

**Table F-9**
**Air Stripper Influent VOC Data**
**OU III Middle Road System**

2022 BNL Groundwater Status Report

**Site ID : 113-34 (Influent)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| Tetrachloroethylene | 09/07/22 | 16 | 0.5 | UG/L | |
| Trichloroethylene | 09/07/22 | 0.8 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 10/13/22 | 0.57 | 0.5 | UG/L | |
| 8260 TVOC | 10/13/22 | 11.13 | 0 | UG/L | |
| Tetrachloroethylene | 10/13/22 | 10 | 0.5 | UG/L | |
| Trichloroethylene | 10/13/22 | 0.56 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 11/04/22 | 0.18 | 0.5 | UG/L | J |
| 8260 TVOC | 11/04/22 | 11.23 | 0 | UG/L | |
| Carbon tetrachloride | 11/04/22 | 0.92 | 0.5 | UG/L | |
| Chloroform | 11/04/22 | 0.46 | 0.5 | UG/L | J |
| Tetrachloroethylene | 11/04/22 | 9.2 | 0.5 | UG/L | |
| Trichloroethylene | 11/04/22 | 0.47 | 0.5 | UG/L | J |
| 8260 TVOC | 12/02/22 | 8.06 | 0 | UG/L | |
| Carbon tetrachloride | 12/02/22 | 0.35 | 0.5 | UG/L | J |
| Chloroform | 12/02/22 | 0.44 | 0.5 | UG/L | J |
| Tetrachloroethylene | 12/02/22 | 6.8 | 0.5 | UG/L | |
| Trichloroethylene | 12/02/22 | 0.47 | 0.5 | UG/L | J |

**Table F-10**
**Air Stripper Effluent VOC Data**
**OU III Middle Road System**

2022 BNL Groundwater Status Report

**Site ID : 095-270 (Effluent)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 1/25/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 2/9/2022 | 0 | 0 | UG/L | |
| 524.2 TVOC | 3/12/2022 | 0 | 0 | UG/L | |

**Table F-11**
**Cumulative Mass Removal**
**OU III Middle Road System**

2022 BNL Groundwater Status Report

| Date Sampled | Total VOC's (µg/L) | Flow Rates (gpm) | Cumulative VOC's (lbs) |
|---|---|---|---|
| 1/25/2022 | 16.16 | 319 | 1334.60 |
| 2/9/2022 | 17.65 | 338 | 1335.67 |
| 3/12/2022 | 18.41 | 398 | 1338.39 |
| 4/18/2022 | 16.14 | 260 | 1340.26 |
| 5/9/2022 | 18.15 | 422 | 1342.19 |
| 6/6/2022 | 18.28 | 335 | 1344.25 |
| 7/14/2022 | 13.73 | 291 | 1346.07 |
| 8/5/2022 | 21.49 | 291 | 1347.72 |
| 9/7/2022 | 21.22 | 245 | 1349.78 |
| 10/13/2022 | 11.13 | 182 | 1350.65 |
| 11/4/2022 | 11.23 | 198 | 1351.24 |
| 12/2/2022 | 8.06 | 289 | 1352.03 |

µg/L Micrograms per liter
gpm Gallons per minute
lbs Pounds

**Table F-12**
**Extraction Well VOC Data**
**OU III South Boundary System**

2022 BNL Groundwater Status Report

**Site ID : 121-15 (EW-5)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 1/25/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 4/18/2022 | 0.43 | 0 | UG/L | |
| Chloroform | 4/18/2022 | 0.43 | 0.5 | UG/L | J |
| 8260 TVOC | 7/14/2022 | 0.37 | 0 | UG/L | |
| Chloroform | 7/14/2022 | 0.37 | 0.5 | UG/L | J |
| 8260 TVOC | 10/14/2022 | 7.56 | 0 | UG/L | |
| Carbon tetrachloride | 10/14/2022 | 1.1 | 0.5 | UG/L | |
| Chloroform | 10/14/2022 | 0.29 | 0.5 | UG/L | J |
| Tetrachloroethylene | 10/14/2022 | 5.9 | 0.5 | UG/L | |
| Trichloroethylene | 10/14/2022 | 0.27 | 0.5 | UG/L | J |

**Site ID : 121-16 (EW-4)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 1/25/2022 | 0.55 | 0 | UG/L | |
| Tetrachloroethylene | 1/25/2022 | 0.55 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 4/18/2022 | 1.7 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 4/18/2022 | 0.35 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 4/18/2022 | 2.9 | 0.5 | UG/L | |
| 8260 TVOC | 4/18/2022 | 11.2 | 0 | UG/L | |
| Carbon tetrachloride | 4/18/2022 | 0.68 | 0.5 | UG/L | |
| Chloroform | 4/18/2022 | 0.77 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 4/18/2022 | 0.74 | 0.5 | UG/L | |
| Tetrachloroethylene | 4/18/2022 | 3.5 | 0.5 | UG/L | |
| Trichloroethylene | 4/18/2022 | 0.56 | 0.5 | UG/L | |
| 8260 TVOC | 7/14/2022 | 0.82 | 0 | UG/L | |
| Chloroform | 7/14/2022 | 0.28 | 0.5 | UG/L | J |
| Tetrachloroethylene | 7/14/2022 | 0.54 | 0.5 | UG/L | |
| 8260 TVOC | 10/14/2022 | 2.8 | 0 | UG/L | |
| Tetrachloroethylene | 10/14/2022 | 2.8 | 0.5 | UG/L | |

**Site ID : 121-17 (EW-3)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 1/25/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 4/18/2022 | 1.03 | 0 | UG/L | |
| Chloroform | 4/18/2022 | 0.33 | 0.5 | UG/L | J |
| Methyl tert-butyl ether | 4/18/2022 | 0.49 | 0.5 | UG/L | J |
| Tetrachloroethylene | 4/18/2022 | 0.21 | 0.5 | UG/L | J |
| 8260 TVOC | 7/14/2022 | 1.11 | 0 | UG/L | |
| Chloroform | 7/14/2022 | 0.33 | 0.5 | UG/L | J |
| Methyl tert-butyl ether | 7/14/2022 | 0.48 | 0.5 | UG/L | J |
| Tetrachloroethylene | 7/14/2022 | 0.3 | 0.5 | UG/L | J |
| 1,2,3-Trichlorobenzene | 10/14/2022 | 0.2 | 0.5 | UG/L | J |
| 8260 TVOC | 10/14/2022 | 1.81 | 0 | UG/L | |
| Methyl tert-butyl ether | 10/14/2022 | 0.52 | 0.5 | UG/L | |
| Naphthalene | 10/14/2022 | 0.51 | 0.5 | UG/L | |
| Tetrachloroethylene | 10/14/2022 | 0.58 | 0.5 | UG/L | |

**Table F-12**
**Extraction Well VOC Data**
**OU III South Boundary System**

2022 BNL Groundwater Status Report

**Site ID : 121-46 (EW-17)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 1/25/2022 | 12.19 | 0 | UG/L | |
| Carbon tetrachloride | 1/25/2022 | 1.9 | 0.5 | UG/L | |
| Chloroform | 1/25/2022 | 0.29 | 0.5 | UG/L | J |
| Tetrachloroethylene | 1/25/2022 | 10 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 4/18/2022 | 0.4 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 4/18/2022 | 0.4 | 0.5 | UG/L | J |
| 8260 TVOC | 4/18/2022 | 14.19 | 0 | UG/L | |
| Carbon tetrachloride | 4/18/2022 | 2.3 | 0.5 | UG/L | |
| Chloroform | 4/18/2022 | 0.66 | 0.5 | UG/L | |
| Tetrachloroethylene | 4/18/2022 | 10 | 0.5 | UG/L | |
| Trichloroethylene | 4/18/2022 | 0.43 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 7/14/2022 | 0.41 | 0.5 | UG/L | J |
| 8260 TVOC | 7/14/2022 | 14.97 | 0 | UG/L | |
| Carbon tetrachloride | 7/14/2022 | 2.2 | 0.5 | UG/L | |
| Chloroform | 7/14/2022 | 0.61 | 0.5 | UG/L | |
| Tetrachloroethylene | 7/14/2022 | 11 | 0.5 | UG/L | |
| Trichloroethylene | 7/14/2022 | 0.39 | 0.5 | UG/L | J |
| 8260 TVOC | 10/14/2022 | 12.8 | 0 | UG/L | |
| Carbon tetrachloride | 10/14/2022 | 2 | 0.5 | UG/L | |
| Chloroform | 10/14/2022 | 0.42 | 0.5 | UG/L | J |
| Tetrachloroethylene | 10/14/2022 | 10 | 0.5 | UG/L | |
| Trichloroethylene | 10/14/2022 | 0.38 | 0.5 | UG/L | J |

**Site ID : 122-12 (EW-8)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 1/25/2022 | 3.73 | 0 | UG/L | |
| Methylene chloride | 1/25/2022 | 0.43 | 0.5 | UG/L | J |
| Tetrachloroethylene | 1/25/2022 | 3.3 | 0.5 | UG/L | |
| 8260 TVOC | 4/18/2022 | 6.81 | 0 | UG/L | |
| Chloroform | 4/18/2022 | 0.21 | 0.5 | UG/L | J |
| cis-1,2-Dichloroethylene | 4/18/2022 | 1.7 | 0.5 | UG/L | |
| Methylene chloride | 4/18/2022 | 0.98 | 0.5 | UG/L | |
| Tetrachloroethylene | 4/18/2022 | 3.3 | 0.5 | UG/L | |
| Toluene | 4/18/2022 | 0.29 | 0.5 | UG/L | J |
| Trichloroethylene | 4/18/2022 | 0.33 | 0.5 | UG/L | J |
| 8260 TVOC | 7/14/2022 | 10.15 | 0 | UG/L | |
| cis-1,2-Dichloroethylene | 7/14/2022 | 2.9 | 0.5 | UG/L | |
| Methylene chloride | 7/14/2022 | 1.4 | 0.5 | UG/L | |
| Tetrachloroethylene | 7/14/2022 | 5 | 0.5 | UG/L | |
| Toluene | 7/14/2022 | 0.35 | 0.5 | UG/L | J |
| Trichloroethylene | 7/14/2022 | 0.5 | 0.5 | UG/L | |
| 8260 TVOC | 10/14/2022 | 6.33 | 0 | UG/L | |
| cis-1,2-Dichloroethylene | 10/14/2022 | 0.72 | 0.5 | UG/L | |
| Tetrachloroethylene | 10/14/2022 | 5.1 | 0.5 | UG/L | |
| Trichloroethylene | 10/14/2022 | 0.51 | 0.5 | UG/L | |

**Table F-12**
**Extraction Well VOC Data**
**OU III South Boundary System**

2022 BNL Groundwater Status Report

**Site ID : 122-13 (EW-7)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 1/25/2022 | 1.34 | 0 | UG/L | |
| Dichlorodifluoromethane | 1/25/2022 | 0.35 | 0.5 | UG/L | J |
| Tetrachloroethylene | 1/25/2022 | 0.99 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 4/18/2022 | 3.2 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 4/18/2022 | 0.49 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 4/18/2022 | 5.7 | 0.5 | UG/L | |
| 8260 TVOC | 4/18/2022 | 16.31 | 0 | UG/L | |
| Carbon tetrachloride | 4/18/2022 | 0.76 | 0.5 | UG/L | |
| Chloroform | 4/18/2022 | 0.91 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 4/18/2022 | 1 | 0.5 | UG/L | |
| Tetrachloroethylene | 4/18/2022 | 3.5 | 0.5 | UG/L | |
| Trichloroethylene | 4/18/2022 | 0.75 | 0.5 | UG/L | |
| 8260 TVOC | 7/14/2022 | 1.61 | 0 | UG/L | |
| Chloroform | 7/14/2022 | 0.31 | 0.5 | UG/L | J |
| cis-1,2-Dichloroethylene | 7/14/2022 | 0.32 | 0.5 | UG/L | J |
| Dichlorodifluoromethane | 7/14/2022 | 0.24 | 0.5 | UG/L | J |
| Tetrachloroethylene | 7/14/2022 | 0.74 | 0.5 | UG/L | |
| 8260 TVOC | 10/14/2022 | 11.4 | 0 | UG/L | |
| Carbon tetrachloride | 10/14/2022 | 1.6 | 0.5 | UG/L | |
| Chloroform | 10/14/2022 | 0.35 | 0.5 | UG/L | J |
| Tetrachloroethylene | 10/14/2022 | 9.1 | 0.5 | UG/L | |
| Trichloroethylene | 10/14/2022 | 0.35 | 0.5 | UG/L | J |

**Site ID : 122-14 (EW-6)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 1/25/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 4/18/2022 | 0.28 | 0 | UG/L | |
| Tetrachloroethylene | 4/18/2022 | 0.28 | 0.5 | UG/L | J |
| 8260 TVOC | 7/14/2022 | 0.24 | 0 | UG/L | |
| Tetrachloroethylene | 7/14/2022 | 0.24 | 0.5 | UG/L | J |
| 8260 TVOC | 10/14/2022 | 4.28 | 0 | UG/L | |
| Carbon tetrachloride | 10/14/2022 | 0.48 | 0.5 | UG/L | J |
| Tetrachloroethylene | 10/14/2022 | 3.8 | 0.5 | UG/L | |
| | | | | | |

**Table F-13**
**Air Stripper Influent VOC Data**
**OU III South Boundary System**

2022 BNL Groundwater Status Report

**121-41 (Influent)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 01/25/22 | 3.83 | 0 | UG/L | |
| Carbon tetrachloride | 01/25/22 | 0.33 | 0.5 | UG/L | J |
| Tetrachloroethylene | 01/25/22 | 3.5 | 0.5 | UG/L | |
| 8260 TVOC | 02/09/22 | 12.27 | 0 | UG/L | |
| Carbon tetrachloride | 02/09/22 | 2 | 0.5 | UG/L | |
| Chloroform | 02/09/22 | 0.27 | 0.5 | UG/L | J |
| Tetrachloroethylene | 02/09/22 | 10 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 03/12/22 | 0.38 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 03/12/22 | 0.42 | 0.5 | UG/L | J |
| 8260 TVOC | 03/12/22 | 13.76 | 0 | UG/L | |
| Carbon tetrachloride | 03/12/22 | 2 | 0.5 | UG/L | |
| Chloroform | 03/12/22 | 0.62 | 0.5 | UG/L | |
| Tetrachloroethylene | 03/12/22 | 10 | 0.5 | UG/L | |
| Trichloroethylene | 03/12/22 | 0.34 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 04/18/22 | 0.4 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 04/18/22 | 0.39 | 0.5 | UG/L | J |
| 8260 TVOC | 04/18/22 | 15.2 | 0 | UG/L | |
| Carbon tetrachloride | 04/18/22 | 2.3 | 0.5 | UG/L | |
| Chloroform | 04/18/22 | 0.64 | 0.5 | UG/L | |
| Tetrachloroethylene | 04/18/22 | 11 | 0.5 | UG/L | |
| Trichloroethylene | 04/18/22 | 0.47 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 05/09/22 | 0.4 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 05/09/22 | 0.42 | 0.5 | UG/L | J |
| 8260 TVOC | 05/09/22 | 14.14 | 0 | UG/L | |
| Carbon tetrachloride | 05/09/22 | 2.2 | 0.5 | UG/L | |
| Chloroform | 05/09/22 | 0.69 | 0.5 | UG/L | |
| Tetrachloroethylene | 05/09/22 | 10 | 0.5 | UG/L | |
| Trichloroethylene | 05/09/22 | 0.43 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 06/06/22 | 0.21 | 0.5 | UG/L | J |
| 8260 TVOC | 06/06/22 | 13.95 | 0 | UG/L | |
| Carbon tetrachloride | 06/06/22 | 2 | 0.5 | UG/L | |
| Chloroform | 06/06/22 | 0.57 | 0.5 | UG/L | |
| Tetrachloroethylene | 06/06/22 | 11 | 0.5 | UG/L | |
| Trichloroethylene | 06/06/22 | 0.17 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 07/14/22 | 0.27 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 07/14/22 | 0.33 | 0.5 | UG/L | J |
| 8260 TVOC | 07/14/22 | 8.21 | 0 | UG/L | |
| Carbon tetrachloride | 07/14/22 | 0.8 | 0.5 | UG/L | |
| Chloroform | 07/14/22 | 0.39 | 0.5 | UG/L | J |
| cis-1,2-Dichloroethylene | 07/14/22 | 0.37 | 0.5 | UG/L | J |
| Tetrachloroethylene | 07/14/22 | 5.8 | 0.5 | UG/L | |
| Trichloroethylene | 07/14/22 | 0.25 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 08/05/22 | 0.37 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 08/05/22 | 0.38 | 0.5 | UG/L | J |
| 8260 TVOC | 08/05/22 | 14.88 | 0 | UG/L | |
| Carbon tetrachloride | 08/05/22 | 2.1 | 0.5 | UG/L | |
| Chloroform | 08/05/22 | 0.64 | 0.5 | UG/L | |
| Tetrachloroethylene | 08/05/22 | 11 | 0.5 | UG/L | |
| Trichloroethylene | 08/05/22 | 0.39 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 09/07/22 | 0.39 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 09/07/22 | 0.39 | 0.5 | UG/L | J |
| 8260 TVOC | 09/07/22 | 14.86 | 0 | UG/L | |
| Carbon tetrachloride | 09/07/22 | 2 | 0.5 | UG/L | |
| Chloroform | 09/07/22 | 0.64 | 0.5 | UG/L | |
| Tetrachloroethylene | 09/07/22 | 11 | 0.5 | UG/L | |
| Trichloroethylene | 09/07/22 | 0.44 | 0.5 | UG/L | J |

**Table F-13**
**Air Stripper Influent VOC Data**
**OU III South Boundary System**

2022 BNL Groundwater Status Report

**121-41 (Influent)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 10/13/22 | 0.57 | 0.5 | UG/L | |
| 8260 TVOC | 10/13/22 | 4.07 | 0 | UG/L | |
| Carbon tetrachloride | 10/13/22 | 0.2 | 0.5 | UG/L | J |
| Tetrachloroethylene | 10/13/22 | 2.8 | 0.5 | UG/L | |
| Trichloroethylene | 10/13/22 | 0.5 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 11/04/22 | 0.31 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 11/04/22 | 0.38 | 0.5 | UG/L | J |
| 8260 TVOC | 11/04/22 | 12.43 | 0 | UG/L | |
| Carbon tetrachloride | 11/04/22 | 1.9 | 0.5 | UG/L | |
| Tetrachloroethylene | 11/04/22 | 9.4 | 0.5 | UG/L | |
| Trichloroethylene | 11/04/22 | 0.44 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 12/02/22 | 0.39 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 12/02/22 | 0.41 | 0.5 | UG/L | J |
| 8260 TVOC | 12/02/22 | 14.51 | 0 | UG/L | |
| Carbon tetrachloride | 12/02/22 | 2.3 | 0.5 | UG/L | |
| Tetrachloroethylene | 12/02/22 | 11 | 0.5 | UG/L | |
| Trichloroethylene | 12/02/22 | 0.41 | 0.5 | UG/L | J |

**Table F-14**
**Air Stripper Effluent VOC Data**
**OU III South Boundary System**

2022 BNL Groundwater Status Report

**Site ID : 095-126 (Effluent)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 4/18/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 5/9/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 6/6/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 7/14/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 8/5/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 9/7/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 10/13/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 11/4/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 12/2/2022 | 0 | 0 | UG/L | |

**Table F-15**
**Cumulative Mass Removal**
**OU III South Boundary System**

2022 BNL Groundwater Status Report

| Date Sampled | Total VOC's (µg/L) | Flow Rates (gpm) | Cumulative VOC's (lbs) |
|---|---|---|---|
| 1/25/2022 | 3.83 | 108 | 3070.05 |
| 2/9/2022 | 12.27 | 112 | 3070.30 |
| 3/12/2022 | 13.76 | 134 | 3070.98 |
| 4/18/2022 | 15.2 | 81 | 3071.53 |
| 5/9/2022 | 14.14 | 134 | 3072.01 |
| 6/6/2022 | 13.95 | 135 | 3072.64 |
| 7/14/2022 | 8.21 | 139 | 3073.16 |
| 8/5/2022 | 14.88 | 157 | 3073.78 |
| 9/7/2022 | 14.86 | 158 | 3074.71 |
| 10/13/2022 | 4.07 | 136 | 3074.95 |
| 11/4/2022 | 12.43 | 140 | 3075.41 |
| 12/2/2022 | 14.51 | 155 | 3076.16 |

µg/L Micrograms per liter
gpm Gallons per minute
lbs Pounds

**Table F-16**
**Extraction Wells VOC Data**
**OU III Western South Boundary System**

2022 BNL Groundwater Status Report

**Site ID : 126-12 (WSB-1)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 1/25/2022 | 3.7 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 1/25/2022 | 5.8 | 0.5 | UG/L | |
| 8260 TVOC | 1/25/2022 | 11.26 | 0 | UG/L | |
| Chloroform | 1/25/2022 | 0.86 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 1/25/2022 | 0.17 | 0.5 | UG/L | J |
| Trichloroethylene | 1/25/2022 | 0.73 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 4/18/2022 | 3.5 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 4/18/2022 | 5.9 | 0.5 | UG/L | |
| 8260 TVOC | 4/18/2022 | 10.85 | 0 | UG/L | |
| Chloroform | 4/18/2022 | 0.73 | 0.5 | UG/L | |
| Trichloroethylene | 4/18/2022 | 0.72 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 7/14/2022 | 3.1 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 7/14/2022 | 5.6 | 0.5 | UG/L | |
| 8260 TVOC | 7/14/2022 | 10.29 | 0 | UG/L | |
| Chloroform | 7/14/2022 | 0.91 | 0.5 | UG/L | |
| Trichloroethylene | 7/14/2022 | 0.68 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 10/13/2022 | 3 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 10/13/2022 | 5.4 | 0.5 | UG/L | |
| 8260 TVOC | 10/13/2022 | 9.64 | 0 | UG/L | |
| Chloroform | 10/13/2022 | 0.77 | 0.5 | UG/L | |
| Trichloroethylene | 10/13/2022 | 0.47 | 0.5 | UG/L | J |

**Site ID : 127-05 (WSB-2)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 1/25/2022 | 0.8 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 1/25/2022 | 0.26 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 1/25/2022 | 1 | 0.5 | UG/L | |
| 8260 TVOC | 1/25/2022 | 4.97 | 0 | UG/L | |
| Chloroform | 1/25/2022 | 0.69 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 1/25/2022 | 0.22 | 0.5 | UG/L | J |
| Trichloroethylene | 1/25/2022 | 2 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 4/18/2022 | 0.77 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 4/18/2022 | 0.25 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 4/18/2022 | 0.87 | 0.5 | UG/L | |
| 8260 TVOC | 4/18/2022 | 4.56 | 0 | UG/L | |
| Chloroform | 4/18/2022 | 0.67 | 0.5 | UG/L | |
| Trichloroethylene | 4/18/2022 | 2 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 7/14/2022 | 0.74 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 7/14/2022 | 0.87 | 0.5 | UG/L | |
| 8260 TVOC | 7/14/2022 | 3.95 | 0 | UG/L | |
| Chloroform | 7/14/2022 | 0.64 | 0.5 | UG/L | |
| Trichloroethylene | 7/14/2022 | 1.7 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 10/13/2022 | 0.51 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 10/13/2022 | 0.57 | 0.5 | UG/L | |
| 8260 TVOC | 10/13/2022 | 3.06 | 0 | UG/L | |
| Chloroform | 10/13/2022 | 0.38 | 0.5 | UG/L | J |
| Trichloroethylene | 10/13/2022 | 1.6 | 0.5 | UG/L | |

**Table F-16**
**Extraction Wells VOC Data**
**OU III Western South Boundary System**

2022 BNL Groundwater Status Report

**Site ID : 111-17 (WSB-3)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 1/25/2022 | 0.87 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 1/25/2022 | 0.7 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 1/25/2022 | 4.4 | 0.5 | UG/L | |
| 8260 TVOC | 1/25/2022 | 7.76 | 0 | UG/L | |
| Chloroform | 1/25/2022 | 0.99 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 1/25/2022 | 0.17 | 0.5 | UG/L | J |
| Tetrachloroethylene | 1/25/2022 | 0.17 | 0.5 | UG/L | J |
| Trichloroethylene | 1/25/2022 | 0.46 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 4/18/2022 | 0.74 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 4/18/2022 | 0.81 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 4/18/2022 | 3.9 | 0.5 | UG/L | |
| 8260 TVOC | 4/18/2022 | 7.21 | 0 | UG/L | |
| Chloroform | 4/18/2022 | 1.2 | 0.5 | UG/L | |
| Trichloroethylene | 4/18/2022 | 0.56 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 7/27/2022 | 0.83 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 7/27/2022 | 1.1 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 7/27/2022 | 5.8 | 0.5 | UG/L | |
| 8260 TVOC | 7/27/2022 | 9.78 | 0 | UG/L | |
| Chloroform | 7/27/2022 | 1.3 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 7/27/2022 | 0.19 | 0.5 | UG/L | J |
| Trichloroethylene | 7/27/2022 | 0.56 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 10/13/2022 | 0.51 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 10/13/2022 | 0.77 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 10/13/2022 | 4.1 | 0.5 | UG/L | |
| 8260 TVOC | 10/13/2022 | 6.99 | 0 | UG/L | |
| Chloroform | 10/13/2022 | 1.1 | 0.5 | UG/L | |
| Trichloroethylene | 10/13/2022 | 0.51 | 0.5 | UG/L | |

**Site ID : 119-13 (WSB-4)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 1/25/2022 | 2.7 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 1/25/2022 | 0.51 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 1/25/2022 | 5.8 | 0.5 | UG/L | |
| 8260 TVOC | 1/25/2022 | 10.56 | 0 | UG/L | |
| Chloroform | 1/25/2022 | 0.28 | 0.5 | UG/L | J |
| Dichlorodifluoromethane | 1/25/2022 | 0.6 | 0.5 | UG/L | |
| Trichloroethylene | 1/25/2022 | 0.67 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 4/18/2022 | 2.2 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 4/18/2022 | 0.58 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 4/18/2022 | 5 | 0.5 | UG/L | |
| 8260 TVOC | 4/18/2022 | 9.31 | 0 | UG/L | |
| Chloroform | 4/18/2022 | 0.27 | 0.5 | UG/L | J |
| Dichlorodifluoromethane | 4/18/2022 | 0.62 | 0.5 | UG/L | |
| Trichloroethylene | 4/18/2022 | 0.64 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 7/14/2022 | 2.2 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 7/14/2022 | 0.55 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 7/14/2022 | 5.6 | 0.5 | UG/L | |
| 8260 TVOC | 7/14/2022 | 9.53 | 0 | UG/L | |
| Chloroform | 7/14/2022 | 0.16 | 0.5 | UG/L | J |
| Dichlorodifluoromethane | 7/14/2022 | 0.43 | 0.5 | UG/L | J |
| Trichloroethylene | 7/14/2022 | 0.59 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 10/13/2022 | 2 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 10/13/2022 | 0.53 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 10/13/2022 | 5.3 | 0.5 | UG/L | |
| 8260 TVOC | 10/13/2022 | 8.83 | 0 | UG/L | |
| Dichlorodifluoromethane | 10/13/2022 | 0.42 | 0.5 | UG/L | J |
| Trichloroethylene | 10/13/2022 | 0.58 | 0.5 | UG/L | |

**Table F-16**
**Extraction Wells VOC Data**
**OU III Western South Boundary System**

2022 BNL Groundwater Status Report

**Site ID : 130-12 (WSB-5)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 1/25/2022 | 4.5 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 1/25/2022 | 0.32 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 1/25/2022 | 4.8 | 0.5 | UG/L | |
| 8260 TVOC | 1/25/2022 | 13.42 | 0 | UG/L | |
| Chloroform | 1/25/2022 | 1.5 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 1/25/2022 | 1.2 | 0.5 | UG/L | |
| Trichloroethylene | 1/25/2022 | 1.1 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 4/18/2022 | 4.6 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 4/18/2022 | 0.39 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 4/18/2022 | 6.4 | 0.5 | UG/L | |
| 8260 TVOC | 4/18/2022 | 14.99 | 0 | UG/L | |
| Chloroform | 4/18/2022 | 1.5 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 4/18/2022 | 1 | 0.5 | UG/L | |
| Trichloroethylene | 4/18/2022 | 1.1 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 7/14/2022 | 4.3 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 7/14/2022 | 0.35 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 7/14/2022 | 6.2 | 0.5 | UG/L | |
| 8260 TVOC | 7/14/2022 | 14.04 | 0 | UG/L | |
| Chloroform | 7/14/2022 | 1.4 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 7/14/2022 | 0.79 | 0.5 | UG/L | |
| Trichloroethylene | 7/14/2022 | 1 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 10/13/2022 | 3.6 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 10/13/2022 | 0.25 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 10/13/2022 | 5.3 | 0.5 | UG/L | |
| 8260 TVOC | 10/13/2022 | 11.64 | 0 | UG/L | |
| Chloroform | 10/13/2022 | 1.1 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 10/13/2022 | 0.54 | 0.5 | UG/L | |
| Trichloroethylene | 10/13/2022 | 0.85 | 0.5 | UG/L | |

**Site ID : 130-13 (WSB-6)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 1/25/2022 | 0.36 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 1/25/2022 | 0.57 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 1/25/2022 | 0.95 | 0.5 | UG/L | |
| 8260 TVOC | 1/25/2022 | 5.98 | 0 | UG/L | |
| Dichlorodifluoromethane | 1/25/2022 | 4.1 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 4/18/2022 | 0.41 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 4/18/2022 | 0.69 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 4/18/2022 | 1.1 | 0.5 | UG/L | |
| 8260 TVOC | 4/18/2022 | 5.7 | 0 | UG/L | |
| Dichlorodifluoromethane | 4/18/2022 | 3.5 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 7/14/2022 | 0.46 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 7/14/2022 | 0.67 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 7/14/2022 | 1.3 | 0.5 | UG/L | |
| 8260 TVOC | 7/14/2022 | 6.63 | 0 | UG/L | |
| Dichlorodifluoromethane | 7/14/2022 | 4.2 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 10/13/2022 | 0.16 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 10/13/2022 | 0.63 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 10/13/2022 | 0.99 | 0.5 | UG/L | |
| 8260 TVOC | 10/13/2022 | 5.15 | 0 | UG/L | |
| Dichlorodifluoromethane | 10/13/2022 | 3.2 | 0.5 | UG/L | |
| Trichloroethylene | 10/13/2022 | 0.17 | 0.5 | UG/L | |

**Table F-17**
**Air Stripper Influent Data**
**OU III Western South Boundary System**

2022 BNL Groundwater Status Report

**Site ID : 121-55 (Influent)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 01/25/22 | 3.6 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 01/25/22 | 5.3 | 0.5 | UG/L | |
| 8260 TVOC | 01/25/22 | 10.69 | 0 | UG/L | |
| Chloroform | 01/25/22 | 0.83 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 01/25/22 | 0.22 | 0.5 | UG/L | J |
| Trichloroethylene | 01/25/22 | 0.74 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 02/09/22 | 2.9 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 02/09/22 | 5 | 0.5 | UG/L | |
| 8260 TVOC | 02/09/22 | 10.22 | 0 | UG/L | |
| Chloroform | 02/09/22 | 0.48 | 0.5 | UG/L | J |
| Dichlorodifluoromethane | 02/09/22 | 1.4 | 0.5 | UG/L | |
| Trichloroethylene | 02/09/22 | 0.44 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 03/12/22 | 2.7 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 03/12/22 | 0.4 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 03/12/22 | 4.9 | 0.5 | UG/L | |
| 8260 TVOC | 03/12/22 | 10.2 | 0 | UG/L | |
| Chloroform | 03/12/22 | 0.71 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 03/12/22 | 0.85 | 0.5 | UG/L | |
| Trichloroethylene | 03/12/22 | 0.64 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 04/18/22 | 2.7 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 04/18/22 | 0.5 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 04/18/22 | 5.1 | 0.5 | UG/L | |
| 8260 TVOC | 04/18/22 | 10.89 | 0 | UG/L | |
| Chloroform | 04/18/22 | 0.82 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 04/18/22 | 1.1 | 0.5 | UG/L | |
| Trichloroethylene | 04/18/22 | 0.67 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 05/09/22 | 2.7 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 05/09/22 | 0.51 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 05/09/22 | 4.6 | 0.5 | UG/L | |
| 8260 TVOC | 05/09/22 | 10.59 | 0 | UG/L | |
| Chloroform | 05/09/22 | 0.85 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 05/09/22 | 1.3 | 0.5 | UG/L | |
| Trichloroethylene | 05/09/22 | 0.63 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 06/06/22 | 3 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 06/06/22 | 5.5 | 0.5 | UG/L | |
| 8260 TVOC | 06/06/22 | 10.81 | 0 | UG/L | |
| Chloroform | 06/06/22 | 0.72 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 06/06/22 | 1.2 | 0.5 | UG/L | |
| Trichloroethylene | 06/06/22 | 0.39 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 07/14/22 | 2.7 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 07/14/22 | 0.39 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 07/14/22 | 4.8 | 0.5 | UG/L | |
| 8260 TVOC | 07/14/22 | 10.32 | 0 | UG/L | |
| Chloroform | 07/14/22 | 0.76 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 07/14/22 | 1.1 | 0.5 | UG/L | |
| Trichloroethylene | 07/14/22 | 0.57 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 08/05/22 | 2.1 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 08/05/22 | 0.46 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 08/05/22 | 4.3 | 0.5 | UG/L | |
| 8260 TVOC | 08/05/22 | 9.12 | 0 | UG/L | |
| Chloroform | 08/05/22 | 0.85 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 08/05/22 | 0.79 | 0.5 | UG/L | |
| Trichloroethylene | 08/05/22 | 0.62 | 0.5 | UG/L | |

**Table F-17**
**Air Stripper Influent Data**
**OU III Western South Boundary System**

2022 BNL Groundwater Status Report

**Site ID : 121-55 (Influent)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 09/07/22 | 2.7 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 09/07/22 | 0.4 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 09/07/22 | 4.7 | 0.5 | UG/L | |
| 8260 TVOC | 09/07/22 | 10.41 | 0 | UG/L | |
| Chloroform | 09/07/22 | 0.84 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 09/07/22 | 1.1 | 0.5 | UG/L | |
| Trichloroethylene | 09/07/22 | 0.67 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 10/13/22 | 2 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 10/13/22 | 0.45 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 10/13/22 | 4.3 | 0.5 | UG/L | |
| 8260 TVOC | 10/13/22 | 8.71 | 0 | UG/L | |
| Chloroform | 10/13/22 | 0.71 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 10/13/22 | 0.81 | 0.5 | UG/L | |
| Trichloroethylene | 10/13/22 | 0.44 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 11/04/22 | 1.9 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 11/04/22 | 0.5 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 11/04/22 | 4.3 | 0.5 | UG/L | |
| 8260 TVOC | 11/04/22 | 9.09 | 0 | UG/L | |
| Chloroform | 11/04/22 | 0.91 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 11/04/22 | 0.79 | 0.5 | UG/L | |
| Trichloroethylene | 11/04/22 | 0.69 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 12/02/22 | 2.3 | 0.5 | UG/L | |
| 1,1-Dichloroethane | 12/02/22 | 0.51 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 12/02/22 | 4.7 | 0.5 | UG/L | |
| 8260 TVOC | 12/02/22 | 10.08 | 0 | UG/L | |
| Chloroform | 12/02/22 | 0.92 | 0.5 | UG/L | |
| Dichlorodifluoromethane | 12/02/22 | 0.99 | 0.5 | UG/L | |
| Trichloroethylene | 12/02/22 | 0.66 | 0.5 | UG/L | |

**Table F-18**
**Air Stripper Effluent Data**
**OU III Western South Boundary System**

2022 BNL Groundwater Status Report

**Site ID : 095-126 (Effluent)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 4/18/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 5/9/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 6/6/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 7/14/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 8/5/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 9/7/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 10/13/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 11/4/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 12/2/2022 | 0 | 0 | UG/L | |

**Site ID : 095-270 (Effluent)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 1/25/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 2/9/2022 | 0 | 0 | UG/L | |
| 524.2 TVOC | 3/12/2022 | 0 | 0 | UG/L | |

**Table F-19**
**OU III Western South Boundary System**
**Cumulative Mass Removal**

2022 BNL Groundwater Status Report

| Date Sampled | Total VOCs (µg/L) | Flow Rates (gpm) | Cumulative VOCs (lbs) |
|---|---|---|---|
| 1/25/2022 | 10.69 | 369 | 180.74 |
| 2/9/2022 | 10.22 | 403 | 182.21 |
| 3/12/2022 | 10.2 | 489 | 185.60 |
| 4/18/2022 | 10.89 | 306 | 186.84 |
| 5/9/2022 | 10.59 | 513 | 188.89 |
| 6/6/2022 | 10.81 | 417 | 190.54 |
| 7/14/2022 | 10.32 | 396 | 192.06 |
| 8/5/2022 | 9.12 | 446 | 193.57 |
| 9/7/2022 | 10.41 | 494 | 195.50 |
| 10/13/2022 | 8.71 | 395 | 196.76 |
| 11/4/2022 | 9.09 | 391 | 198.08 |
| 12/2/2022 | 10.08 | 463 | 199.82 |

**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**

2022 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)* | *(%)* |
| | | | | | | | | | | | | | | | | | | | | | |
| **9/29/1999** | 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 |
| **10/12/1999** | 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 |
| **10/26/1999** | 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 |
| **12/14/1999** | 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 |
| **1/27/2000** | 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 |
| **2/24/2000** | 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 |
| **3/20/2000** | 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 |
| **4/18/2000** | 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 |
| **5/16/2000** | 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 |
| **6/14/2000** | 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 |
| **7/24/2000** | 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 |
| **8/15/2000** | 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 |
| **9/19/2000** | 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 |
| **10/24/2000** | 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 |
| **11/13/2000** | 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 |
| **12/19/2000** | 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 |
| **1/24/2001** | 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 |
| **2/26/2001** | 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 |
| **3/20/2001** | 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 |
| **4/19/2001** | 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 |
| **5/29/2001** | 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 |
| **6/26/2001** | 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 |
| **7/31/2001** | 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 |
| **8/31/2001** | 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 |
| **9/30/2001** | 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 |
| **10/2/2001** | 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 |
| **11/2/2001** | 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 |
| **12/19/2001** | 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 |
| **1/14/2002** | 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 |
| **2/25/2002** | 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 |
| **3/25/2002** | 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 |
| **4/30/2002** | 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 |
| **5/29/2002** | 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 |
| **6/26/2002** | 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 |
| **7/25/2002** | 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**

2022 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)* | *(%)* |
| **8/27/2002** | 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 |
| **9/23/2002** | 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 |
| **10/29/2002** | 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 |
| **11/19/2002** | 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 |
| **12/19/2002** | 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 |
| **1/29/2003** | 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 |
| **2/25/2003** | 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 |
| **3/20/2003** | 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 |
| **4/30/2003** | 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 |
| **5/31/2003** | 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 |
| **6/30/2003** | 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 |
| **7/31/2003** | 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 |
| **8/31/2003** | 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 |
| **9/30/2003** | 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 |
| **10/31/2003** | 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 |
| **11/30/2003** | 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 |
| **12/31/2003** | 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 |
| **1/26/2004** | 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 |
| **2/25/2004** | 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 |
| **3/24/2004** | 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 |
| **4/27/2004** | 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 |
| **5/27/2004** | 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 |
| **6/29/2004** | 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 |
| **7/23/2004** | 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 |
| **8/26/2004** | 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 |
| **9/21/2004** | 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 |
| **10/26/2004** | 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 |
| **11/23/2004** | 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 |
| **12/15/2004** | 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 |
| **1/31/2005** | 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 |
| **2/28/2005** | 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 |
| **3/31/2005** | 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 |
| **4/30/2005** | 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 |
| **5/31/2005** | 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 |
| **7/31/2005** | 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 |
| **8/31/2005** | 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 |
| **9/30/2005** | 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 |
| **10/31/2005** | 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 |
| **11/30/2005** | 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 |
| **12/31/2005** | 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 |
| **1/31/2006** | 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 |
| **2/28/2006** | 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 |
| **3/31/2006** | 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**

2022 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)* | *(%)* |
| **4/30/2006** | 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 |
| **5/31/2006** | 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 |
| **6/30/2006** | 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 |
| **7/31/2006** | 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 |
| **8/31/2006** | 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 |
| **9/30/2006** | 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 |
| **10/31/2006** | 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 |
| **11/30/2006** | 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 |
| **12/31/2006** | 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 |
| **1/31/2007** | 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 |
| **2/28/2007** | 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 |
| **3/31/2007** | 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 |
| **4/30/2007** | 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 |
| **5/30/2007** | 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 |
| **6/30/2007** | 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 |
| **7/31/2007** | 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 |
| **8/31/2007** | 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 |
| **9/30/2007** | 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 |
| **10/31/2007** | 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 |
| **11/30/2007** | 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 |
| **12/31/2007** | 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 |
| **1/31/2008** | 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 |
| **2/28/2008** | 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 |
| **3/31/2008** | 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 |
| **4/30/2008** | 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 |
| **5/31/2008** | 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 |
| **6/30/2008** | 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 |
| **7/31/2008** | 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 |
| **8/31/2008** | 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 |
| **9/30/2008** | 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 |
| **10/31/2008** | 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 |
| **11/30/2008** | 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 |
| **12/31/2008** | 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 |
| **1/31/2009** | 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 |
| **2/28/2009** | 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 |
| **3/31/2009** | 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 |
| **4/30/2009** | 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 |
| **5/31/2009** | 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 |
| **6/30/2009** | 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 |
| **7/31/2009** | 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 |
| **8/31/2009** | 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 |
| **9/30/2009** | 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 |
| **10/31/2009** | 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 |
| **11/30/2009** | 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**

2022 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)* | *(%)* |
| | | | | | | | | | | | | | | | | | | | | | |
| **12/31/2009** | 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 |
| **1/31/2010** | 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 |
| **2/28/2010** | 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 |
| **3/31/2010** | 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 |
| **4/30/2010** | 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 |
| **5/31/2010** | 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 |
| **6/30/2010** | 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 |
| **7/31/2010** | 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 |
| **8/31/2010** | 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 |
| **9/30/2010** | 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 |
| **10/31/2010** | 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 |
| **11/30/2010** | 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 |
| **12/31/2010** | 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 |
| **1/31/2011** | 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 |
| **2/28/2011** | 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 |
| **3/31/2011** | 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 |
| **4/30/2011** | 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 |
| **5/31/2011** | 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 |
| **6/30/2011** | 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 |
| **7/31/2011** | 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 |
| **8/31/2011** | 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 |
| **9/30/2011** | 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 |
| **10/31/2011** | 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 |
| **11/30/2011** | 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 |
| **12/31/2011** | 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 |
| **1/31/2012** | 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 |
| **2/28/2012** | 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 |
| **3/31/2012** | 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 |
| **4/30/2012** | 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 |
| **5/31/2012** | 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 |
| **6/30/2012** | 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 |
| **7/31/2012** | 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 |
| **8/31/2012** | 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 |
| **9/30/2012** | 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 |
| **10/31/2012** | 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 |
| **11/30/2012** | 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 |
| **12/31/2012** | 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 |
| **1/31/2013** | 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 |
| **2/28/2013** | 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 |
| **3/31/2013** | 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 |
| **4/30/2013** | 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 |
| **5/31/2013** | | | | | | | | | | | | | | | | | | | | | |
| **6/30/2013** | | | | | | | | | | | | | | | | | | | | | |
| **7/30/2013** | 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**

2022 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)* | *(%)* |
| **8/31/2013** | | | | | | | | | | | | | | | | | | | | | |
| **9/30/2013** | | | | | | | | | | | | | | | | | | | | | |
| **10/31/2013** | 1.58 | | | 0.47 | | | 0.29 | | | 3.46 | | | 54.02 | | | 15.57 | | | 0.34 | | |
| **11/30/2013** | | | | | | | | | | | | | | | | | | | | | |
| **12/31/2013** | | | | | | | | | | | | | | | | | | | | | |
| **1/31/2014** | 1.11 | | | 1.08 | | | 2.98 | | | 3.71 | | | 51.14 | | | 14.57 | | | 0 | | |
| **2/28/2014** | | | | | | | | | | | | | | | | | | | | | |
| **3/21/2014** | 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 |
| **4/17/2014** | 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 | | |
| **5/15/2014** | | | | | | | 1.62 | 0.86 | 46.91 | | | | 8.65 | 2.37 | 72.60 | 4.88 | 1.01 | 79.30 | | | |
| **6/17/2014** | | | | | | | 4.038 | 3.16 | 21.74 | | | | 10.18 | 6.11 | 39.98 | 4.68 | 1.07 | 77.14 | | | |
| **7/29/2014** | 2.2 | | | 10.81 | | | | | | 2.58 | 1.19 | | 14.58 | 2.33 | 84.02 | 4.93 | 0.72 | 85.40 | 2.81 | | |
| **8/27/2014** | | | | | | | | 1.31 | | 2.96 | 1.28 | | 8.53 | 1.80 | 78.90 | 0.91 | 0.90 | 1.10 | | | |
| **9/30/2014** | | | | | | | | 0.94 | | 2.44 | 0.96 | | | | | 0.37 | 0.30 | 18.92 | | | |
| **10/29/2014** | | | | 14.38 | | | | | | 2.03 | | | | | | 0.23 | 1.27 | | 2.7 | | |
| **11/30/2014** | | | | | | | | | | | | | | | | | | | | | |
| **12/31/2014** | | | | | | | | | | | | | | | | | | | | | |
| **1/31/2015** | | | | | | | | | | | | | | | | | | | | | |
| **2/28/2015** | | | | | | | | | | | | | | | | | | | | | |
| **3/31/2015** | | | | | | | | | | | | | | | | | | | | | |
| **6/25/2015** | 0.48 | | | 3.19 | | | 1.87 | | | 2.09 | | | 33.58 | | | 0.66 | | | 3.34 | | |
| **7/22/2015** | 1.058 | | | 5.62 | | | 3.35 | | | 4.16 | | | 15.12 | | | 1.42 | | | 3 | | |
| **8/28/2015** | | | | | | | 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 | | |
| **9/24/2015** | | | | | | | 1.65 | 0.57 | 65.45 | 1.53 | 0.7 | 54.25 | 5.79 | 1.89 | 67.36 | | | | | | |
| **10/29/2015** | 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 | | |
| **11/20/2015** | | | | | | | 3.34 | 0.65 | 80.54 | 1.25 | 0.64 | 48.80 | 7.9 | 2.11 | 73.29 | 0.28 | 0.19 | 32.14 | | | |
| **12/23/2015** | | | | | | | 3.28 | 0.68 | 79.27 | 0.91 | 0.52 | 42.86 | 6.3 | 1.44 | 77.14 | 0.29 | 0.19 | 34.48 | | | |
| **1/21/2016** | 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 | | |
| **2/15/2016** | | | | | | | | | | | | | | | | | | | | | |
| **3/24/2016** | | | | | | | 4.18 | 0.79 | 81.10 | 1.64 | 0.77 | 53.05 | | | | | | | | | |
| **4/27/2016** | 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 | | |
| **5/25/2016** | | | | | | | 3.90 | 0.74 | 81.03 | 2.05 | 1.51 | 26.34 | 5.60 | 0.80 | 85.71 | 0.35 | 0.11 | 68.57 | | | |
| **6/16/2016** | | | | | | | 3.49 | 0.90 | 74.21 | 1.72 | 0.88 | 48.84 | | | | 0.23 | 0.11 | 52.17 | | | |
| **7/27/2016** | 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 | | |
| **8/24/2016** | | | | | | | 1.25 | 0.66 | 47.20 | 0.94 | 0.92 | 2.13 | 3.63 | 0.74 | 79.61 | 0.48 | 0.22 | 54.17 | | | |
| **9/15/2016** | | | | | | | 1.69 | 0.77 | 54.44 | 1.10 | 0.97 | 11.82 | 3.59 | 0.77 | 78.55 | 0.49 | 0.29 | 40.82 | | | |
| **10/19/2016** | 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 | | |
| **11/22/2016** | | | | | | | 0.52 | 0.50 | 3.85 | 1.16 | 0.61 | 47.41 | 3.25 | 0.20 | 93.85 | 2.06 | 0.44 | 78.64 | | | |
| **12/21/2016** | | | | | | | | | | 0.81 | 0.44 | 45.68 | 4.05 | 0.28 | 93.09 | 2.27 | 0.42 | 81.50 | | | |
| **1/25/2017** | | | | 1.57 | | | | | | 0.75 | 0.59 | 21.33 | 3.55 | 0.14 | 96.06 | 2.06 | 0.28 | 86.41 | 0.00 | | |
| **4/26/2017** | | | | 1.53 | | | 0 | | | 1.34 | | | 6.98 | | | 4.14 | | | 0.35 | | |
| **7/26/2017** | 9.51 | | | 1.4 | | | 0.12 | | | 1.95 | | | 16.15 | | | 4.27 | | | 0.39 | | |
| **10/26/2017** | 3.6 | | | 1.92 | | | 0.24 | | | 2.08 | | | 16.02 | | | 4.13 | | | 0.1 | | |
| **1/25/2018** | 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**

2022 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)* | *(%)* |
| **4/5/2018** | 0 | | | 1.9 | | | 0 | | | 1.74 | | | 22.76 | | | 2.08 | | | 0 | | |
| **7/26/2018** | 1.23 | | | 2.17 | | | 0.32 | | | 1.29 | | | 26.09 | | | 1.07 | | | 0.41 | | |
| **10/26/2018** | 0.41 | | | | | | 0 | | | 1.31 | | | 26.61 | | | 0.46 | | | 0 | | |
| **1/30/2019** | 0 | | | | | | 0 | | | 0.95 | | | 28.01 | | | 0 | | | 0 | | |
| **4/17/2019** | 0 | | | | | | 0 | | | 1.1 | | | 24.2 | | | 0 | | | 0 | | |
| **7/30/2019** | 0 | | | 1.23 | | | 0.27 | | | 0.74 | | | 17.33 | | | 0.23 | | | 0 | | |
| **10/30/2019** | 0 | | | | | | 0 | | | 0 | | | 16.24 | | | 0 | | | 0 | | |
| **1/23/2020** | 0 | | | 33.20 | | | 0 | | | 1.09 | | | 11.86 | | | 0.00 | | | 0 | | |
| **7/30/2020** | 0.88 | | | 2.68 | | | | | | 2.31 | | | 17.27 | | | 0.30 | | | 1.1 | | |
| **10/27/2020** | 0 | | | 1.83 | | | 0.11 | | | 2.50 | | | 14.18 | | | 0.20 | | | 0.19 | | |
| **1/27/2021** | 0.32 | | | 2.08 | | | 0.00 | | | 0.94 | | | 12.18 | | | 0.18 | | | 0.00 | | |
| **4/22/2021** | 0.51 | | | 1.89 | | | 0.36 | | | 0.96 | | | 12.45 | | | 0.21 | | | 0.22 | | |
| **7/26/2021** | 0.22 | | | 1.46 | | | 0.16 | | | 0.51 | | | 13.40 | | | 0.48 | | | 0.46 | | |
| **10/29/2021** | 0 | | | 1.43 | | | 0.00 | | | 0.00 | | | 13.77 | | | 0.30 | | | 0.28 | | |
| **1/27/2022** | 0.00 | | | 0.28 | | | 0.00 | | | 0.00 | | | 10.28 | | | 0.00 | | | 0.00 | | |
| **4/13/2022** | 0.22 | | | | | | 0.00 | | | 0.00 | | | 10.99 | | | 0.00 | | | 0.00 | | |
| **7/18/2022** | 0.44 | | | | | | 0.27 | | | 0.00 | | | 12.11 | | | 0.59 | | | 0.35 | | |
| **10/17/2022** | 0.00 | | | | | | 0.00 | | | 0.24 | | | 8.28 | | | 0.00 | | | 0.00 | | |

**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 2022.**

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Average Efficiency** | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| **1st qtr. 2022 Average Efficiency** | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| **2nd qtr. 2022 Average Efficiency** | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| **3rd qtr. 2022 Average Efficiency** | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |
| **4th qtr. 2022 Average Efficiency** | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | | **NA** | |

| | |
|---|---|
| **1st qtr. 2022 AVERAGE SYSTEM EFFICIENCY** | **NA** |
| **2nd qtr. 2022 AVERAGE SYSTEM EFFICIENCY** | **NA** |
| **3rd qtr. 2022 AVERAGE SYSTEM EFFICIENCY** | **NA** |
| **4th qtr. 2022 AVERAGE SYSTEM EFFICIENCY** | **NA** |
| **2022 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**

2022 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)* |
| **01/31/15** | 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 |
| **02/28/15** | 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 |
| **03/31/15** | 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 |
| **04/30/15** | 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 |
| **05/31/15** | 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 |
| **06/30/15** | 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 |
| **07/31/15** | 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 |
| **08/31/15** | 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 |
| **09/30/15** | 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 |
| **10/31/15** | 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 |
| **11/30/15** | 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 |
| **12/31/15** | 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 |
| **01/31/16** | 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 |
| **02/29/16** | 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 |
| **03/31/16** | 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 |
| **04/30/16** | 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 |
| **05/31/16** | 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 |
| **06/30/16** | 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 |
| **07/31/16** | 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 |
| **08/31/16** | 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 |
| **09/30/16** | 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 |
| **10/31/16** | 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 |
| **11/30/16** | 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 |
| **12/31/16** | 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 |
| **01/31/17** | 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 |
| **02/28/17** | 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 |
| **03/31/17** | 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 |
| **04/30/17** | 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 |
| **05/31/17** | 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 |
| **06/30/17** | 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 |
| **07/31/17** | 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 |
| **08/31/17** | 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 |
| **09/29/17** | 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 |
| **10/31/17** | 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 |
| **11/30/17** | 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 |
| **12/31/17** | 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 |
| **01/31/18** | 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 |
| **02/28/18** | 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 |
| **03/31/18** | 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 |
| **04/30/18** | 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 |
| **05/31/18** | 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 |
| **06/30/18** | 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 |
| **07/31/18** | 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 |
| **08/31/18** | 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 |
| **09/29/18** | 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**

2022 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)* |
| **10/31/18** | 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 |
| **11/30/18** | 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 |
| **12/31/18** | 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 |
| **01/31/19** | 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 |
| **02/28/19** | 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 |
| **03/31/19** | 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 |
| **04/30/19** | 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 |
| **05/31/19** | 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 |
| **06/30/19** | 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 |
| **07/31/19** | 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 |
| **08/31/19** | 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 |
| **09/29/19** | 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 |
| **10/31/19** | 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 |
| **11/30/19** | 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 |
| **12/31/19** | 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 |
| **01/31/20** | 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 |
| **02/28/20** | 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 |
| **03/31/20** | 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 |
| **04/30/20** | 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 |
| **05/31/20** | 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 |
| **06/30/20** | 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 |
| **07/31/20** | 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 |
| **08/31/20** | 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 |
| **09/29/20** | 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 |
| **10/31/20** | 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 |
| **11/30/20** | 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 |
| **12/31/20** | 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 |
| **01/31/21** | 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 |
| **02/28/21** | 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 |
| **03/31/21** | 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 |
| **04/30/21** | 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 |
| **05/31/21** | 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 |
| **06/30/21** | 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 |
| **07/31/21** | 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 |
| **08/31/21** | 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 |
| **09/29/21** | 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 |
| **10/31/21** | 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 |
| **11/30/21** | 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 |
| **12/31/21** | 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 |
| **01/31/22** | 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 |
| **02/28/22** | 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 |
| **03/31/22** | 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 |
| **04/30/22** | 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**

2022 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)* |
| **05/31/22** | 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 |
| **06/30/22** | 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 |
| **07/31/22** | 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 |
| **08/31/22** | 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 |
| **09/29/22** | 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 |
| **10/31/22** | 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 |
| **11/30/22** | 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 |
| **12/31/22** | 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 remained in stand-by mode all of 2022.**

Mass recovered = total gallons pumped * influent concentration (ug/L) * (percent efficiency/100) * 8.4 X 10-9 (conversion factor)

NO = Not operational

**Total from all wells: 1075.06 lbs.**

* = 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**

2022 BNL Groundwater Status Report

Note: System in Stand-By Mode.

**Table F-23**
**Extraction Well VOC Data**
**OU III Industrial Park System**

2022 BNL Groundwater Status Report

| Date | IP-EW-8, 9 Combined Effluent<br>Effluent |
|---|---|
| 1/4/2017 | 0.11 |
| 1/17/2017 | 0.11 |
| 2/1/2017 | 0.094 |
| 2/13/2017 | 0.12 |
| 3/6/2017 | 0.12 |
| 3/20/2017 | 0.15 |
| 4/5/2017 | 0.54 |
| 4/19/2017 | 0.16 |
| 5/2/2017 | 0.16 |
| 5/16/2017 | 0.14 |
| 6/7/2017 | 0.28 |
| 6/20/2017 | 0.19 |
| 7/6/2017 | 0.16 |
| 7/25/2017 | 0.16 |
| 8/1/2017 | 0.17 |
| 8/15/2017 | 0.2 |
| 9/7/2017 | 0.2 |
| 9/19/2017 | 0.21 |
| 10/5/2017 | 0.38 |
| 10/18/2017 | 0.4 |
| 11/1/2017 | 0.21 |
| 11/15/2017 | 0.41 |
| 12/5/2017 | 0.39 |
| 12/19/2017 | 0.59 |
| 1/10/2018 | 0.38 |
| 1/23/2018 | 0.46 |
| 3/6/2018 | 0.0 |
| 3/20/2018 | 0.0 |
| 5/3/2018 | 0.0 |
| 5/15/2018 | 0.0 |
| 7/3/2018 | 0.0 |
| 7/17/2018 | 0.0 |
| 9/5/2018 | 0.0 |
| 9/18/2018 | 0.0 |
| 11/1/2018 | 0.0 |
| 11/15/2018 | 0.0 |
| 1/10/2019 | 0.0 |
| 1/22/2019 | 0.0 |
| 3/12/2019 | 0.0 |
| 3/28/2019 | 0.0 |
| 5/2/2019 | 0.0 |
| 5/14/2019 | 0.0 |

| Date | IP-EW-8<br>Influent | IP-EW-9<br>Influent |
|---|---|---|
| 1/4/2017 | 2.83 | 2.89 |
| 2/1/2017 | 2.62 | 2.73 |
| 3/6/2017 | 3.14 | 3 |
| 4/5/2017 | 2.91 | 2.41 |
| 5/2/2017 | 3.1 | 2.49 |
| 6/7/2017 | 2.74 | 2.67 |
| 7/6/2017 | 3.5 | 2.43 |
| 8/1/2017 | 3.05 | 2.75 |
| 9/7/2017 | 2.71 | 2.96 |
| 10/5/2017 | 2.87 | 2.74 |
| 11/1/2017 | 3.27 | 2.59 |
| 12/5/2017 | 2.6 | 1.27 |
| 1/10/2018 | 3.16 | 5.42 |
| 3/6/2018 | 2.48 | 1.92 |
| 5/3/2018 | 2.71 | 1.98 |
| 7/3/2018 | 2.34 | 1.91 |
| 9/5/2018 | 2.03 | 2.04 |
| 11/1/2018 | 2.8 | 1.77 |
| 1/10/2019 | 2.56 | 2.4 |
| 4/10/2019 | 2.49 | 4.04 |
| 7/9/2019 | 1.85 | 3.68 |
| 10/16/2019 | 2.28 | 4.73 |
| 1/7/2020 | 1.31 | 3.16 |
| 4/3/2020 | 1.23 | 3.42 |
| 7/9/2020 | 1.42 | 2.78 |
| 10/6/2020 | 2.5 | 4.7 |
| 1/5/2021 | 1.96 | 4.56 |
| 4/22/2021 | 1.45 | 3.73 |
| 7/15/2021 | 2.1 | 4.53 |
| 10/6/2021 | 2.73 | 6.17 |
| 1/27/2022 | 0.86 | 2.9 |
| 4/13/2022 | 1.59 | 4.01 |
| 7/18/2022 | 1.73 | 5.95 |
| 10/17/2022 | 0.61 | 2.59 |

**Table F-24**
**Cumulative Mass Removal**
**OU III North Street System**

2022 BNL Groundwater Status Report

OU III North Street Treatment System was in standby mode during 2022.

**Table F-25**
**Extraction Wells VOC Data and Tritium Data**
**OU III North Street System**

2022 BNL Groundwater Status Report

OU III North Street Treatment System was in standby mode during 2022.

**Table F-26**
**Carbon Influent VOC Data**
**OU III North Street System**

2022 BNL Groundwater Status Report

OU III North Street Treatment System was in standby mode during 2022.

**Table F-27**
**Carbon Effluent VOC and Tritium Data**
**OU III North Street System**

2022 BNL Groundwater Status Report

OU III North Street Treatment System was in standby mode during 2022.

**Table F-28**
**Extraction Wells VOC Data**
**OU III North Street East System**

2022 BNL Groundwater Status Report

**Site ID : 000-561 (NSE-EDB-EW-3)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 01/11/22 | 1.73 | 0 | UG/L | |
| Chloroform | 01/11/22 | 0.74 | 0.5 | UG/L | J |
| Methylene chloride | 01/11/22 | 0.57 | 0.5 | UG/L | J |
| Trichloroethylene | 01/11/22 | 0.42 | 0.5 | UG/L | J |
| 8260 TVOC | 02/07/22 | 1.19 | 0 | UG/L | |
| Chloroform | 02/07/22 | 0.74 | 0.5 | UG/L | J |
| Trichloroethylene | 02/07/22 | 0.45 | 0.5 | UG/L | J |
| 8260 TVOC | 03/03/22 | 1.32 | 0 | UG/L | |
| Chloroform | 03/03/22 | 0.73 | 0.5 | UG/L | J |
| EDB | 03/03/22 | 0.0149 | 0.0194 | UG/L | J |
| Methylene chloride | 03/03/22 | 0.59 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 04/06/22 | 0.35 | 0.5 | UG/L | J |
| 8260 TVOC | 04/06/22 | 1.9 | 0 | UG/L | |
| Chloroform | 04/06/22 | 0.86 | 0.5 | UG/L | |
| EDB | 04/06/22 | 0.014 | 0.011 | UG/L | |
| Tetrachloroethylene | 04/06/22 | 0.24 | 0.5 | UG/L | J |
| Trichloroethylene | 04/06/22 | 0.45 | 0.5 | UG/L | J |
| 8260 TVOC | 05/02/22 | 1.11 | 0 | UG/L | |
| Chloroform | 05/02/22 | 0.89 | 0.5 | UG/L | |
| EDB | 05/02/22 | 0.0093 | 0.01 | UG/L | J |
| Trichloroethylene | 05/02/22 | 0.22 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 06/01/22 | 0.3 | 0.5 | UG/L | J |
| 8260 TVOC | 06/01/22 | 1.87 | 0 | UG/L | |
| Chloroform | 06/01/22 | 0.9 | 0.5 | UG/L | |
| EDB | 06/01/22 | 0.017 | 0.01 | UG/L | |
| Tetrachloroethylene | 06/01/22 | 0.2 | 0.5 | UG/L | J |
| Trichloroethylene | 06/01/22 | 0.47 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 07/07/22 | 0.31 | 0.5 | UG/L | J |
| 8260 TVOC | 07/07/22 | 1.92 | 0 | UG/L | |
| Chloroform | 07/07/22 | 0.94 | 0.5 | UG/L | |
| EDB | 07/07/22 | 0.019 | 0.01 | UG/L | |
| Tetrachloroethylene | 07/07/22 | 0.24 | 0.5 | UG/L | J |
| Trichloroethylene | 07/07/22 | 0.43 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 08/10/22 | 0.36 | 0.5 | UG/L | J |
| 8260 TVOC | 08/10/22 | 1.9 | 0 | UG/L | |
| Chloroform | 08/10/22 | 1 | 0.5 | UG/L | |
| Tetrachloroethylene | 08/10/22 | 0.25 | 0.5 | UG/L | J |
| Trichloroethylene | 08/10/22 | 0.29 | 0.5 | UG/L | J |

**Table F-28**
**Extraction Wells VOC Data**
**OU III North Street East System**

2022 BNL Groundwater Status Report

**Site ID : 000-561 (NSE-EDB-EW-3)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 09/14/22 | 0.39 | 0.5 | UG/L | J |
| 8260 TVOC | 09/14/22 | 2.19 | 0 | UG/L | |
| Chloroform | 09/14/22 | 1.1 | 0.5 | UG/L | |
| EDB | 09/14/22 | 0.016 | 0.011 | UG/L | |
| Tetrachloroethylene | 09/14/22 | 0.24 | 0.5 | UG/L | J |
| Trichloroethylene | 09/14/22 | 0.46 | 0.5 | UG/L | J |
| 8260 TVOC | 10/03/22 | 1.17 | 0 | UG/L | |
| Chloroform | 10/03/22 | 0.75 | 0.5 | UG/L | |
| EDB | 10/03/22 | 0.016 | 0.011 | UG/L | |
| Trichloroethylene | 10/03/22 | 0.42 | 0.5 | UG/L | J |
| 8260 TVOC | 11/03/22 | 0.66 | 0 | UG/L | |
| EDB | 11/03/22 | 0.011 | 0.01 | UG/L | |
| Tetrachloroethylene | 11/03/22 | 0.17 | 0.5 | UG/L | J |
| Trichloroethylene | 11/03/22 | 0.49 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 12/02/22 | 0.35 | 0.5 | UG/L | J |
| 8260 TVOC | 12/02/22 | 2.2 | 0 | UG/L | |
| Chloroform | 12/02/22 | 1.1 | 0.5 | UG/L | |
| EDB | 12/02/22 | 0.013 | 0.01 | UG/L | |
| Tetrachloroethylene | 12/02/22 | 0.17 | 0.5 | UG/L | J |
| Trichloroethylene | 12/02/22 | 0.58 | 0.5 | UG/L | |

**Site ID : 000-562 (NSE-EDB-EW-4)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 01/11/22 | 2.37 | 0 | UG/L | |
| Chloroform | 01/11/22 | 0.74 | 0.5 | UG/L | J |
| EDB | 01/11/22 | 0.0128 | 0.0189 | UG/L | J |
| Methylene chloride | 01/11/22 | 0.56 | 0.5 | UG/L | J |
| Tetrachloroethylene | 01/11/22 | 0.66 | 0.5 | UG/L | J |
| Trichloroethylene | 01/11/22 | 0.41 | 0.5 | UG/L | J |
| 8260 TVOC | 02/07/22 | 1.85 | 0 | UG/L | |
| Chloroform | 02/07/22 | 0.77 | 0.5 | UG/L | J |
| EDB | 02/07/22 | 0.0211 | 0.0186 | UG/L | |
| Tetrachloroethylene | 02/07/22 | 0.67 | 0.5 | UG/L | J |
| Trichloroethylene | 02/07/22 | 0.41 | 0.5 | UG/L | J |
| 8260 TVOC | 03/03/22 | 2.44 | 0 | UG/L | |
| Chloroform | 03/03/22 | 0.75 | 0.5 | UG/L | J |
| EDB | 03/03/22 | 0.0194 | 0.019 | UG/L | |
| Methylene chloride | 03/03/22 | 0.58 | 0.5 | UG/L | J |
| Tetrachloroethylene | 03/03/22 | 0.74 | 0.5 | UG/L | J |
| Trichloroethylene | 03/03/22 | 0.37 | 0.5 | UG/L | J |
| 8260 TVOC | 04/06/22 | 2.32 | 0 | UG/L | |
| Chloroform | 04/06/22 | 0.85 | 0.5 | UG/L | |
| EDB | 04/06/22 | 0.0098 | 0.01 | UG/L | J |
| Methyl tert-butyl ether | 04/06/22 | 0.26 | 0.5 | UG/L | J |
| Tetrachloroethylene | 04/06/22 | 0.81 | 0.5 | UG/L | |
| Trichloroethylene | 04/06/22 | 0.4 | 0.5 | UG/L | J |

**Table F-28**
**Extraction Wells VOC Data**
**OU III North Street East System**

2022 BNL Groundwater Status Report

**Site ID : 000-562 (NSE-EDB-EW-4)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 05/02/22 | 2.34 | 0 | UG/L | |
| Chloroform | 05/02/22 | 0.87 | 0.5 | UG/L | |
| EDB | 05/02/22 | 0.017 | 0.01 | UG/L | |
| Methyl tert-butyl ether | 05/02/22 | 0.27 | 0.5 | UG/L | J |
| Tetrachloroethylene | 05/02/22 | 0.84 | 0.5 | UG/L | |
| Trichloroethylene | 05/02/22 | 0.36 | 0.5 | UG/L | J |
| 8260 TVOC | 06/01/22 | 2.27 | 0 | UG/L | |
| Chloroform | 06/01/22 | 0.81 | 0.5 | UG/L | |
| EDB | 06/01/22 | 0.02 | 0.01 | UG/L | |
| Methyl tert-butyl ether | 06/01/22 | 0.22 | 0.5 | UG/L | J |
| Tetrachloroethylene | 06/01/22 | 0.91 | 0.5 | UG/L | |
| Trichloroethylene | 06/01/22 | 0.33 | 0.5 | UG/L | J |
| 8260 TVOC | 07/07/22 | 2.38 | 0 | UG/L | |
| Chloroform | 07/07/22 | 0.89 | 0.5 | UG/L | |
| EDB | 07/07/22 | 0.026 | 0.01 | UG/L | |
| Methyl tert-butyl ether | 07/07/22 | 0.2 | 0.5 | UG/L | J |
| Tetrachloroethylene | 07/07/22 | 0.95 | 0.5 | UG/L | |
| Trichloroethylene | 07/07/22 | 0.34 | 0.5 | UG/L | J |
| 8260 TVOC | 08/10/22 | 2.16 | 0 | UG/L | |
| Chloroform | 08/10/22 | 0.98 | 0.5 | UG/L | |
| EDB | 08/10/22 | 0.015 | 0.01 | UG/L | |
| Tetrachloroethylene | 08/10/22 | 0.94 | 0.5 | UG/L | |
| Trichloroethylene | 08/10/22 | 0.24 | 0.5 | UG/L | J |
| 8260 TVOC | 09/14/22 | 2.45 | 0 | UG/L | |
| Chloroform | 09/14/22 | 0.97 | 0.5 | UG/L | |
| EDB | 09/14/22 | 0.014 | 0.011 | UG/L | |
| Methyl tert-butyl ether | 09/14/22 | 0.26 | 0.5 | UG/L | J |
| Tetrachloroethylene | 09/14/22 | 0.87 | 0.5 | UG/L | |
| Trichloroethylene | 09/14/22 | 0.35 | 0.5 | UG/L | J |
| 8260 TVOC | 10/03/22 | 1.78 | 0 | UG/L | |
| Chloroform | 10/03/22 | 0.66 | 0.5 | UG/L | |
| EDB | 10/03/22 | 0.018 | 0.011 | UG/L | |
| Methyl tert-butyl ether | 10/03/22 | 0.22 | 0.5 | UG/L | J |
| Tetrachloroethylene | 10/03/22 | 0.59 | 0.5 | UG/L | |
| Trichloroethylene | 10/03/22 | 0.31 | 0.5 | UG/L | J |
| 8260 TVOC | 11/03/22 | 1.32 | 0 | UG/L | |
| EDB | 11/03/22 | 0.009 | 0.011 | UG/L | J |
| Methyl tert-butyl ether | 11/03/22 | 0.21 | 0.5 | UG/L | J |
| Tetrachloroethylene | 11/03/22 | 0.77 | 0.5 | UG/L | |
| Trichloroethylene | 11/03/22 | 0.34 | 0.5 | UG/L | J |
| 8260 TVOC | 12/02/22 | 1.9 | 0 | UG/L | |
| Chloroform | 12/02/22 | 0.92 | 0.5 | UG/L | |
| EDB | 12/02/22 | 0.011 | 0.01 | UG/L | |
| Tetrachloroethylene | 12/02/22 | 0.64 | 0.5 | UG/L | |
| Trichloroethylene | 12/02/22 | 0.34 | 0.5 | UG/L | J |

**Table F-29**
**Carbon Influent VOC Data**
**OU III North Street East System**
2022 BNL Groundwater Status Report

**Site ID : 000-441 (Influent)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 01/11/22 | 2.24 | 0 | UG/L | |
| Chloroform | 01/11/22 | 0.74 | 0.5 | UG/L | J |
| EDB | 01/11/22 | 0.00999 | 0.0187 | UG/L | J |
| Methylene chloride | 01/11/22 | 0.54 | 0.5 | UG/L | J |
| Tetrachloroethylene | 01/11/22 | 0.51 | 0.5 | UG/L | J |
| Trichloroethylene | 01/11/22 | 0.45 | 0.5 | UG/L | J |
| 8260 TVOC | 02/07/22 | 1.51 | 0 | UG/L | |
| Chloroform | 02/07/22 | 0.72 | 0.5 | UG/L | J |
| EDB | 02/07/22 | 0.0172 | 0.019 | UG/L | J |
| Tetrachloroethylene | 02/07/22 | 0.44 | 0.5 | UG/L | J |
| Trichloroethylene | 02/07/22 | 0.35 | 0.5 | UG/L | J |
| 8260 TVOC | 03/03/22 | 2.17 | 0 | UG/L | |
| Chloroform | 03/03/22 | 0.76 | 0.5 | UG/L | J |
| EDB | 03/03/22 | 0.0161 | 0.0187 | UG/L | J |
| Methylene chloride | 03/03/22 | 0.54 | 0.5 | UG/L | J |
| Tetrachloroethylene | 03/03/22 | 0.5 | 0.5 | UG/L | J |
| Trichloroethylene | 03/03/22 | 0.37 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 04/06/22 | 0.24 | 0.5 | UG/L | J |
| 8260 TVOC | 04/06/22 | 1.97 | 0 | UG/L | |
| Chloroform | 04/06/22 | 0.83 | 0.5 | UG/L | |
| EDB | 04/06/22 | 0.0079 | 0.01 | UG/L | J |
| Tetrachloroethylene | 04/06/22 | 0.49 | 0.5 | UG/L | J |
| Trichloroethylene | 04/06/22 | 0.41 | 0.5 | UG/L | J |
| 8260 TVOC | 05/02/22 | 2.09 | 0 | UG/L | |
| Chloroform | 05/02/22 | 0.9 | 0.5 | UG/L | |
| EDB | 05/02/22 | 0.01 | 0.01 | UG/L | |
| Methyl tert-butyl ether | 05/02/22 | 0.22 | 0.5 | UG/L | J |
| Tetrachloroethylene | 05/02/22 | 0.56 | 0.5 | UG/L | |
| Trichloroethylene | 05/02/22 | 0.41 | 0.5 | UG/L | J |
| 8260 TVOC | 06/01/22 | 2.07 | 0 | UG/L | |
| Chloroform | 06/01/22 | 0.87 | 0.5 | UG/L | |
| EDB | 06/01/22 | 0.021 | 0.01 | UG/L | |
| Methyl tert-butyl ether | 06/01/22 | 0.17 | 0.5 | UG/L | J |
| Tetrachloroethylene | 06/01/22 | 0.58 | 0.5 | UG/L | |
| Trichloroethylene | 06/01/22 | 0.45 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 07/07/22 | 0.23 | 0.5 | UG/L | J |
| 8260 TVOC | 07/07/22 | 2.22 | 0 | UG/L | |
| Chloroform | 07/07/22 | 0.97 | 0.5 | UG/L | |
| EDB | 07/07/22 | 0.023 | 0.011 | UG/L | |
| Tetrachloroethylene | 07/07/22 | 0.61 | 0.5 | UG/L | |
| Trichloroethylene | 07/07/22 | 0.41 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 08/10/22 | 0.25 | 0.5 | UG/L | J |
| 8260 TVOC | 08/10/22 | 2.47 | 0 | UG/L | |
| Chloroform | 08/10/22 | 1.1 | 0.5 | UG/L | |
| EDB | 08/10/22 | 0.012 | 0.01 | UG/L | |
| Tetrachloroethylene | 08/10/22 | 0.63 | 0.5 | UG/L | |
| Trichloroethylene | 08/10/22 | 0.49 | 0.5 | UG/L | J |
| 8260 TVOC | 09/14/22 | 1.92 | 0 | UG/L | |
| Chloroform | 09/14/22 | 0.98 | 0.5 | UG/L | |
| EDB | 09/14/22 | 0.015 | 0.011 | UG/L | |
| Tetrachloroethylene | 09/14/22 | 0.54 | 0.5 | UG/L | |
| Trichloroethylene | 09/14/22 | 0.4 | 0.5 | UG/L | J |
| 8260 TVOC | 10/03/22 | 1.32 | 0 | UG/L | |
| Chloroform | 10/03/22 | 0.7 | 0.5 | UG/L | |
| EDB | 10/03/22 | 0.015 | 0.011 | UG/L | |
| Tetrachloroethylene | 10/03/22 | 0.29 | 0.5 | UG/L | J |
| Trichloroethylene | 10/03/22 | 0.33 | 0.5 | UG/L | J |
| 8260 TVOC | 11/03/22 | 0.97 | 0 | UG/L | |

**Table F-29**
**Carbon Influent VOC Data**
**OU III North Street East System**
2022 BNL Groundwater Status Report

**Site ID : 000-441 (Influent)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| EDB | 11/03/22 | 0.012 | 0.011 | UG/L | |
| Tetrachloroethylene | 11/03/22 | 0.56 | 0.5 | UG/L | |
| Trichloroethylene | 11/03/22 | 0.41 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 12/02/22 | 0.22 | 0.5 | UG/L | J |
| 8260 TVOC | 12/02/22 | 1.84 | 0 | UG/L | |
| Chloroform | 12/02/22 | 1.1 | 0.5 | UG/L | |
| EDB | 12/02/22 | 0.013 | 0.01 | UG/L | |
| Tetrachloroethylene | 12/02/22 | 0.52 | 0.5 | UG/L | |

**Table F-30**
**Carbon Effluent VOC Data**
**OU III North Street East System**

2022 BNL Groundwater Status Report

**Site ID : 000-444 (Effluent)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 1/11/2022 | 0.63 | 0 | UG/L | |
| Methylene chloride | 1/11/2022 | 0.63 | 0.5 | UG/L | J |
| 8260 TVOC | 2/7/2022 | 1.62 | 0 | UG/L | |
| Methylene chloride | 2/7/2022 | 1.62 | 0.5 | UG/L | J |
| 8260 TVOC | 3/3/2022 | 0.94 | 0 | UG/L | |
| Chloroform | 3/3/2022 | 0.38 | 0.5 | UG/L | J |
| Methylene chloride | 3/3/2022 | 0.56 | 0.5 | UG/L | J |
| 8260 TVOC | 4/6/2022 | 0.88 | 0 | UG/L | |
| Chloroform | 4/6/2022 | 0.6 | 0.5 | UG/L | |
| Methyl tert-butyl ether | 4/6/2022 | 0.28 | 0.5 | UG/L | J |
| 8260 TVOC | 5/2/2022 | 1.05 | 0 | UG/L | |
| Chloroform | 5/2/2022 | 0.75 | 0.5 | UG/L | |
| Methyl tert-butyl ether | 5/2/2022 | 0.3 | 0.5 | UG/L | J |
| 8260 TVOC | 6/1/2022 | 1.02 | 0 | UG/L | |
| Chloroform | 6/1/2022 | 0.79 | 0.5 | UG/L | |
| Methyl tert-butyl ether | 6/1/2022 | 0.23 | 0.5 | UG/L | J |
| 8260 TVOC | 7/7/2022 | 1.17 | 0 | UG/L | |
| Chloroform | 7/7/2022 | 0.96 | 0.5 | UG/L | |
| Methyl tert-butyl ether | 7/7/2022 | 0.21 | 0.5 | UG/L | J |
| 8260 TVOC | 8/10/2022 | 1.29 | 0 | UG/L | |
| Chloroform | 8/10/2022 | 1.1 | 0.5 | UG/L | |
| Methyl tert-butyl ether | 8/10/2022 | 0.19 | 0.5 | UG/L | J |
| 8260 TVOC | 9/14/2022 | 1.46 | 0 | UG/L | |
| Chloroform | 9/14/2022 | 1.2 | 0.5 | UG/L | |
| Methyl tert-butyl ether | 9/14/2022 | 0.26 | 0.5 | UG/L | J |
| 8260 TVOC | 10/3/2022 | 1.09 | 0 | UG/L | |
| Chloroform | 10/3/2022 | 0.89 | 0.5 | UG/L | |
| Methyl tert-butyl ether | 10/3/2022 | 0.2 | 0.5 | UG/L | J |
| 8260 TVOC | 11/3/2022 | 0.2 | 0 | UG/L | |
| Methyl tert-butyl ether | 11/3/2022 | 0.2 | 0.5 | UG/L | J |
| 8260 TVOC | 12/2/2022 | 1.2 | 0 | UG/L | |
| Chloroform | 12/2/2022 | 1.2 | 0.5 | UG/L | |

**Table F-31**
**Cumulative Mass Removal**
**OU III North Street East System**

2022 BNL Groundwater Status Report

| Date Sampled | Total VOCs (µg/L) | Flow Rates (gpm) | Cumulative VOCs (lbs) |
|---|---|---|---|
| 1/11/2022 | 2.24 | 229 | 46.78 |
| 2/7/2022 | 1.51 | 144 | 46.85 |
| 3/3/2022 | 2.17 | 222 | 46.99 |
| 4/6/2022 | 1.97 | 194 | 47.14 |
| 5/2/2022 | 2.09 | 201 | 47.27 |
| 6/1/2022 | 2.07 | 131 | 47.37 |
| 7/7/2022 | 2.22 | 208 | 47.57 |
| 8/10/2022 | 2.47 | 194 | 47.77 |
| 9/14/2022 | 1.92 | 206 | 47.93 |
| 10/3/2022 | 1.32 | 188 | 47.99 |
| 11/3/2022 | 0.97 | 206 | 48.06 |
| 12/2/2022 | 1.84 | 216 | 48.20 |

**NOTES:**
µg/L - Micrograms per liter
gpm - Gallons per minute
lbs - Pounds

**Table F-32**
**Cumulative Mass Removal**
**OU III LIPA/Airport System**

2022 BNL Groundwater Status Report

| Date Sampled | Total VOC's (µg/L) | Flow Rates (gpm) | Cumulative VOC's (lbs) |
|---|---|---|---|
| 1/26/2022 | 2.51 | 381 | 495.58 |
| 2/7/2022 | 3.55 | 361 | 495.76 |
| 3/12/2022 | 4.22 | 466 | 496.54 |
| 4/11/2022 | 3.53 | 409 | 497.06 |
| 5/4/2022 | 4.74 | 411 | 497.60 |
| 6/1/2022 | 4.3 | 283 | 498.01 |
| 7/13/2022 | 2.57 | 265 | 498.35 |
| 8/3/2022 | 5.71 | 244 | 498.70 |
| 9/13/2022 | 5.83 | 243 | 499.40 |
| 10/13/2022 | 2.36 | 370 | 499.73 |
| 11/2/2022 | 3.25 | 378 | 500.01 |
| 12/1/2022 | 4.64 | 442 | 500.72 |

µg/L Micrograms per liter
gpm Gallons per minute
lbs Pounds

**Table F-33**
**Extraction Well VOC Data**
**OU III LIPA/Airport System**

2022 BNL Groundwater Status Report

**Site ID : 000-453 (EW-1L)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 01/26/22 | 1.7 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 01/26/22 | 1.6 | 0.5 | UG/L | |
| 8260 TVOC | 01/26/22 | 4.91 | 0 | UG/L | |
| Chloroform | 01/26/22 | 0.18 | 0.5 | UG/L | J |
| Toluene | 01/26/22 | 0.81 | 0.5 | UG/L | |
| Trichloroethylene | 01/26/22 | 0.62 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 04/11/22 | 1.9 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 04/11/22 | 2 | 0.5 | UG/L | |
| 1,2-Dichloroethane | 04/11/22 | 0.36 | 0.5 | UG/L | J |
| 8260 TVOC | 04/11/22 | 5.97 | 0 | UG/L | |
| Carbon tetrachloride | 04/11/22 | 0.24 | 0.5 | UG/L | J |
| Chloroform | 04/11/22 | 0.61 | 0.5 | UG/L | |
| Trichloroethylene | 04/11/22 | 0.86 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 07/13/22 | 1.6 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 07/13/22 | 1.8 | 0.5 | UG/L | |
| 1,2,3-Trichlorobenzene | 07/13/22 | 0.4 | 0.5 | UG/L | J |
| 1,2-Dichloroethane | 07/13/22 | 0.32 | 0.5 | UG/L | J |
| 8260 TVOC | 07/13/22 | 6.36 | 0 | UG/L | |
| Carbon tetrachloride | 07/13/22 | 0.27 | 0.5 | UG/L | J |
| Chloroform | 07/13/22 | 0.57 | 0.5 | UG/L | |
| Hexachlorobutadiene | 07/13/22 | 0.35 | 0.5 | UG/L | J |
| Naphthalene | 07/13/22 | 0.21 | 0.5 | UG/L | J |
| Trichloroethylene | 07/13/22 | 0.84 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 10/13/22 | 1.5 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 10/13/22 | 1.1 | 0.5 | UG/L | |
| 1,2-Dichloroethane | 10/13/22 | 0.34 | 0.5 | UG/L | J |
| 8260 TVOC | 10/13/22 | 4.51 | 0 | UG/L | |
| Carbon tetrachloride | 10/13/22 | 0.26 | 0.5 | UG/L | J |
| Chloroform | 10/13/22 | 0.44 | 0.5 | UG/L | J |
| Trichloroethylene | 10/13/22 | 0.87 | 0.5 | UG/L | |

**Site ID : 000-455 (EW-2L)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 01/26/22 | 0.4 | 0.5 | UG/L | J |
| 8260 TVOC | 01/26/22 | 0.81 | 0 | UG/L | |
| Trichloroethylene | 01/26/22 | 0.41 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 04/11/22 | 0.6 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 04/11/22 | 0.33 | 0.5 | UG/L | J |
| 1,2-Dichloroethane | 04/11/22 | 0.19 | 0.5 | UG/L | J |
| 8260 TVOC | 04/11/22 | 2.33 | 0 | UG/L | |
| Chloroform | 04/11/22 | 0.62 | 0.5 | UG/L | |
| Trichloroethylene | 04/11/22 | 0.59 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 07/13/22 | 0.45 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 07/13/22 | 0.3 | 0.5 | UG/L | J |
| 8260 TVOC | 07/13/22 | 2.17 | 0 | UG/L | |
| Chloroform | 07/13/22 | 0.91 | 0.5 | UG/L | |
| Trichloroethylene | 07/13/22 | 0.51 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 10/13/22 | 0.25 | 0.5 | UG/L | J |
| 8260 TVOC | 10/13/22 | 2.16 | 0 | UG/L | |
| Chloroform | 10/13/22 | 1.1 | 0.5 | UG/L | |
| Methyl chloride | 10/13/22 | 0.34 | 0.5 | UG/L | J |
| Trichloroethylene | 10/13/22 | 0.47 | 0.5 | UG/L | J |

**Table F-33**
**Extraction Well VOC Data**
**OU III LIPA/Airport System**

2022 BNL Groundwater Status Report

**Site ID : 000-457 (EW-3L)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 01/26/22 | 1.8 | 0 | UG/L | |
| Chloroform | 01/26/22 | 1.8 | 0.5 | UG/L | |
| 8260 TVOC | 04/11/22 | 2.39 | 0 | UG/L | |
| Chloroform | 04/11/22 | 2.1 | 0.5 | UG/L | |
| Trichloroethylene | 04/11/22 | 0.29 | 0.5 | UG/L | J |
| 8260 TVOC | 07/13/22 | 2.25 | 0 | UG/L | |
| Chloroform | 07/13/22 | 1.6 | 0.5 | UG/L | |
| Toluene | 07/13/22 | 0.37 | 0.5 | UG/L | J |
| Trichloroethylene | 07/13/22 | 0.28 | 0.5 | UG/L | J |
| 8260 TVOC | 10/13/22 | 1.95 | 0 | UG/L | |
| Chloroform | 10/13/22 | 1.7 | 0.5 | UG/L | |
| Trichloroethylene | 10/13/22 | 0.25 | 0.5 | UG/L | J |

**Site ID : 000-461 (EW-4L)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 01/26/22 | 6.17 | 0 | UG/L | |
| Carbon tetrachloride | 01/26/22 | 0.92 | 0.5 | UG/L | |
| Chloroform | 01/26/22 | 0.68 | 0.5 | UG/L | |
| Tetrachloroethylene | 01/26/22 | 3.6 | 0.5 | UG/L | |
| Trichloroethylene | 01/26/22 | 0.97 | 0.5 | UG/L | |
| 8260 TVOC | 04/11/22 | 6.76 | 0 | UG/L | |
| Carbon tetrachloride | 04/11/22 | 0.82 | 0.5 | UG/L | |
| Chloroform | 04/11/22 | 0.84 | 0.5 | UG/L | |
| Tetrachloroethylene | 04/11/22 | 4 | 0.5 | UG/L | |
| Trichloroethylene | 04/11/22 | 1.1 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 07/13/22 | 0.2 | 0.5 | UG/L | J |
| 8260 TVOC | 07/13/22 | 7.58 | 0 | UG/L | |
| Carbon tetrachloride | 07/13/22 | 0.9 | 0.5 | UG/L | |
| Chloroform | 07/13/22 | 0.98 | 0.5 | UG/L | |
| Tetrachloroethylene | 07/13/22 | 4.3 | 0.5 | UG/L | |
| Trichloroethylene | 07/13/22 | 1.2 | 0.5 | UG/L | |
| 8260 TVOC | 10/13/22 | 6.06 | 0 | UG/L | |
| Carbon tetrachloride | 10/13/22 | 0.38 | 0.5 | UG/L | J |
| Chloroform | 10/13/22 | 0.69 | 0.5 | UG/L | |
| Tetrachloroethylene | 10/13/22 | 4 | 0.5 | UG/L | |
| Trichloroethylene | 10/13/22 | 0.99 | 0.5 | UG/L | |

**Site ID : 800-109 (RTW-1A)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 01/26/22 | 2.25 | 0 | UG/L | |
| Carbon tetrachloride | 01/26/22 | 1.4 | 0.5 | UG/L | |
| Chloroform | 01/26/22 | 0.56 | 0.5 | UG/L | |
| Trichloroethylene | 01/26/22 | 0.29 | 0.5 | UG/L | J |
| 8260 TVOC | 04/11/22 | 2.31 | 0 | UG/L | |
| Carbon tetrachloride | 04/11/22 | 1.1 | 0.5 | UG/L | |
| Chloroform | 04/11/22 | 0.83 | 0.5 | UG/L | |
| Trichloroethylene | 04/11/22 | 0.38 | 0.5 | UG/L | J |
| 8260 TVOC | 07/13/22 | 1.79 | 0 | UG/L | |
| Carbon tetrachloride | 07/13/22 | 0.79 | 0.5 | UG/L | |
| Chloroform | 07/13/22 | 0.75 | 0.5 | UG/L | |
| Trichloroethylene | 07/13/22 | 0.25 | 0.5 | UG/L | J |
| 8260 TVOC | 10/13/22 | 1.9 | 0 | UG/L | |
| Carbon tetrachloride | 10/13/22 | 1.2 | 0.5 | UG/L | |
| Chloroform | 10/13/22 | 0.22 | 0.5 | UG/L | J |
| Trichloroethylene | 10/13/22 | 0.48 | 0.5 | UG/L | J |

**Table F-33**
**Extraction Well VOC Data**
**OU III LIPA/Airport System**

2022 BNL Groundwater Status Report

**Site ID : 800-110 (RTW-2A)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 01/26/22 | 0.5 | 0 | UG/L | |
| Carbon tetrachloride | 01/26/22 | 0.31 | 0.5 | UG/L | J |
| Chloroform | 01/26/22 | 0.19 | 0.5 | UG/L | J |
| 8260 TVOC | 04/11/22 | 1.02 | 0 | UG/L | |
| Carbon tetrachloride | 04/11/22 | 0.43 | 0.5 | UG/L | J |
| Chloroform | 04/11/22 | 0.59 | 0.5 | UG/L | |
| 8260 TVOC | 07/13/22 | 1.22 | 0 | UG/L | |
| Carbon tetrachloride | 07/13/22 | 0.58 | 0.5 | UG/L | |
| Chloroform | 07/13/22 | 0.64 | 0.5 | UG/L | |
| 8260 TVOC | 10/13/22 | 0.72 | 0 | UG/L | |
| Carbon tetrachloride | 10/13/22 | 0.31 | 0.5 | UG/L | J |
| Chloroform | 10/13/22 | 0.41 | 0.5 | UG/L | J |

**Site ID : 800-111 (RTW-3A)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 01/26/22 | 0.25 | 0.5 | UG/L | J |
| 8260 TVOC | 01/26/22 | 1.16 | 0 | UG/L | |
| Carbon tetrachloride | 01/26/22 | 0.28 | 0.5 | UG/L | J |
| Chloroform | 01/26/22 | 0.26 | 0.5 | UG/L | J |
| Trichloroethylene | 01/26/22 | 0.37 | 0.5 | UG/L | J |
| 1,1,1-Trichloroethane | 04/11/22 | 0.45 | 0.5 | UG/L | J |
| 8260 TVOC | 04/11/22 | 2.08 | 0 | UG/L | |
| Carbon tetrachloride | 04/11/22 | 0.31 | 0.5 | UG/L | J |
| Chloroform | 04/11/22 | 0.67 | 0.5 | UG/L | |
| Trichloroethylene | 04/11/22 | 0.65 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 07/13/22 | 0.5 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 07/13/22 | 0.22 | 0.5 | UG/L | J |
| 8260 TVOC | 07/13/22 | 2.96 | 0 | UG/L | |
| Carbon tetrachloride | 07/13/22 | 0.75 | 0.5 | UG/L | |
| Chloroform | 07/13/22 | 0.74 | 0.5 | UG/L | |
| Trichloroethylene | 07/13/22 | 0.75 | 0.5 | UG/L | |
| 8260 TVOC | 10/13/22 | 1.99 | 0 | UG/L | |
| Carbon tetrachloride | 10/13/22 | 0.8 | 0.5 | UG/L | |
| Chloroform | 10/13/22 | 0.49 | 0.5 | UG/L | J |
| Trichloroethylene | 10/13/22 | 0.7 | 0.5 | UG/L | |

**Site ID : 800-112 (RTW-4A)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 01/26/22 | 1.41 | 0 | UG/L | |
| Chloroform | 01/26/22 | 0.52 | 0.5 | UG/L | |
| Trichloroethylene | 01/26/22 | 0.89 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 04/11/22 | 0.17 | 0.5 | UG/L | J |
| 1,1,2,2-Tetrachloroethane | 04/11/22 | 0.28 | 0.5 | UG/L | J |
| 8260 TVOC | 04/11/22 | 2.58 | 0 | UG/L | |
| Carbon tetrachloride | 04/11/22 | 0.28 | 0.5 | UG/L | J |
| Chloroform | 04/11/22 | 0.85 | 0.5 | UG/L | |
| Trichloroethylene | 04/11/22 | 1 | 0.5 | UG/L | |
| 1,1,2,2-Tetrachloroethane | 10/13/22 | 0.45 | 0.5 | UG/L | J |
| 8260 TVOC | 10/13/22 | 3.01 | 0 | UG/L | |
| Carbon tetrachloride | 10/13/22 | 0.36 | 0.5 | UG/L | J |
| Chloroform | 10/13/22 | 0.8 | 0.5 | UG/L | |
| Trichloroethylene | 10/13/22 | 1.4 | 0.5 | UG/L | |

**Table F-33**
**Extraction Well VOC Data**
**OU III LIPA/Airport System**

2022 BNL Groundwater Status Report

**Site ID : 800-113 (RTW-5A)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 01/26/22 | 0 | 0 | UG/L | |
| 8260 TVOC | 04/11/22 | 0.28 | 0 | UG/L | |
| Chloroform | 04/11/22 | 0.28 | 0.5 | UG/L | J |
| 8260 TVOC | 07/13/22 | 0.42 | 0 | UG/L | |
| Chloroform | 07/13/22 | 0.42 | 0.5 | UG/L | J |
| 8260 TVOC | 10/13/22 | 0.2 | 0 | UG/L | |
| Chloroform | 10/13/22 | 0.2 | 0.5 | UG/L | J |

**Site ID : 800-132 (RW-6A)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 01/26/22 | 6.86 | 0 | UG/L | |
| Carbon tetrachloride | 01/26/22 | 1.8 | 0.5 | UG/L | |
| Chloroform | 01/26/22 | 0.36 | 0.5 | UG/L | J |
| Trichloroethylene | 01/26/22 | 4.7 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 04/11/22 | 0.23 | 0.5 | UG/L | J |
| 8260 TVOC | 04/11/22 | 6.79 | 0 | UG/L | |
| Carbon tetrachloride | 04/11/22 | 1.7 | 0.5 | UG/L | |
| Chloroform | 04/11/22 | 0.76 | 0.5 | UG/L | |
| Trichloroethylene | 04/11/22 | 4.1 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 07/13/22 | 0.26 | 0.5 | UG/L | J |
| 8260 TVOC | 07/13/22 | 7.1 | 0 | UG/L | |
| Carbon tetrachloride | 07/13/22 | 1.9 | 0.5 | UG/L | |
| Chloroform | 07/13/22 | 0.74 | 0.5 | UG/L | |
| Trichloroethylene | 07/13/22 | 4.2 | 0.5 | UG/L | |
| 8260 TVOC | 10/13/22 | 5.97 | 0 | UG/L | |
| Carbon tetrachloride | 10/13/22 | 1.6 | 0.5 | UG/L | |
| Chloroform | 10/13/22 | 0.57 | 0.5 | UG/L | |
| Trichloroethylene | 10/13/22 | 3.8 | 0.5 | UG/L | |

**Table F-34**
**Carbon Influent VOC Data**
**OU III LIPA/Airport System**

2022 BNL Groundwater Status Report

**Site ID : 800-122 (Influent)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 1/26/2022 | 2.51 | 0 | UG/L | |
| Carbon tetrachloride | 1/26/2022 | 0.74 | 0.5 | UG/L | |
| Chloroform | 1/26/2022 | 0.37 | 0.5 | UG/L | J |
| Trichloroethylene | 1/26/2022 | 1.4 | 0.5 | UG/L | |
| 8260 TVOC | 2/7/2022 | 3.55 | 0 | UG/L | |
| Carbon tetrachloride | 2/7/2022 | 1 | 0.5 | UG/L | |
| Chloroform | 2/7/2022 | 0.35 | 0.5 | UG/L | J |
| Trichloroethylene | 2/7/2022 | 2.2 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 3/12/2022 | 0.19 | 0.5 | UG/L | J |
| 8260 TVOC | 3/12/2022 | 4.22 | 0 | UG/L | |
| Carbon tetrachloride | 3/12/2022 | 1.1 | 0.5 | UG/L | |
| Chloroform | 3/12/2022 | 0.73 | 0.5 | UG/L | |
| Trichloroethylene | 3/12/2022 | 2.2 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 4/11/2022 | 0.24 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 4/11/2022 | 0.2 | 0.5 | UG/L | J |
| 8260 TVOC | 4/11/2022 | 3.53 | 0 | UG/L | |
| Carbon tetrachloride | 4/11/2022 | 0.84 | 0.5 | UG/L | |
| Chloroform | 4/11/2022 | 0.75 | 0.5 | UG/L | |
| Trichloroethylene | 4/11/2022 | 1.5 | 0.5 | UG/L | |
| 1,1,1-Trichloroethane | 5/4/2022 | 0.17 | 0.5 | UG/L | J |
| 1,1-Dichloroethylene | 5/4/2022 | 0.18 | 0.5 | UG/L | J |
| 8260 TVOC | 5/4/2022 | 4.74 | 0 | UG/L | |
| Carbon tetrachloride | 5/4/2022 | 1.2 | 0.5 | UG/L | |
| Chloroform | 5/4/2022 | 0.79 | 0.5 | UG/L | |
| Trichloroethylene | 5/4/2022 | 2.4 | 0.5 | UG/L | |
| 8260 TVOC | 6/1/2022 | 4.3 | 0 | UG/L | |
| Carbon tetrachloride | 6/1/2022 | 1.1 | 0.5 | UG/L | |
| Chloroform | 6/1/2022 | 0.7 | 0.5 | UG/L | |
| Trichloroethylene | 6/1/2022 | 2.5 | 0.5 | UG/L | |
| 8260 TVOC | 7/13/2022 | 2.57 | 0 | UG/L | |
| Carbon tetrachloride | 7/13/2022 | 0.66 | 0.5 | UG/L | |
| Chloroform | 7/13/2022 | 0.51 | 0.5 | UG/L | |
| Trichloroethylene | 7/13/2022 | 1.4 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 8/3/2022 | 0.18 | 0.5 | UG/L | J |
| 8260 TVOC | 8/3/2022 | 5.71 | 0 | UG/L | |
| Carbon tetrachloride | 8/3/2022 | 1.7 | 0.5 | UG/L | |
| Chloroform | 8/3/2022 | 0.83 | 0.5 | UG/L | |
| Trichloroethylene | 8/3/2022 | 3 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 9/13/2022 | 0.21 | 0.5 | UG/L | J |
| 8260 TVOC | 9/13/2022 | 5.83 | 0 | UG/L | |
| Carbon tetrachloride | 9/13/2022 | 1.6 | 0.5 | UG/L | |
| Chloroform | 9/13/2022 | 0.82 | 0.5 | UG/L | |
| Trichloroethylene | 9/13/2022 | 3.2 | 0.5 | UG/L | |
| 8260 TVOC | 10/13/2022 | 2.36 | 0 | UG/L | |
| Carbon tetrachloride | 10/13/2022 | 0.69 | 0.5 | UG/L | |
| Chloroform | 10/13/2022 | 0.47 | 0.5 | UG/L | J |
| Trichloroethylene | 10/13/2022 | 1.2 | 0.5 | UG/L | |
| 8260 TVOC | 11/2/2022 | 3.25 | 0 | UG/L | |
| Carbon tetrachloride | 11/2/2022 | 0.95 | 0.5 | UG/L | |
| Trichloroethylene | 11/2/2022 | 2.3 | 0.5 | UG/L | |
| 1,1-Dichloroethylene | 12/1/2022 | 0.17 | 0.5 | UG/L | J |
| 8260 TVOC | 12/1/2022 | 4.64 | 0 | UG/L | |
| Carbon tetrachloride | 12/1/2022 | 1.2 | 0.5 | UG/L | |
| Chloroform | 12/1/2022 | 0.87 | 0.5 | UG/L | |
| Trichloroethylene | 12/1/2022 | 2.4 | 0.5 | UG/L | |

**Table F-35**
**Carbon Effluent VOC Data**
**OU III LIPA/Airport System**

2022 BNL Groundwater Status Report

**Site ID : 800-124 (Effluent)**

| Chemical Name | Sample Date | Value | Detlim | Units | Qual |
|---|---|---|---|---|---|
| 8260 TVOC | 1/26/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 2/7/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 3/12/2022 | 0.17 | 0 | UG/L | |
| Chloroform | 3/12/2022 | 0.17 | 0.5 | UG/L | J |
| 8260 TVOC | 4/11/2022 | 0.69 | 0 | UG/L | |
| Chloroform | 4/11/2022 | 0.69 | 0.5 | UG/L | |
| 8260 TVOC | 5/4/2022 | 0.95 | 0 | UG/L | |
| Chloroform | 5/4/2022 | 0.95 | 0.5 | UG/L | |
| 8260 TVOC | 6/1/2022 | 0.92 | 0 | UG/L | |
| Chloroform | 6/1/2022 | 0.92 | 0.5 | UG/L | |
| 8260 TVOC | 7/13/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 8/3/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 9/13/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 10/13/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 11/2/2022 | 0 | 0 | UG/L | |
| 8260 TVOC | 12/1/2022 | 0.77 | 0 | UG/L | |
| Chloroform | 12/1/2022 | 0.77 | 0.5 | UG/L | |

**Table F-36**
**Extraction Well Data**
**OU III BGRR/WCF Sr-90 System**

2022 BNL Groundwater Status Report

**Site ID :** 065-368 (SR-1)

| Chemical Name | Sample Date | Value | Detlim | Error | Units | Depth | Qual | Matrix |
|---|---|---|---|---|---|---|---|---|
| Strontium-90 | 1/17/2022 | 15.6 | 1.05 | 1.08 | PCI/L | 0 | | W |
| Strontium-90 | 2/10/2022 | 11.5 | 2.14 | 1.49 | PCI/L | 0 | | W |
| Strontium-90 | 3/12/2022 | 11.5 | 0.787 | 1.08 | PCI/L | 0 | | W |
| Strontium-90 | 4/7/2022 | 11.4 | 0.754 | 1.14 | PCI/L | 0 | | W |
| Strontium-90 | 5/9/2022 | 12.7 | 0.796 | 0.99 | PCI/L | 0 | | W |
| Strontium-90 | 6/15/2022 | 9.02 | 0.572 | 0.522 | PCI/L | 0 | | W |
| Strontium-90 | 7/7/2022 | 11.6 | 0.474 | 0.522 | PCI/L | 0 | | W |
| Strontium-90 | 8/10/2022 | 11.6 | 0.774 | 1.07 | PCI/L | 0 | | W |
| Strontium-90 | 9/9/2022 | 12.7 | 0.804 | 0.706 | PCI/L | 0 | | W |
| Strontium-90 | 10/12/2022 | 1.75 | 0.755 | 0.571 | PCI/L | 0 | | W |
| Strontium-90 | 11/10/2022 | 8.5 | 0.575 | 0.924 | PCI/L | 0 | | W |
| Strontium-90 | 12/8/2022 | 11.5 | 0.377 | 0.509 | PCI/L | 0 | | W |

**Site ID :** 065-369 (SR-2)

| Chemical Name | Sample Date | Value | Detlim | Error | Units | Depth | Qual | Matrix |
|---|---|---|---|---|---|---|---|---|
| Strontium-90 | 1/17/2022 | 12.7 | 0.653 | 0.717 | PCI/L | 0 | | W |
| Strontium-90 | 2/10/2022 | 9.67 | 1.01 | 0.825 | PCI/L | 0 | | W |
| Strontium-90 | 3/12/2022 | 6.92 | 0.783 | 0.883 | PCI/L | 0 | | W |
| Strontium-90 | 4/7/2022 | 5.96 | 0.766 | 0.766 | PCI/L | 0 | | W |
| Strontium-90 | 5/9/2022 | 6.09 | 0.777 | 0.848 | PCI/L | 0 | | W |
| Strontium-90 | 6/15/2022 | 7.81 | 0.561 | 0.523 | PCI/L | 0 | | W |
| Strontium-90 | 7/7/2022 | 7.86 | 0.474 | 0.445 | PCI/L | 0 | | W |
| Strontium-90 | 11/10/2022 | 8.48 | 0.653 | 0.979 | PCI/L | 0 | | W |
| Strontium-90 | 12/8/2022 | 5.61 | 0.542 | 0.436 | PCI/L | 0 | | W |

**Site ID :** 075-676 (SR-3)

| Chemical Name | Sample Date | Value | Detlim | Error | Units | Depth | Qual | Matrix |
|---|---|---|---|---|---|---|---|---|
| Strontium-90 | 1/17/2022 | 5.08 | 1.01 | 0.702 | PCI/L | 0 | | W |
| Strontium-90 | 2/10/2022 | 3.49 | 0.889 | 0.639 | PCI/L | 0 | | W |
| Strontium-90 | 3/12/2022 | 3.94 | 0.769 | 0.716 | PCI/L | 0 | | W |
| Strontium-90 | 4/7/2022 | 3.88 | 0.786 | 0.721 | PCI/L | 0 | | W |
| Strontium-90 | 7/8/2022 | 1.1 | 0.761 | 0.504 | PCI/L | 0 | N2 | W |
| Strontium-90 | 10/13/2022 | 2.02 | 0.58 | 0.521 | PCI/L | 0 | | W |

**Site ID :** 075-677 (SR-4)

| Chemical Name | Sample Date | Value | Detlim | Error | Units | Depth | Qual | Matrix |
|---|---|---|---|---|---|---|---|---|
| Strontium-90 | 1/17/2022 | 1.93 | 0.683 | 0.459 | PCI/L | 0 | | W |
| Strontium-90 | 4/7/2022 | 2.05 | 0.764 | 0.59 | PCI/L | 0 | | W |
| Strontium-90 | 7/8/2022 | 2.98 | 0.76 | 0.626 | PCI/L | 0 | | W |
| Strontium-90 | 10/13/2022 | 3.2 | 0.629 | 0.63 | PCI/L | 0 | | W |

**Table F-36**
**Extraction Well Data**
**OU III BGRR/WCF Sr-90 System**

2022 BNL Groundwater Status Report

**Site ID :** 075-678 (SR-5)

| Chemical Name | Sample Date | Value | Detlim | Error | Units | Depth | Qual | Matrix |
|---|---|---|---|---|---|---|---|---|
| Strontium-90 | 1/17/2022 | 4.48 | 1.18 | 0.585 | PCI/L | 0 | | W |
| Strontium-90 | 4/7/2022 | 0.698 | 0.597 | 0.532 | PCI/L | 0 | J | W |
| Strontium-90 | 7/8/2022 | 0.578 | 0.781 | 0.439 | PCI/L | 0 | U | W |
| Strontium-90 | 10/13/2022 | 12.47 | 0.684 | 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 | 1/17/2022 | 2.01 | 0.839 | 0.539 | PCI/L | 0 | | W |
| Strontium-90 | 4/7/2022 | 1.79 | 0.797 | 0.578 | PCI/L | 0 | | W |
| Strontium-90 | 7/8/2022 | 2.53 | 0.769 | 0.626 | PCI/L | 0 | | W |
| Strontium-90 | 10/13/2022 | 2.39 | 0.656 | 0.581 | PCI/L | 0 | | W |

**Site ID :** 075-702 (SR-7)

| Chemical Name | Sample Date | Value | Detlim | Error | Units | Depth | Qual | Matrix |
|---|---|---|---|---|---|---|---|---|
| Strontium-90 | 1/17/2022 | 3.35 | 0.692 | 0.491 | PCI/L | 0 | | W |
| Strontium-90 | 4/7/2022 | 1.09 | 0.791 | 0.534 | PCI/L | 0 | N2 | W |
| Strontium-90 | 7/12/2022 | 1.43 | 0.784 | 0.548 | PCI/L | 0 | | W |

**Site ID :** 075-703 (SR-8)

| Chemical Name | Sample Date | Value | Detlim | Error | Units | Depth | Qual | Matrix |
|---|---|---|---|---|---|---|---|---|
| Strontium-90 | 1/17/2022 | 3.54 | 0.933 | 0.624 | PCI/L | 0 | | W |
| Strontium-90 | 3/12/2022 | 1.84 | 0.794 | 0.605 | PCI/L | 0 | | W |
| Strontium-90 | 4/7/2022 | 1.1 | 0.704 | 0.484 | PCI/L | 0 | N2 | W |
| Strontium-90 | 7/8/2022 | 1.28 | 0.767 | 0.576 | PCI/L | 0 | N2 | W |

**Site ID :** 075-704 (SR-9)

| Chemical Name | Sample Date | Value | Detlim | Error | Units | Depth | Qual | Matrix |
|---|---|---|---|---|---|---|---|---|
| Strontium-90 | 1/17/2022 | 6.49 | 0.973 | 0.744 | PCI/L | 0 | | W |
| Strontium-90 | 2/10/2022 | 4.28 | 1.47 | 0.969 | PCI/L | 0 | | W |
| Strontium-90 | 3/12/2022 | 3.92 | 0.759 | 0.747 | PCI/L | 0 | | W |
| Strontium-90 | 4/7/2022 | 3.36 | 0.762 | 0.709 | PCI/L | 0 | | W |
| Strontium-90 | 6/15/2022 | 2.89 | 0.382 | 0.321 | PCI/L | 0 | | W |
| Strontium-90 | 12/8/2022 | 3.08 | 0.384 | 0.319 | PCI/L | 0 | | W |

**Table F-37**
**System Influent Data**
**OU III BGRR/WCF Sr-90 System**

2022 BNL Groundwater Status Report

**Site ID:** 066-216 (Influent)

| Chemical Name | Sample Date | Value | Detlim | Error | Units | Depth | Qual |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 1/14/2022 | 0.39 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 1/14/2022 | 0.94 | 0 | 0 | UG/L | 0 | |
| Methylene chloride | 1/14/2022 | 0.55 | 0.5 | 0 | UG/L | 0 | J |
| Strontium-90 | 1/14/2022 | 4.34 | 0.692 | 0.556 | PCI/L | 0 | |
| 1,1,1-Trichloroethane | 2/10/2022 | 0.36 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 2/10/2022 | 1.89 | 0 | 0 | UG/L | 0 | |
| Methylene chloride | 2/10/2022 | 1.53 | 0.5 | 0 | UG/L | 0 | J |
| Strontium-90 | 2/10/2022 | 5.37 | 0.622 | 0.473 | PCI/L | 0 | |
| 1,2,4-Trichlorobenzene | 3/12/2022 | 0.43 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 3/12/2022 | 0.43 | 0 | 0 | UG/L | 0 | |
| Strontium-90 | 3/12/2022 | 6.09 | 0.789 | 0.844 | PCI/L | 0 | |
| 1,1,1-Trichloroethane | 4/8/2022 | 0.35 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 4/8/2022 | 0.35 | 0 | 0 | UG/L | 0 | |
| Strontium-90 | 4/8/2022 | 5.98 | 0.779 | 0.754 | PCI/L | 0 | |
| 1,1,1-Trichloroethane | 5/11/2022 | 0.77 | 0.5 | 0 | UG/L | 0 | J |
| 1,1-Dichloroethane | 5/11/2022 | 0.41 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 5/11/2022 | 1.18 | 0 | 0 | UG/L | 0 | |
| Strontium-90 | 5/11/2022 | 15 | 0.788 | 1.09 | PCI/L | 0 | |
| 1,1,1-Trichloroethane | 6/15/2022 | 0.62 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 6/15/2022 | 0.62 | 0 | 0 | UG/L | 0 | |
| Strontium-90 | 6/15/2022 | 10.2 | 0.588 | 0.551 | PCI/L | 0 | |
| 1,1,1-Trichloroethane | 7/7/2022 | 0.79 | 0.5 | 0 | UG/L | 0 | J |
| 1,1-Dichloroethane | 7/7/2022 | 0.46 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 7/7/2022 | 1.25 | 0 | 0 | UG/L | 0 | |
| Strontium-90 | 7/7/2022 | 10.4 | 0.512 | 0.539 | PCI/L | 0 | |
| Tritium | 7/7/2022 | 521 | 511 | 320 | PCI/L | 0 | N2 |
| 1,1,1-Trichloroethane | 8/10/2022 | 0.69 | 0.5 | 0 | UG/L | 0 | J |
| 1,1-Dichloroethane | 8/10/2022 | 0.47 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 8/10/2022 | 1.16 | 0 | 0 | UG/L | 0 | |
| Strontium-90 | 8/10/2022 | 10.2 | 0.76 | 1.04 | PCI/L | 0 | |
| Tritium | 8/10/2022 | 657 | 347 | 236 | PCI/L | 0 | |
| 1,1,1-Trichloroethane | 9/8/2022 | 1.12 | 0.5 | 0 | UG/L | 0 | |
| 1,1-Dichloroethane | 9/8/2022 | 0.52 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 9/8/2022 | 1.64 | 0 | 0 | UG/L | 0 | |
| Strontium-90 | 9/8/2022 | 10.2 | 0.468 | 0.504 | PCI/L | 0 | |
| Tritium | 9/8/2022 | 929 | 467 | 304 | PCI/L | 0 | |
| 1,1,1-Trichloroethane | 10/12/2022 | 1.09 | 0.5 | 0 | UG/L | 0 | |
| 1,1-Dichloroethane | 10/12/2022 | 0.61 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 10/12/2022 | 1.7 | 0 | 0 | UG/L | 0 | |
| Strontium-90 | 10/12/2022 | 9.22 | 0.612 | 0.966 | PCI/L | 0 | |
| Tritium | 10/12/2022 | 1080 | 397 | 284 | PCI/L | 0 | |
| 1,1,1-Trichloroethane | 11/10/2022 | 0.44 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 11/10/2022 | 0.44 | 0 | 0 | UG/L | 0 | |
| Strontium-90 | 11/10/2022 | 8.79 | 0.797 | 1.09 | PCI/L | 0 | |
| 1,1,1-Trichloroethane | 12/8/2022 | 0.35 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 12/8/2022 | 0.35 | 0 | 0 | UG/L | 0 | |
| Strontium-90 | 12/8/2022 | 7.66 | 0.939 | 0.83 | PCI/L | 0 | |

**Table F-38**
**System Effluent Data**
**OU III BGRR/WCF Sr-90 System**

2022 BNL Groundwater Status Report

**Site ID:** 066-219 (Effluent)

| Chemical Name | Sample Date | Value | Detlim | Error | Units | Depth | Qual |
|---|---|---|---|---|---|---|---|
| 8260 TVOC | 1/14/2022 | 0 | 0 | 0 | UG/L | 0 | |
| Strontium-90 | 1/14/2022 | 1.92 | 0.79 | 0.518 | PCI/L | 0 | |
| 8260 TVOC | 2/10/2022 | 1.44 | 0 | 0 | UG/L | 0 | |
| Methylene chloride | 2/10/2022 | 1.44 | 0.5 | 0 | UG/L | 0 | J |
| 1,2,4-Trichlorobenzene | 3/12/2022 | 0.37 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 3/12/2022 | 0.94 | 0 | 0 | UG/L | 0 | |
| Methylene chloride | 3/12/2022 | 0.57 | 0.5 | 0 | UG/L | 0 | J |
| Strontium-90 | 3/12/2022 | 2.8 | 0.979 | 0.665 | PCI/L | 0 | |
| 8260 TVOC | 4/8/2022 | 0 | 0 | 0 | UG/L | 0 | |
| 8260 TVOC | 5/11/2022 | 0 | 0 | 0 | UG/L | 0 | |
| 8260 TVOC | 6/15/2022 | 0 | 0 | 0 | UG/L | 0 | |
| Strontium-90 | 6/15/2022 | 2.35 | 0.634 | 0.436 | PCI/L | 0 | |
| 1,1,1-Trichloroethane | 7/7/2022 | 0.44 | 0.5 | 0 | UG/L | 0 | J |
| 1,1-Dichloroethane | 7/7/2022 | 0.41 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 7/7/2022 | 0.85 | 0 | 0 | UG/L | 0 | |
| 1,1,1-Trichloroethane | 8/10/2022 | 0.5 | 0.5 | 0 | UG/L | 0 | J |
| 1,1-Dichloroethane | 8/10/2022 | 0.52 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 8/10/2022 | 1.02 | 0 | 0 | UG/L | 0 | |
| Strontium-90 | 8/10/2022 | 0.825 | 0.759 | 0.492 | PCI/L | 0 | N2 |
| 1,1,1-Trichloroethane | 9/8/2022 | 0.66 | 0.5 | 0 | UG/L | 0 | J |
| 1,1-Dichloroethane | 9/8/2022 | 0.51 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 9/8/2022 | 1.17 | 0 | 0 | UG/L | 0 | |
| 1,1,1-Trichloroethane | 10/12/2022 | 0.52 | 0.5 | 0 | UG/L | 0 | J |
| 1,1-Dichloroethane | 10/12/2022 | 0.54 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 10/12/2022 | 1.06 | 0 | 0 | UG/L | 0 | |
| Strontium-90 | 10/12/2022 | 1.03 | 0.74 | 0.498 | PCI/L | 0 | N2 |
| 1,1,1-Trichloroethane | 11/10/2022 | 0.65 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 11/10/2022 | 1.15 | 0 | 0 | UG/L | 0 | |
| Ethene, 1,2-dichloro-, (E)- | 11/10/2022 | 0.5 | 0.5 | 0 | UG/L | 0 | J |
| Strontium-90 | 11/10/2022 | 0.968 | 0.674 | 0.463 | PCI/L | 0 | N2 |
| 1,1,1-Trichloroethane | 12/8/2022 | 0.48 | 0.5 | 0 | UG/L | 0 | J |
| 8260 TVOC | 12/8/2022 | 0.48 | 0 | 0 | UG/L | 0 | |
| Strontium-90 | 12/8/2022 | 2.28 | 0.618 | 0.432 | 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-39**
**Cumulative Mass Removal**
**OU III BGRR/WCF Sr-90 System**

2022 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**
**OU III BGRR/WCF Sr-90 System**

2022 BNL Groundwater Status Report

| 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 |

**Table F-39**
**Cumulative Mass Removal**
**OU III BGRR/WCF Sr-90 System**

2022 BNL Groundwater Status Report

| 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 |

**Table F-39**
**Cumulative Mass Removal**
**OU III BGRR/WCF Sr-90 System**

2022 BNL Groundwater Status Report

| 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 |

**Table F-39**
**Cumulative Mass Removal**
**OU III BGRR/WCF Sr-90 System**

2022 BNL Groundwater Status Report

| 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 |

**Table F-39**
**Cumulative Mass Removal**
**OU III BGRR/WCF Sr-90 System**

2022 BNL Groundwater Status Report

| 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 |

**Table F-39**
**Cumulative Mass Removal**
**OU III BGRR/WCF Sr-90 System**

2022 BNL Groundwater Status Report

| 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 |
| 1/17/2019 | 19.4 | 1902953 | 36917288 | 0.04 | 27.90 |
| 2/5/2019 | 19 | 3958042 | 75202793 | 0.08 | 27.97 |
| 3/12/2019 | 11.5 | 4252918 | 48908554 | 0.05 | 28.02 |
| 4/2/2019 | 13.3 | 2910853 | 38714345 | 0.04 | 28.06 |
| 5/2/2019 | 13.5 | 4600025 | 62100335 | 0.06 | 28.12 |
| 6/6/2019 | 17.2 | 5613599 | 96553905 | 0.10 | 28.22 |
| 7/31/2019 | 21.1 | 5347068 | 112823141 | 0.11 | 28.33 |
| 8/31/2019 | 16.5 | 4483271 | 73973978 | 0.07 | 28.40 |
| 9/31/2019 | 13.4 | 2616590 | 35062309 | 0.04 | 28.44 |
| 10/31/2019 | 15.4 | 4238041 | 65265832 | 0.07 | 28.50 |
| 11/30/2019 | 12.9 | 5477445 | 70659046 | 0.07 | 28.57 |
| 12/31/2019 | 13 | 4063469 | 52825100 | 0.05 | 28.63 |
| 1/31/2020 | 4.27 | 6572179 | 28063204 | 0.03 | 28.66 |
| 2/29/2020 | 12.2 | 3810248 | 46485024 | 0.05 | 28.70 |
| 3/31/2020 | 9.68 | 5301889 | 51322289 | 0.05 | 28.75 |
| 4/30/2020 | 7.98 | 1931014 | 15409494 | 0.02 | 28.77 |
| 5/31/2020 | 5.41 | 6297237 | 34068052 | 0.03 | 28.80 |
| 6/30/2020 | 14.4 | 4140548 | 59623888 | 0.06 | 28.86 |
| 7/31/2020 | 11.5 | 333949 | 3840414 | 0.00 | 28.87 |
| 8/31/2020 | 11.5 | 1144709 | 13164148 | 0.01 | 28.88 |

**Table F-39**
**Cumulative Mass Removal**
**OU III BGRR/WCF Sr-90 System**

2022 BNL Groundwater Status Report

| Sample date | Influent Concentration (pCi/L) | Liters Pumped | picoCuries pumped | milliCuries pumped | Cumulative mCi |
|---|---|---|---|---|---|
| 9/30/2020 | 8.62 | 6357489 | 54801558 | 0.05 | 28.93 |
| 10/31/2020 | 2.36 | 4454018 | 10511482 | 0.01 | 28.95 |
| 11/30/2020 | 5.03 | 6253591 | 31455563 | 0.03 | 28.98 |
| 12/31/2020 | 7.63 | 1764793 | 13465371 | 0.01 | 28.99 |
| 1/31/2021 | 1.01 | 5267491 | 5320166 | 0.01 | 29.00 |
| 2/28/2021 | 8.15 | 3457989 | 28182609 | 0.03 | 29.02 |
| 3/31/2021 | 20.5 | 5753186 | 117940317 | 0.12 | 29.14 |
| 4/30/2021 | 9.99 | 4228517 | 42242884 | 0.04 | 29.18 |
| 5/31/2021 | 10.6 | 6287141 | 66643697 | 0.07 | 29.25 |
| 6/30/2021 | 13.7 | 2311437 | 31666684 | 0.03 | 29.28 |
| 7/31/2021 | 5.7 | 6092363 | 34726468 | 0.03 | 29.32 |
| 8/31/2021 | 7.9 | 4264808 | 33691981 | 0.03 | 29.35 |
| 9/30/2021 | 3.97 | 6369326 | 25286226 | 0.03 | 29.38 |
| 10/31/2021 | 5.05 | 3599158 | 18175749 | 0.02 | 29.39 |
| 11/30/2021 | 4.79 | 4501422 | 21561813 | 0.02 | 29.42 |
| 12/31/2021 | 18.6 | 1414677 | 26312983 | 0.03 | 29.44 |
| 1/14/2022 | 4.34 | 4967304 | 21558101 | 0.02 | 29.46 |
| 2/10/2022 | 5.37 | 4114538 | 22095070 | 0.02 | 29.49 |
| 3/12/2022 | 6.09 | 6072542 | 36981784 | 0.04 | 29.52 |
| 4/8/2022 | 5.98 | 4267064 | 25517042 | 0.03 | 29.55 |
| 5/11/2022 | 15 | 1759096 | 26386440 | 0.03 | 29.57 |
| 6/15/2022 | 10.2 | 3348969 | 34159483 | 0.03 | 29.61 |
| 7/7/2022 | 10.4 | 1759096 | 18294598 | 0.02 | 29.63 |
| 8/10/2022 | 10.2 | 1582514 | 16141644 | 0.02 | 29.64 |
| 9/8/2022 | 10.2 | 1114141 | 11364242 | 0.01 | 29.65 |
| 10/12/2022 | 9.22 | 2092848 | 19296060 | 0.02 | 29.67 |
| 11/10/2022 | 8.79 | 2003107 | 17607314 | 0.02 | 29.69 |
| 12/8/2022 | 7.66 | 3592980 | 27522230 | 0.03 | 29.72 |

**Table F-40**
**Extraction Well Data**
**OU III Chemical/Animal Holes Sr-90 System**

2022 BNL Groundwater Status Report

**Site ID :** 106-92 (EW-1)

| Chemical Name | Sample Date | Value | Detlim | Error | Units | Depth | Qual |
|---|---|---|---|---|---|---|---|
| Strontium-90 | 1/10/2022 | 17 | 3.67 | 3.03 | PCI/L | 0 | |
| Strontium-90 | 4/4/2022 | 13.9 | 0.777 | 1.01 | PCI/L | 0 | |
| Strontium-90 | 7/18/2022 | 19.5 | 0.537 | 0.774 | PCI/L | 0 | |
| Strontium-90 | 10/3/2022 | 35.6 | 13.1 | 8.61 | PCI/L | 0 | |

**Site ID :** 106-123 (EW-2)

| Chemical Name | Sample Date | Value | Detlim | Error | Units | Depth | Qual |
|---|---|---|---|---|---|---|---|
| Strontium-90 | 1/10/2022 | 4.25 | 0.931 | 0.778 | PCI/L | 0 | |
| Strontium-90 | 4/4/2022 | 2.83 | 0.774 | 0.62 | PCI/L | 0 | |
| Strontium-90 | 7/18/2022 | 2.71 | 0.712 | 0.501 | PCI/L | 0 | |
| Strontium-90 | 10/3/2022 | 4.27 | 3.78 | 2.45 | PCI/L | 0 | N2 |

**Site ID :** 106-124 (EW-3)

| Chemical Name | Sample Date | Value | Detlim | Error | Units | Depth | Qual |
|---|---|---|---|---|---|---|---|
| Strontium-90 | 1/10/2022 | 1.67 | 1.14 | 0.743 | PCI/L | 0 | |
| Strontium-90 | 4/4/2022 | 0.72 | 0.751 | 0.484 | PCI/L | 0 | U |
| Strontium-90 | 7/18/2022 | 0.527 | 0.702 | 0.422 | PCI/L | 0 | U |
| Strontium-90 | 10/3/2022 | 0.732 | 1.19 | 0.712 | PCI/L | 0 | U-DL |

**Table F-41**
**System Influent Data**
**OU III Chemical/Animal Holes Sr-90 System**

2022 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**

2022 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**

2022 BNL Groundwater Status Report

| 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**

2022 BNL Groundwater Status Report

| 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**

2022 BNL Groundwater Status Report

| 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**

2022 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**

2022 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**

2022 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**

2022 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**

2022 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 |

*System in stand-by mode as of July 2018

**Table F-44**
**Extraction Well VOC Data**
**OU VI EDB Pump and Treat System**

2022 BNL Groundwater Status Report

**Site ID:** 000-503 (EW-1)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 8260 TVOC | 1/10/2022 | 1.6 | 0 | UG/L | 0 | |
| Chloroform | 1/10/2022 | 0.98 | 0.5 | UG/L | 0 | J |
| Methylene chloride | 1/10/2022 | 0.62 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 4/6/2022 | 1.1 | 0 | UG/L | 0 | |
| Chloroform | 4/6/2022 | 1.1 | 0.5 | UG/L | 0 | |
| 8260 TVOC | 7/7/2022 | 0.97 | 0 | UG/L | 0 | |
| Chloroform | 7/7/2022 | 0.97 | 0.5 | UG/L | 0 | |
| EDB | 7/7/2022 | 0.01 | 0.01 | UG/L | 0 | |
| 8260 TVOC | 10/3/2022 | 0.73 | 0 | UG/L | 0 | |
| Chloroform | 10/3/2022 | 0.73 | 0.5 | UG/L | 0 | |

**Site ID :** 000-504 (EW-2)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 8260 TVOC | 1/10/2022 | 1.52 | 0 | UG/L | 0 | |
| Chloroform | 1/10/2022 | 0.88 | 0.5 | UG/L | 0 | J |
| EDB | 1/10/2022 | 0.041 | 0.0188 | UG/L | 0 | |
| Methylene chloride | 1/10/2022 | 0.64 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 4/6/2022 | 0.88 | 0 | UG/L | 0 | |
| Chloroform | 4/6/2022 | 0.88 | 0.5 | UG/L | 0 | |
| EDB | 4/6/2022 | 0.034 | 0.01 | UG/L | 0 | |
| 8260 TVOC | 7/7/2022 | 0.96 | 0 | UG/L | 0 | |
| Chloroform | 7/7/2022 | 0.96 | 0.5 | UG/L | 0 | |
| EDB | 7/7/2022 | 0.053 | 0.011 | UG/L | 0 | |
| 8260 TVOC | 10/3/2022 | 0.61 | 0 | UG/L | 0 | |
| Chloroform | 10/3/2022 | 0.61 | 0.5 | UG/L | 0 | |
| EDB | 10/3/2022 | 0.048 | 0.011 | 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**

2022 BNL Groundwater Status Report

**Site ID:** 000-512 (Combined Influent)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 8260 TVOC | 1/10/2022 | 1.59 | 0 | UG/L | 0 | |
| Chloroform | 1/10/2022 | 0.94 | 0.5 | UG/L | 0 | J |
| EDB | 1/10/2022 | 0.0229 | 0.019 | UG/L | 0 | |
| Methylene chloride | 1/10/2022 | 0.65 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 2/3/2022 | 0.92 | 0 | UG/L | 0 | |
| Chloroform | 2/3/2022 | 0.92 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 3/3/2022 | 1.39 | 0 | UG/L | 0 | |
| Chloroform | 3/3/2022 | 0.86 | 0.5 | UG/L | 0 | J |
| EDB | 3/3/2022 | 0.0308 | 0.0188 | UG/L | 0 | |
| Methylene chloride | 3/3/2022 | 0.53 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 4/6/2022 | 0.96 | 0 | UG/L | 0 | |
| Chloroform | 4/6/2022 | 0.96 | 0.5 | UG/L | 0 | |
| EDB | 4/6/2022 | 0.041 | 0.011 | UG/L | 0 | |
| 8260 TVOC | 5/2/2022 | 0.98 | 0 | UG/L | 0 | |
| Chloroform | 5/2/2022 | 0.98 | 0.5 | UG/L | 0 | |
| EDB | 5/2/2022 | 0.022 | 0.01 | UG/L | 0 | |
| 8260 TVOC | 6/1/2022 | 1.2 | 0 | UG/L | 0 | |
| Chloroform | 6/1/2022 | 1.2 | 0.5 | UG/L | 0 | |
| 8260 TVOC | 7/7/2022 | 0.98 | 0 | UG/L | 0 | |
| Chloroform | 7/7/2022 | 0.98 | 0.5 | UG/L | 0 | |
| EDB | 7/7/2022 | 0.03 | 0.011 | UG/L | 0 | |
| 8260 TVOC | 8/3/2022 | 0.98 | 0 | UG/L | 0 | |
| Chloroform | 8/3/2022 | 0.98 | 0.5 | UG/L | 0 | |
| EDB | 8/3/2022 | 0.027 | 0.01 | UG/L | 0 | |
| 8260 TVOC | 9/14/2022 | 0.94 | 0 | UG/L | 0 | |
| Chloroform | 9/14/2022 | 0.94 | 0.5 | UG/L | 0 | |
| EDB | 9/14/2022 | 0.048 | 0.011 | UG/L | 0 | |
| 8260 TVOC | 10/3/2022 | 0.63 | 0 | UG/L | 0 | |
| Chloroform | 10/3/2022 | 0.63 | 0.5 | UG/L | 0 | |
| EDB | 10/3/2022 | 0.03 | 0.011 | UG/L | 0 | |
| 8260 TVOC | 11/3/2022 | 0.91 | 0 | UG/L | 0 | |
| Chloroform | 11/3/2022 | 0.91 | 0.5 | UG/L | 0 | |
| EDB | 11/3/2022 | 0.027 | 0.01 | UG/L | 0 | |
| 8260 TVOC | 12/2/2022 | 0 | 0 | UG/L | 0 | |
| EDB | 12/2/2022 | 0.029 | 0.01 | 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**

2022 BNL Groundwater Status Report

**Site ID:** 000-510 (Effluent)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 8260 TVOC | 1/10/2022 | 1.51 | 0 | UG/L | 0 | |
| Chloroform | 1/10/2022 | 0.95 | 0.5 | UG/L | 0 | J |
| Methylene chloride | 1/10/2022 | 0.56 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 2/3/2022 | 0 | 0 | UG/L | 0 | |
| 8260 TVOC | 3/3/2022 | 0.57 | 0 | UG/L | 0 | |
| Methylene chloride | 3/3/2022 | 0.57 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 4/6/2022 | 0.44 | 0 | UG/L | 0 | |
| Chloroform | 4/6/2022 | 0.44 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 5/2/2022 | 0.8 | 0 | UG/L | 0 | |
| Chloroform | 5/2/2022 | 0.8 | 0.5 | UG/L | 0 | |
| 8260 TVOC | 6/1/2022 | 0.92 | 0 | UG/L | 0 | |
| Chloroform | 6/1/2022 | 0.92 | 0.5 | UG/L | 0 | |
| 8260 TVOC | 7/7/2022 | 0 | 0 | UG/L | 0 | |
| 8260 TVOC | 8/3/2022 | 0.29 | 0 | UG/L | 0 | |
| Chloroform | 8/3/2022 | 0.29 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 9/14/2022 | 0.66 | 0 | UG/L | 0 | |
| Chloroform | 9/14/2022 | 0.66 | 0.5 | UG/L | 0 | |
| 8260 TVOC | 10/3/2022 | 0.53 | 0 | UG/L | 0 | |
| Chloroform | 10/3/2022 | 0.53 | 0.5 | UG/L | 0 | |
| 8260 TVOC | 11/3/2022 | 1 | 0 | UG/L | 0 | |
| Chloroform | 11/3/2022 | 1 | 0.5 | UG/L | 0 | |
| 8260 TVOC | 12/2/2022 | 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-47**
**Extraction Wells VOC and Tritium Data**
**OU III Tritium Pump and Recharge System**

2022 BNL Groundwater Status Report

No extraction well samples collected in 2022.

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

**Site ID :** 073-34 (CF-RW-A)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 537 TPFAS | 3/17/2022 | 1523.07 | 0 | NG/L | 50 | |
| 8260 TVOC | 3/17/2022 | 0.6 | 0 | UG/L | 50 | |
| Chloroform | 3/17/2022 | 0.6 | 0.5 | UG/L | 50 | J |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3/17/2022 | 7.21 | 3.58 | NG/L | 50 | |
| Perfluorobutanesulfonate (PFBS) | 3/17/2022 | 59.4 | 1.68 | NG/L | 50 | |
| Perfluorobutyric acid (PFBA) | 3/17/2022 | 38.8 | 1.88 | NG/L | 50 | |
| Perfluoroheptanesulfonate (PFHpS) | 3/17/2022 | 10.6 | 1.79 | NG/L | 50 | |
| Perfluoroheptanoic acid (PFHpA) | 3/17/2022 | 43.5 | 1.88 | NG/L | 50 | |
| Perfluorohexanesulfonate (PFHxS) | 3/17/2022 | 355 | 17.1 | NG/L | 50 | D |
| Perfluorohexanoic acid (PFHxA) | 3/17/2022 | 125 | 1.88 | NG/L | 50 | |
| Perfluorononanoic acid (PFNA) | 3/17/2022 | 4.96 | 1.88 | NG/L | 50 | |
| Perfluorooctanesulfonate (PFOS) | 3/17/2022 | 599 | 18.8 | NG/L | 50 | D |
| Perfluorooctanoic acid (PFOA) | 3/17/2022 | 12 | 1.88 | NG/L | 50 | |
| Perfluoropentanesulfonate (PFPeS) | 3/17/2022 | 77.6 | 1.77 | NG/L | 50 | |
| Perfluoropentanoic acid (PFPeA) | 3/17/2022 | 190 | 18.8 | NG/L | 50 | D |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 10/24/2022 | 3.46 | 3.41 | NG/L | 0 | |
| 1H, 1H, 2H, 2H-perfluorododecane sulfonic acid (10:2 FTS) | 10/24/2022 | 1.55 | 3.41 | NG/L | 0 | J |
| 537 TPFAS | 10/24/2022 | 1495.85 | 0 | NG/L | 0 | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 10/24/2022 | 8.87 | 16.9 | NG/L | 0 | DJ |
| Perfluorobutanesulfonate (PFBS) | 10/24/2022 | 29.5 | 1.58 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/24/2022 | 9.27 | 3.55 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/24/2022 | 19.1 | 1.78 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/24/2022 | 6.91 | 1.69 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/24/2022 | 19 | 1.78 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/24/2022 | 392 | 8.08 | NG/L | 0 | D |
| Perfluorohexanoic acid (PFHxA) | 10/24/2022 | 60.5 | 1.78 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/24/2022 | 2.8 | 1.78 | NG/L | 0 | |
| Perfluorooctane sulfonamide (PFOSAm) | 10/24/2022 | 1.49 | 1.78 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 10/24/2022 | 822 | 35.5 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/24/2022 | 19.8 | 1.78 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/24/2022 | 31.6 | 1.67 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/24/2022 | 68 | 1.78 | NG/L | 0 | |
| 8260 TVOC | 10/24/2022 | 1 | 0 | UG/L | 0 | |
| Chloroform | 10/24/2022 | 1 | 0.5 | UG/L | 0 | |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 10/26/2022 | 3.55 | 3.34 | NG/L | 0 | |
| 537 TPFAS | 10/26/2022 | 1666.06 | 0 | NG/L | 0 | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 10/26/2022 | 2.9 | 3.3 | NG/L | 0 | J |
| Perfluorobutanesulfonate (PFBS) | 10/26/2022 | 17.5 | 1.55 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/26/2022 | 9.08 | 3.48 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/26/2022 | 15.3 | 1.74 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/26/2022 | 7.32 | 1.65 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/26/2022 | 17.4 | 1.74 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/26/2022 | 363 | 15.8 | NG/L | 0 | D |
| Perfluorohexanoic acid (PFHxA) | 10/26/2022 | 50.4 | 1.74 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/26/2022 | 2.77 | 1.74 | NG/L | 0 | |
| Perfluorooctane sulfonamide (PFOSAm) | 10/26/2022 | 2.74 | 1.74 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/26/2022 | 1080 | 17.4 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/26/2022 | 18.9 | 1.74 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/26/2022 | 21.9 | 1.63 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/26/2022 | 53.3 | 1.74 | NG/L | 0 | |
| 8260 TVOC | 10/26/2022 | 1.5 | 0 | UG/L | 0 | |
| Chloroform | 10/26/2022 | 1.5 | 0.5 | UG/L | 0 | |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 10/28/2022 | 2.41 | 3.41 | NG/L | 0 | J |
| 537 TPFAS | 10/28/2022 | 986.68 | 0 | NG/L | 0 | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 10/28/2022 | 3.81 | 3.37 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/28/2022 | 18.9 | 1.58 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/28/2022 | 7.14 | 3.55 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/28/2022 | 14.6 | 1.78 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/28/2022 | 4.61 | 1.69 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/28/2022 | 14.4 | 1.78 | NG/L | 0 | |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| Perfluorohexanesulfonate (PFHxS) | 10/28/2022 | 228 | 8.08 | NG/L | 0 | D |
| Perfluorohexanoic acid (PFHxA) | 10/28/2022 | 46.5 | 1.78 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/28/2022 | 2.12 | 1.78 | NG/L | 0 | |
| Perfluorooctane sulfonamide (PFOSAm) | 10/28/2022 | 2.59 | 1.78 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/28/2022 | 558 | 8.88 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/28/2022 | 13.5 | 1.78 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/28/2022 | 27.2 | 1.67 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/28/2022 | 42.9 | 1.78 | NG/L | 0 | |
| 8260 TVOC | 10/28/2022 | 2 | 0 | UG/L | 0 | |
| Chloroform | 10/28/2022 | 2 | 0.5 | UG/L | 0 | |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 10/31/2022 | 1.97 | 3.21 | NG/L | 0 | J |
| 537 TPFAS | 10/31/2022 | 1667.01 | 0 | NG/L | 0 | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 10/31/2022 | 3.72 | 3.17 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/31/2022 | 17.1 | 1.49 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/31/2022 | 7.49 | 3.34 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/31/2022 | 12.7 | 1.67 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/31/2022 | 6.49 | 1.59 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/31/2022 | 11.8 | 1.67 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/31/2022 | 394 | 15.2 | NG/L | 0 | D |
| Perfluorohexanoic acid (PFHxA) | 10/31/2022 | 36.9 | 1.67 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/31/2022 | 2.09 | 1.67 | NG/L | 0 | |
| Perfluorooctane sulfonamide (PFOSAm) | 10/31/2022 | 1.65 | 1.67 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 10/31/2022 | 1100 | 16.7 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/31/2022 | 14 | 1.67 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/31/2022 | 20.5 | 1.57 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/31/2022 | 36.6 | 1.67 | NG/L | 0 | |
| 8260 TVOC | 10/31/2022 | 2.3 | 0 | UG/L | 0 | |
| Chloroform | 10/31/2022 | 2.3 | 0.5 | UG/L | 0 | |
| 537 TPFAS | 11/7/2022 | 817.46 | 0 | NG/L | 0 | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 11/7/2022 | 3.51 | 3.34 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/7/2022 | 22.1 | 1.57 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 11/7/2022 | 9.16 | 3.52 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 11/7/2022 | 13.7 | 1.76 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 11/7/2022 | 6.94 | 1.67 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 11/7/2022 | 14.4 | 1.76 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/7/2022 | 179 | 8 | NG/L | 0 | D |
| Perfluorohexanoic acid (PFHxA) | 11/7/2022 | 46.5 | 1.76 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/7/2022 | 1.72 | 1.76 | NG/L | 0 | J |
| Perfluorooctane sulfonamide (PFOSAm) | 11/7/2022 | 1.73 | 1.76 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 11/7/2022 | 434 | 8.79 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 11/7/2022 | 16.1 | 1.76 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/7/2022 | 30.8 | 1.65 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 11/7/2022 | 37.8 | 1.76 | NG/L | 0 | |
| 8260 TVOC | 11/7/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/14/2022 | 604.074 | 0 | NG/L | 0 | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 11/14/2022 | 3 | 3.26 | NG/L | 0 | J |
| Perfluorobutanesulfonate (PFBS) | 11/14/2022 | 19.3 | 1.52 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 11/14/2022 | 6.89 | 3.43 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 11/14/2022 | 10.9 | 1.71 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 11/14/2022 | 4.75 | 1.63 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 11/14/2022 | 10.4 | 1.71 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/14/2022 | 114 | 1.56 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/14/2022 | 33 | 1.71 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/14/2022 | 1.4 | 1.71 | NG/L | 0 | J |
| Perfluorooctane sulfonamide (PFOSAm) | 11/14/2022 | 0.934 | 1.71 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 11/14/2022 | 332 | 8.57 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 11/14/2022 | 10.1 | 1.71 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/14/2022 | 19.8 | 1.61 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 11/14/2022 | 37.6 | 1.71 | NG/L | 0 | |
| 8260 TVOC | 11/14/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/21/2022 | 523.346 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/21/2022 | 11.8 | 1.5 | NG/L | 0 | h |
| Perfluorobutylsulfonamide (FBSA) | 11/21/2022 | 4.92 | 3.38 | NG/L | 0 | h |
| Perfluorobutyric acid (PFBA) | 11/21/2022 | 8.85 | 1.69 | NG/L | 0 | h |
| Perfluoroheptanesulfonate (PFHpS) | 11/21/2022 | 4.15 | 1.6 | NG/L | 0 | h |
| Perfluoroheptanoic acid (PFHpA) | 11/21/2022 | 7.72 | 1.69 | NG/L | 0 | h |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| Perfluorohexanesulfonate (PFHxS) | 11/21/2022 | 118 | 1.54 | NG/L | 0 | h |
| Perfluorohexanoic acid (PFHxA) | 11/21/2022 | 26.2 | 1.69 | NG/L | 0 | h |
| Perfluorononanoic acid (PFNA) | 11/21/2022 | 0.906 | 1.69 | NG/L | 0 | Jh |
| Perfluorooctane sulfonamide (PFOSAm) | 11/21/2022 | 1.44 | 1.69 | NG/L | 0 | Jh |
| Perfluorooctanesulfonate (PFOS) | 11/21/2022 | 288 | 8.44 | NG/L | 0 | Dh |
| Perfluorooctanoic acid (PFOA) | 11/21/2022 | 9.16 | 1.69 | NG/L | 0 | h |
| Perfluoropentanesulfonate (PFPeS) | 11/21/2022 | 17.4 | 1.59 | NG/L | 0 | h |
| Perfluoropentanoic acid (PFPeA) | 11/21/2022 | 24.8 | 1.69 | NG/L | 0 | h |
| 8260 TVOC | 11/21/2022 | 0 | 0 | UG/L | 0 | |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 11/28/2022 | 1.61 | 3.54 | NG/L | 0 | J |
| 537 TPFAS | 11/28/2022 | 571.37 | 0 | NG/L | 0 | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 11/28/2022 | 12 | 3.5 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/28/2022 | 12.6 | 1.64 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 11/28/2022 | 6.09 | 3.69 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 11/28/2022 | 9.8 | 1.84 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 11/28/2022 | 5.13 | 1.75 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 11/28/2022 | 10.1 | 1.84 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/28/2022 | 130 | 1.68 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/28/2022 | 33.8 | 1.84 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/28/2022 | 1.1 | 1.84 | NG/L | 0 | J |
| Perfluorooctane sulfonamide (PFOSAm) | 11/28/2022 | 2.54 | 1.84 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 11/28/2022 | 285 | 9.22 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 11/28/2022 | 11.8 | 1.84 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/28/2022 | 17.1 | 1.73 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 11/28/2022 | 32.7 | 1.84 | NG/L | 0 | |
| 8260 TVOC | 11/28/2022 | 1.8 | 0 | UG/L | 0 | |
| Chloroform | 11/28/2022 | 1.8 | 0.5 | UG/L | 0 | |
| 537 TPFAS | 12/5/2022 | 426.425 | 0 | NG/L | 0 | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 12/5/2022 | 4.06 | 3.36 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/5/2022 | 10.2 | 1.57 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 12/5/2022 | 5.36 | 3.53 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 12/5/2022 | 8.51 | 1.77 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 12/5/2022 | 4.26 | 1.68 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 12/5/2022 | 8.54 | 1.77 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 12/5/2022 | 101 | 1.61 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/5/2022 | 26.2 | 1.77 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 12/5/2022 | 0.985 | 1.77 | NG/L | 0 | J |
| Perfluorooctane sulfonamide (PFOSAm) | 12/5/2022 | 1.18 | 1.77 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 12/5/2022 | 206 | 8.83 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 12/5/2022 | 9.33 | 1.77 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 12/5/2022 | 14.4 | 1.66 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 12/5/2022 | 26.4 | 1.77 | NG/L | 0 | |
| 8260 TVOC | 12/5/2022 | 2.6 | 0 | UG/L | 0 | |
| Chloroform | 12/5/2022 | 2.6 | 0.5 | UG/L | 0 | |
| 537 TPFAS | 12/12/2022 | 445.353 | 0 | NG/L | 0 | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 12/12/2022 | 5.12 | 3.56 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/12/2022 | 8.78 | 1.67 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 12/12/2022 | 4.16 | 3.74 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 12/12/2022 | 7.75 | 1.87 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 12/12/2022 | 3.29 | 1.78 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 12/12/2022 | 7.31 | 1.87 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 12/12/2022 | 114 | 1.7 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/12/2022 | 25.5 | 1.87 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 12/12/2022 | 0.883 | 1.87 | NG/L | 0 | J |
| Perfluorooctane sulfonamide (PFOSAm) | 12/12/2022 | 1.36 | 1.87 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 12/12/2022 | 223 | 9.36 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 12/12/2022 | 7.9 | 1.87 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 12/12/2022 | 14.5 | 1.76 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 12/12/2022 | 21.8 | 1.87 | NG/L | 0 | |
| 8260 TVOC | 12/12/2022 | 2 | 0 | UG/L | 0 | |
| Chloroform | 12/12/2022 | 2 | 0.5 | UG/L | 0 | |
| 537 TPFAS | 12/20/2022 | 333.342 | 0 | NG/L | 0 | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 12/20/2022 | 3.19 | 3.47 | NG/L | 0 | J |
| Perfluorobutanesulfonate (PFBS) | 12/20/2022 | 7.7 | 1.63 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 12/20/2022 | 3.37 | 3.66 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 12/20/2022 | 6.81 | 1.83 | NG/L | 0 | |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| Perfluoroheptanesulfonate (PFHpS) | 12/20/2022 | 2.79 | 1.74 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 12/20/2022 | 6.43 | 1.83 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 12/20/2022 | 60.8 | 1.66 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/20/2022 | 21.3 | 1.83 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 12/20/2022 | 0.782 | 1.83 | NG/L | 0 | J |
| Perfluorooctane sulfonamide (PFOSAm) | 12/20/2022 | 1.01 | 1.83 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 12/20/2022 | 183 | 9.14 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 12/20/2022 | 6.64 | 1.83 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 12/20/2022 | 8.42 | 1.72 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 12/20/2022 | 21.1 | 1.83 | NG/L | 0 | |
| 8260 TVOC | 12/20/2022 | 2.2 | 0 | UG/L | 0 | |
| Chloroform | 12/20/2022 | 2.2 | 0.5 | UG/L | 0 | |

**Site ID :** 073-35 (CF-RW-B)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 537 TPFAS | 3/17/2022 | 0 | 0 | NG/L | 45 | |
| 8260 TVOC | 3/17/2022 | 0 | 0 | UG/L | 45 | |
| 537 TPFAS | 8/4/2022 | 2.956 | 0 | NG/L | 45 | |
| 8260 TVOC | 8/4/2022 | 0.42 | 0 | UG/L | 45 | |
| Perfluorobutyric acid (PFBA) | 8/4/2022 | 2.01 | 1.8 | NG/L | 45 | |
| Perfluorooctanesulfonate (PFOS) | 8/4/2022 | 0.946 | 1.8 | NG/L | 45 | J |
| Toluene | 8/4/2022 | 0.42 | 0.5 | UG/L | 45 | J |
| 537 TPFAS | 10/24/2022 | 102.957 | 0 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/24/2022 | 6.3 | 1.63 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/24/2022 | 0.941 | 1.79 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 10/24/2022 | 95 | 1.79 | NG/L | 0 | |
| Perfluoroundecanoic acid (PFUdA) | 10/24/2022 | 0.716 | 1.79 | NG/L | 0 | J |
| 8260 TVOC | 10/24/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 10/26/2022 | 205.471 | 0 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/26/2022 | 0.718 | 1.62 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 10/26/2022 | 0.601 | 1.71 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 10/26/2022 | 16.1 | 1.56 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/26/2022 | 1.54 | 1.71 | NG/L | 0 | J |
| Perfluorononanoic acid (PFNA) | 10/26/2022 | 2.07 | 1.71 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/26/2022 | 180 | 8.55 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/26/2022 | 1.51 | 1.71 | NG/L | 0 | J |
| Perfluoropentanesulfonate (PFPeS) | 10/26/2022 | 0.817 | 1.61 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 10/26/2022 | 0.805 | 1.71 | NG/L | 0 | J |
| Perfluoroundecanoic acid (PFUdA) | 10/26/2022 | 1.31 | 1.71 | NG/L | 0 | J |
| 8260 TVOC | 10/26/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 10/28/2022 | 214.762 | 0 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/28/2022 | 0.773 | 1.64 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 10/28/2022 | 18.8 | 1.57 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/28/2022 | 2.38 | 1.73 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/28/2022 | 4.88 | 1.73 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/28/2022 | 183 | 8.63 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/28/2022 | 1.41 | 1.73 | NG/L | 0 | J |
| Perfluoropentanesulfonate (PFPeS) | 10/28/2022 | 0.729 | 1.62 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 10/28/2022 | 0.97 | 1.73 | NG/L | 0 | J |
| Perfluoroundecanoic acid (PFUdA) | 10/28/2022 | 1.82 | 1.73 | NG/L | 0 | |
| 8260 TVOC | 10/28/2022 | 0.29 | 0 | UG/L | 0 | |
| Chloroform | 10/28/2022 | 0.29 | 0.5 | UG/L | 0 | J |
| 537 TPFAS | 10/31/2022 | 301.983 | 0 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/31/2022 | 0.706 | 1.65 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 10/31/2022 | 0.826 | 1.57 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 10/31/2022 | 0.643 | 1.65 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 10/31/2022 | 20.5 | 1.5 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/31/2022 | 2.18 | 1.65 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/31/2022 | 7.32 | 1.65 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/31/2022 | 264 | 8.25 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/31/2022 | 1.83 | 1.65 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/31/2022 | 0.679 | 1.55 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 10/31/2022 | 0.877 | 1.65 | NG/L | 0 | J |
| Perfluorotridecanoic acid (PFTrDA) | 10/31/2022 | 0.852 | 1.65 | NG/L | 0 | J |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| Perfluoroundecanoic acid (PFUdA) | 10/31/2022 | 1.57 | 1.65 | NG/L | 0 | J |
| 8260 TVOC | 10/31/2022 | 0.32 | 0 | UG/L | 0 | |
| Chloroform | 10/31/2022 | 0.32 | 0.5 | UG/L | 0 | J |
| 537 TPFAS | 11/7/2022 | 223.725 | 0 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 11/7/2022 | 0.714 | 1.64 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 11/7/2022 | 0.842 | 1.55 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 11/7/2022 | 0.705 | 1.64 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 11/7/2022 | 19.7 | 1.49 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/7/2022 | 2.88 | 1.64 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/7/2022 | 8.55 | 1.64 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 11/7/2022 | 184 | 8.18 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 11/7/2022 | 1.66 | 1.64 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/7/2022 | 0.864 | 1.54 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 11/7/2022 | 1.11 | 1.64 | NG/L | 0 | J |
| Perfluorotridecanoic acid (PFTrDA) | 11/7/2022 | 1.03 | 1.64 | NG/L | 0 | J |
| Perfluoroundecanoic acid (PFUdA) | 11/7/2022 | 1.67 | 1.64 | NG/L | 0 | |
| 8260 TVOC | 11/7/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/14/2022 | 123.571 | 0 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 11/14/2022 | 0.656 | 1.74 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 11/14/2022 | 15.6 | 1.58 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/14/2022 | 2.13 | 1.74 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/14/2022 | 1.5 | 1.74 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 11/14/2022 | 99.5 | 1.74 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 11/14/2022 | 1.41 | 1.74 | NG/L | 0 | J |
| Perfluoropentanesulfonate (PFPeS) | 11/14/2022 | 0.702 | 1.63 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 11/14/2022 | 0.635 | 1.74 | NG/L | 0 | J |
| Perfluorotridecanoic acid (PFTrDA) | 11/14/2022 | 0.674 | 1.74 | NG/L | 0 | J |
| Perfluoroundecanoic acid (PFUdA) | 11/14/2022 | 0.764 | 1.74 | NG/L | 0 | J |
| 8260 TVOC | 11/14/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/21/2022 | 191.662 | 0 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 11/21/2022 | 0.82 | 1.6 | NG/L | 0 | Jh |
| Perfluorohexanesulfonate (PFHxS) | 11/21/2022 | 16.8 | 1.53 | NG/L | 0 | h |
| Perfluorohexanoic acid (PFHxA) | 11/21/2022 | 1.9 | 1.68 | NG/L | 0 | h |
| Perfluorononanoic acid (PFNA) | 11/21/2022 | 5.92 | 1.68 | NG/L | 0 | h |
| Perfluorooctanesulfonate (PFOS) | 11/21/2022 | 162 | 1.68 | NG/L | 0 | h |
| Perfluorooctanoic acid (PFOA) | 11/21/2022 | 1.11 | 1.68 | NG/L | 0 | Jh |
| Perfluoropentanesulfonate (PFPeS) | 11/21/2022 | 0.78 | 1.58 | NG/L | 0 | Jh |
| Perfluoropentanoic acid (PFPeA) | 11/21/2022 | 0.655 | 1.68 | NG/L | 0 | Jh |
| Perfluorotridecanoic acid (PFTrDA) | 11/21/2022 | 0.838 | 1.68 | NG/L | 0 | Jh |
| Perfluoroundecanoic acid (PFUdA) | 11/21/2022 | 0.839 | 1.68 | NG/L | 0 | Jh |
| 8260 TVOC | 11/21/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/28/2022 | 261.02 | 0 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 11/28/2022 | 0.791 | 1.76 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 11/28/2022 | 0.918 | 1.67 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 11/28/2022 | 0.612 | 1.76 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 11/28/2022 | 17.8 | 1.6 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/28/2022 | 2.51 | 1.76 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/28/2022 | 8.94 | 1.76 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 11/28/2022 | 221 | 8.8 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 11/28/2022 | 1.62 | 1.76 | NG/L | 0 | J |
| Perfluoropentanesulfonate (PFPeS) | 11/28/2022 | 0.734 | 1.65 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 11/28/2022 | 0.735 | 1.76 | NG/L | 0 | J |
| Perfluorotridecanoic acid (PFTrDA) | 11/28/2022 | 2.35 | 1.76 | NG/L | 0 | |
| Perfluoroundecanoic acid (PFUdA) | 11/28/2022 | 3.01 | 1.76 | NG/L | 0 | |
| 8260 TVOC | 11/28/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 12/5/2022 | 208.739 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/5/2022 | 0.655 | 1.71 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 12/5/2022 | 0.936 | 1.92 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 12/5/2022 | 0.939 | 1.82 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 12/5/2022 | 0.805 | 1.92 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 12/5/2022 | 24.1 | 1.75 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/5/2022 | 2.16 | 1.92 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 12/5/2022 | 6.96 | 1.92 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 12/5/2022 | 166 | 9.61 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 12/5/2022 | 1.96 | 1.92 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 12/5/2022 | 0.811 | 1.81 | NG/L | 0 | J |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| Perfluoropentanoic acid (PFPeA) | 12/5/2022 | 0.903 | 1.92 | NG/L | 0 | J |
| Perfluorotridecanoic acid (PFTrDA) | 12/5/2022 | 1.37 | 1.92 | NG/L | 0 | J |
| Perfluoroundecanoic acid (PFUdA) | 12/5/2022 | 1.14 | 1.92 | NG/L | 0 | J |
| 8260 TVOC | 12/5/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 12/12/2022 | 186.541 | 0 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 12/12/2022 | 0.731 | 1.81 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 12/12/2022 | 0.906 | 1.72 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 12/12/2022 | 19.3 | 1.64 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/12/2022 | 2.01 | 1.81 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 12/12/2022 | 5.68 | 1.81 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 12/12/2022 | 153 | 1.81 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 12/12/2022 | 1.4 | 1.81 | NG/L | 0 | J |
| Perfluoropentanesulfonate (PFPeS) | 12/12/2022 | 0.816 | 1.7 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 12/12/2022 | 0.862 | 1.81 | NG/L | 0 | J |
| Perfluorotridecanoic acid (PFTrDA) | 12/12/2022 | 1.01 | 1.81 | NG/L | 0 | J |
| Perfluoroundecanoic acid (PFUdA) | 12/12/2022 | 0.826 | 1.81 | NG/L | 0 | J |
| 8260 TVOC | 12/12/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 12/20/2022 | 170.988 | 0 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 12/20/2022 | 0.868 | 1.64 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 12/20/2022 | 0.616 | 1.73 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 12/20/2022 | 19 | 1.57 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/20/2022 | 1.99 | 1.73 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 12/20/2022 | 5.65 | 1.73 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 12/20/2022 | 138 | 1.73 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 12/20/2022 | 1.54 | 1.73 | NG/L | 0 | J |
| Perfluoropentanesulfonate (PFPeS) | 12/20/2022 | 0.784 | 1.63 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 12/20/2022 | 0.748 | 1.73 | NG/L | 0 | J |
| Perfluorotridecanoic acid (PFTrDA) | 12/20/2022 | 0.951 | 1.73 | NG/L | 0 | J |
| Perfluoroundecanoic acid (PFUdA) | 12/20/2022 | 0.841 | 1.73 | NG/L | 0 | J |
| 8260 TVOC | 12/20/2022 | 0.38 | 0 | UG/L | 0 | |
| Chloroform | 12/20/2022 | 0.38 | 0.5 | UG/L | 0 | J |

**Site ID :** 083-45 (CF-RW-C)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 1,4-Dioxane | 3/16/2022 | 0.35 | 0.2 | UG/L | 65 | |
| 537 TPFAS | 3/16/2022 | 19.34 | 0 | NG/L | 65 | |
| 8260 TVOC | 3/16/2022 | 0 | 0 | UG/L | 65 | |
| Perfluorobutyric acid (PFBA) | 3/16/2022 | 5.2 | 2.1 | NG/L | 65 | |
| Perfluoroheptanoic acid (PFHpA) | 3/16/2022 | 1.41 | 2.1 | NG/L | 65 | J |
| Perfluorohexanesulfonate (PFHxS) | 3/16/2022 | 1.34 | 1.91 | NG/L | 65 | J |
| Perfluorohexanoic acid (PFHxA) | 3/16/2022 | 1.31 | 2.1 | NG/L | 65 | J |
| Perfluorooctanesulfonate (PFOS) | 3/16/2022 | 5.22 | 2.1 | NG/L | 65 | |
| Perfluorooctanoic acid (PFOA) | 3/16/2022 | 3.21 | 2.1 | NG/L | 65 | |
| Perfluoropentanoic acid (PFPeA) | 3/16/2022 | 1.65 | 2.1 | NG/L | 65 | J |
| 1,4-Dioxane | 10/24/2022 | 0.73 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 10/24/2022 | 8.828 | 0 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/24/2022 | 0.854 | 1.77 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 10/24/2022 | 0.88 | 1.61 | NG/L | 0 | J |
| Perfluorohexanoic acid (PFHxA) | 10/24/2022 | 1.39 | 1.77 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 10/24/2022 | 3.26 | 1.77 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 10/24/2022 | 1.58 | 1.77 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 10/24/2022 | 0.864 | 1.77 | NG/L | 0 | J |
| 8260 TVOC | 10/24/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 10/26/2022 | 0.56 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 10/26/2022 | 7.073 | 0 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/26/2022 | 0.749 | 1.65 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 10/26/2022 | 0.649 | 1.5 | NG/L | 0 | J |
| Perfluorohexanoic acid (PFHxA) | 10/26/2022 | 0.891 | 1.65 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 10/26/2022 | 2.75 | 1.65 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 10/26/2022 | 1.41 | 1.65 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 10/26/2022 | 0.624 | 1.65 | NG/L | 0 | J |
| 8260 TVOC | 10/26/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 10/28/2022 | 0.56 | 0.21 | UG/L | 0 | |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| 537 TPFAS | 10/28/2022 | 5.002 | 0 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/28/2022 | 0.734 | 1.63 | NG/L | 0 | J |
| Perfluorohexanoic acid (PFHxA) | 10/28/2022 | 0.797 | 1.79 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 10/28/2022 | 2.48 | 1.79 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 10/28/2022 | 0.991 | 1.79 | NG/L | 0 | J |
| 1,1-Dichloroethylene | 10/28/2022 | 0.18 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 10/28/2022 | 0.46 | 0 | UG/L | 0 | |
| Chloroform | 10/28/2022 | 0.28 | 0.5 | UG/L | 0 | J |
| 1,4-Dioxane | 10/31/2022 | 0.62 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 10/31/2022 | 3.04 | 0 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/31/2022 | 0.71 | 1.5 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 10/31/2022 | 2.33 | 1.64 | NG/L | 0 | |
| 8260 TVOC | 10/31/2022 | 0.32 | 0 | UG/L | 0 | |
| Chloroform | 10/31/2022 | 0.32 | 0.5 | UG/L | 0 | J |
| 1,4-Dioxane | 11/7/2022 | 0.52 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 11/7/2022 | 6.068 | 0 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 11/7/2022 | 0.944 | 1.63 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 11/7/2022 | 0.784 | 1.49 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 11/7/2022 | 3.21 | 1.63 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 11/7/2022 | 1.13 | 1.63 | NG/L | 0 | J |
| 8260 TVOC | 11/7/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 11/14/2022 | 0.5 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 11/14/2022 | 5.086 | 0 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 11/14/2022 | 0.747 | 1.68 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 11/14/2022 | 0.645 | 1.53 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 11/14/2022 | 2.73 | 1.68 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 11/14/2022 | 0.964 | 1.68 | NG/L | 0 | J |
| 8260 TVOC | 11/14/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 11/21/2022 | 0.368 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 11/21/2022 | 2.942 | 0 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/21/2022 | 0.752 | 1.5 | NG/L | 0 | Jh |
| Perfluorooctanesulfonate (PFOS) | 11/21/2022 | 2.19 | 1.65 | NG/L | 0 | h |
| 8260 TVOC | 11/21/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 11/28/2022 | 0.63 | 0.2 | UG/L | 0 | |
| 1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS) | 11/28/2022 | 2.08 | 3.26 | NG/L | 0 | J |
| 537 TPFAS | 11/28/2022 | 534.61 | 0 | NG/L | 0 | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 11/28/2022 | 10.3 | 3.23 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/28/2022 | 12 | 1.51 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 11/28/2022 | 6.01 | 3.4 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 11/28/2022 | 9.73 | 1.7 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 11/28/2022 | 4.95 | 1.61 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 11/28/2022 | 9.08 | 1.7 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/28/2022 | 119 | 1.55 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/28/2022 | 28.3 | 1.7 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/28/2022 | 1.14 | 1.7 | NG/L | 0 | J |
| Perfluorooctane sulfonamide (PFOSAm) | 11/28/2022 | 2.22 | 1.7 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 11/28/2022 | 273 | 8.49 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 11/28/2022 | 11.1 | 1.7 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/28/2022 | 16.1 | 1.6 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 11/28/2022 | 29.6 | 1.7 | NG/L | 0 | |
| 8260 TVOC | 11/28/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 12/5/2022 | 0.41 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 12/5/2022 | 5.196 | 0 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 12/5/2022 | 0.789 | 1.82 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 12/5/2022 | 0.987 | 1.65 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 12/5/2022 | 2.39 | 1.82 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 12/5/2022 | 1.03 | 1.82 | NG/L | 0 | J |
| 8260 TVOC | 12/5/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 12/12/2022 | 0.35 | 0.21 | UG/L | 0 | |
| 537 TPFAS | 12/12/2022 | 4.887 | 0 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 12/12/2022 | 1.01 | 1.73 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 12/12/2022 | 0.767 | 1.57 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 12/12/2022 | 2.16 | 1.73 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 12/12/2022 | 0.95 | 1.73 | NG/L | 0 | J |
| 8260 TVOC | 12/12/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 12/20/2022 | 0.42 | 0.18 | UG/L | 0 | |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| 537 TPFAS | 12/20/2022 | 2.487 | 0 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 12/20/2022 | 0.617 | 1.6 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 12/20/2022 | 1.87 | 1.75 | NG/L | 0 | |
| 8260 TVOC | 12/20/2022 | 0.21 | 0 | UG/L | 0 | |
| Chloroform | 12/20/2022 | 0.21 | 0.5 | UG/L | 0 | J |

**Site ID :** 083-46 (CF-RW-D)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 537 TPFAS | 3/16/2022 | 310.43 | 0 | NG/L | 65 | |
| 8260 TVOC | 3/16/2022 | 1.68 | 0 | UG/L | 65 | |
| Perfluorobutanesulfonate (PFBS) | 3/16/2022 | 1.55 | 1.72 | NG/L | 65 | J |
| Perfluorobutyric acid (PFBA) | 3/16/2022 | 2.04 | 1.93 | NG/L | 65 | |
| Perfluoroheptanesulfonate (PFHpS) | 3/16/2022 | 3.25 | 1.84 | NG/L | 65 | |
| Perfluoroheptanoic acid (PFHpA) | 3/16/2022 | 1.62 | 1.93 | NG/L | 65 | J |
| Perfluorohexanesulfonate (PFHxS) | 3/16/2022 | 59 | 17.6 | NG/L | 65 | D |
| Perfluorohexanoic acid (PFHxA) | 3/16/2022 | 6.18 | 1.93 | NG/L | 65 | |
| Perfluorononanoic acid (PFNA) | 3/16/2022 | 8.02 | 1.93 | NG/L | 65 | |
| Perfluorooctanesulfonate (PFOS) | 3/16/2022 | 218 | 19.3 | NG/L | 65 | D |
| Perfluorooctanoic acid (PFOA) | 3/16/2022 | 5.14 | 1.93 | NG/L | 65 | |
| Perfluoropentanesulfonate (PFPeS) | 3/16/2022 | 3.44 | 1.82 | NG/L | 65 | |
| Perfluoropentanoic acid (PFPeA) | 3/16/2022 | 2.19 | 1.93 | NG/L | 65 | |
| Toluene | 3/16/2022 | 1.68 | 0.5 | UG/L | 65 | |
| 537 TPFAS | 10/24/2022 | 405.34 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/24/2022 | 1.34 | 1.57 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 10/24/2022 | 1.59 | 1.76 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 10/24/2022 | 1.98 | 1.67 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/24/2022 | 1.27 | 1.76 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 10/24/2022 | 50.4 | 1.6 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/24/2022 | 3.46 | 1.76 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/24/2022 | 2.66 | 1.76 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/24/2022 | 336 | 8.81 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/24/2022 | 3.33 | 1.76 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/24/2022 | 1.61 | 1.66 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 10/24/2022 | 1.7 | 1.76 | NG/L | 0 | J |
| 8260 TVOC | 10/24/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 10/26/2022 | 339.776 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/26/2022 | 0.906 | 1.51 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 10/26/2022 | 1.52 | 1.7 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 10/26/2022 | 1.5 | 1.61 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 10/26/2022 | 1.13 | 1.7 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 10/26/2022 | 35.8 | 1.55 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/26/2022 | 3.12 | 1.7 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/26/2022 | 3.46 | 1.7 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/26/2022 | 287 | 8.49 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/26/2022 | 2.69 | 1.7 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/26/2022 | 1.28 | 1.6 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 10/26/2022 | 1.37 | 1.7 | NG/L | 0 | J |
| 8260 TVOC | 10/26/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 10/28/2022 | 273.59 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/28/2022 | 1.09 | 1.52 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 10/28/2022 | 1.69 | 1.7 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 10/28/2022 | 1.61 | 1.62 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 10/28/2022 | 1.42 | 1.7 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 10/28/2022 | 35.2 | 1.55 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/28/2022 | 3.93 | 1.7 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/28/2022 | 4.87 | 1.7 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/28/2022 | 218 | 8.52 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/28/2022 | 3.04 | 1.7 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/28/2022 | 1.34 | 1.6 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 10/28/2022 | 1.4 | 1.7 | NG/L | 0 | J |
| 8260 TVOC | 10/28/2022 | 0.26 | 0 | UG/L | 0 | |
| Chloroform | 10/28/2022 | 0.26 | 0.5 | UG/L | 0 | J |
| 537 TPFAS | 10/31/2022 | 380.79 | 0 | NG/L | 0 | |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| Perfluorobutanesulfonate (PFBS) | 10/31/2022 | 0.98 | 1.49 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 10/31/2022 | 1.85 | 1.68 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/31/2022 | 1.6 | 1.6 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/31/2022 | 1.33 | 1.68 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 10/31/2022 | 41.1 | 1.53 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/31/2022 | 3.69 | 1.68 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/31/2022 | 5.22 | 1.68 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/31/2022 | 319 | 8.39 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/31/2022 | 3.43 | 1.68 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/31/2022 | 1.29 | 1.58 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 10/31/2022 | 1.3 | 1.68 | NG/L | 0 | J |
| 8260 TVOC | 10/31/2022 | 0.28 | 0 | UG/L | 0 | |
| Chloroform | 10/31/2022 | 0.28 | 0.5 | UG/L | 0 | J |
| 537 TPFAS | 11/7/2022 | 618.89 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/7/2022 | 1.16 | 1.47 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 11/7/2022 | 1.86 | 1.65 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 11/7/2022 | 2.2 | 1.56 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 11/7/2022 | 1.84 | 1.65 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/7/2022 | 44.8 | 1.5 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/7/2022 | 5.34 | 1.65 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/7/2022 | 7.13 | 1.65 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 11/7/2022 | 547 | 8.24 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 11/7/2022 | 4.25 | 1.65 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/7/2022 | 1.55 | 1.55 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 11/7/2022 | 1.76 | 1.65 | NG/L | 0 | |
| 8260 TVOC | 11/7/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/14/2022 | 423.74 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/14/2022 | 1.09 | 1.48 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 11/14/2022 | 1.65 | 1.67 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 11/14/2022 | 1.45 | 1.58 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 11/14/2022 | 1.53 | 1.67 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 11/14/2022 | 35.3 | 1.52 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/14/2022 | 4.14 | 1.67 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/14/2022 | 5.18 | 1.67 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 11/14/2022 | 367 | 8.34 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 11/14/2022 | 3.25 | 1.67 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/14/2022 | 1.43 | 1.57 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 11/14/2022 | 1.72 | 1.67 | NG/L | 0 | |
| 8260 TVOC | 11/14/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/21/2022 | 362.11 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/21/2022 | 0.93 | 1.51 | NG/L | 0 | Jh |
| Perfluorobutyric acid (PFBA) | 11/21/2022 | 1.34 | 1.69 | NG/L | 0 | Jh |
| Perfluoroheptanesulfonate (PFHpS) | 11/21/2022 | 1.52 | 1.61 | NG/L | 0 | Jh |
| Perfluoroheptanoic acid (PFHpA) | 11/21/2022 | 1.33 | 1.69 | NG/L | 0 | Jh |
| Perfluorohexanesulfonate (PFHxS) | 11/21/2022 | 30.8 | 1.54 | NG/L | 0 | h |
| Perfluorohexanoic acid (PFHxA) | 11/21/2022 | 3.59 | 1.69 | NG/L | 0 | h |
| Perfluorononanoic acid (PFNA) | 11/21/2022 | 4.03 | 1.69 | NG/L | 0 | h |
| Perfluorooctanesulfonate (PFOS) | 11/21/2022 | 313 | 8.46 | NG/L | 0 | Dh |
| Perfluorooctanoic acid (PFOA) | 11/21/2022 | 2.9 | 1.69 | NG/L | 0 | h |
| Perfluoropentanesulfonate (PFPeS) | 11/21/2022 | 1.31 | 1.59 | NG/L | 0 | Jh |
| Perfluoropentanoic acid (PFPeA) | 11/21/2022 | 1.36 | 1.69 | NG/L | 0 | Jh |
| 8260 TVOC | 11/21/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/28/2022 | 354.961 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/28/2022 | 0.851 | 1.58 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 11/28/2022 | 1.52 | 1.77 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 11/28/2022 | 1.6 | 1.68 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 11/28/2022 | 1.56 | 1.77 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 11/28/2022 | 34.3 | 1.61 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/28/2022 | 3.71 | 1.77 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/28/2022 | 4.13 | 1.77 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 11/28/2022 | 301 | 8.85 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 11/28/2022 | 3.55 | 1.77 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/28/2022 | 1.2 | 1.66 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 11/28/2022 | 1.54 | 1.77 | NG/L | 0 | J |
| 8260 TVOC | 11/28/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 12/5/2022 | 333.18 | 0 | NG/L | 0 | |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| Perfluorobutanesulfonate (PFBS) | 12/5/2022 | 1.1 | 1.61 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 12/5/2022 | 1.68 | 1.8 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 12/5/2022 | 1.83 | 1.71 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 12/5/2022 | 1.42 | 1.8 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 12/5/2022 | 39.7 | 1.64 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/5/2022 | 4.57 | 1.8 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 12/5/2022 | 5.03 | 1.8 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 12/5/2022 | 271 | 9.02 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 12/5/2022 | 3.5 | 1.8 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 12/5/2022 | 1.6 | 1.7 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 12/5/2022 | 1.75 | 1.8 | NG/L | 0 | J |
| 8260 TVOC | 12/5/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 12/12/2022 | 328.225 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/12/2022 | 0.815 | 1.59 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 12/12/2022 | 1.42 | 1.79 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 12/12/2022 | 1.79 | 1.7 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 12/12/2022 | 1.3 | 1.79 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 12/12/2022 | 32.3 | 1.62 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/12/2022 | 3.52 | 1.79 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 12/12/2022 | 4.12 | 1.79 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 12/12/2022 | 277 | 8.93 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 12/12/2022 | 3.26 | 1.79 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 12/12/2022 | 1.14 | 1.68 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 12/12/2022 | 1.56 | 1.79 | NG/L | 0 | J |
| 8260 TVOC | 12/12/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 12/20/2022 | 309.892 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/20/2022 | 0.902 | 1.53 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 12/20/2022 | 1.44 | 1.72 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 12/20/2022 | 1.49 | 1.63 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 12/20/2022 | 1.22 | 1.72 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 12/20/2022 | 34.5 | 1.56 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/20/2022 | 3.57 | 1.72 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 12/20/2022 | 3.95 | 1.72 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 12/20/2022 | 257 | 8.59 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 12/20/2022 | 3.01 | 1.72 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 12/20/2022 | 1.31 | 1.61 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 12/20/2022 | 1.5 | 1.72 | NG/L | 0 | J |
| 8260 TVOC | 12/20/2022 | 0.29 | 0 | UG/L | 0 | |
| Chloroform | 12/20/2022 | 0.29 | 0.5 | UG/L | 0 | J |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

**Site ID :** 084-102 (CF-RW-E)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 1,4-Dioxane | 3/16/2022 | 0.81 | 0.2 | UG/L | 65 | |
| 537 TPFAS | 3/16/2022 | 1071.52 | 0 | NG/L | 65 | |
| 8260 TVOC | 3/16/2022 | 1.05 | 0 | UG/L | 65 | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 3/16/2022 | 4.04 | 3.35 | NG/L | 65 | |
| m/p xylene | 3/16/2022 | 0.55 | 0.5 | UG/L | 65 | J |
| Perfluorobutanesulfonate (PFBS) | 3/16/2022 | 19.7 | 1.57 | NG/L | 65 | |
| Perfluorobutyric acid (PFBA) | 3/16/2022 | 10.2 | 1.76 | NG/L | 65 | |
| Perfluoroheptanesulfonate (PFHpS) | 3/16/2022 | 9.22 | 1.67 | NG/L | 65 | |
| Perfluoroheptanoic acid (PFHpA) | 3/16/2022 | 8.86 | 1.76 | NG/L | 65 | |
| Perfluorohexanesulfonate (PFHxS) | 3/16/2022 | 345 | 16 | NG/L | 65 | D |
| Perfluorohexanoic acid (PFHxA) | 3/16/2022 | 47.1 | 1.76 | NG/L | 65 | |
| Perfluorooctanesulfonate (PFOS) | 3/16/2022 | 543 | 17.6 | NG/L | 65 | D |
| Perfluorooctanoic acid (PFOA) | 3/16/2022 | 39.2 | 1.76 | NG/L | 65 | |
| Perfluoropentanesulfonate (PFPeS) | 3/16/2022 | 27.8 | 1.66 | NG/L | 65 | |
| Perfluoropentanoic acid (PFPeA) | 3/16/2022 | 17.4 | 1.76 | NG/L | 65 | |
| Toluene | 3/16/2022 | 0.5 | 0.5 | UG/L | 65 | J |
| 1,4-Dioxane | 10/24/2022 | 0.44 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 10/24/2022 | 741.32 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/24/2022 | 13.6 | 1.57 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/24/2022 | 11.4 | 3.52 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/24/2022 | 6.01 | 1.76 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/24/2022 | 6.87 | 1.67 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/24/2022 | 7.32 | 1.76 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/24/2022 | 171 | 1.6 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/24/2022 | 35.6 | 1.76 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/24/2022 | 4.12 | 1.76 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/24/2022 | 425 | 8.8 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/24/2022 | 22.5 | 1.76 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/24/2022 | 19.9 | 1.65 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/24/2022 | 18 | 1.76 | NG/L | 0 | |
| 1,1-Dichloroethane | 10/24/2022 | 0.29 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 10/24/2022 | 1.89 | 0 | UG/L | 0 | |
| Chloroform | 10/24/2022 | 1.6 | 0.5 | UG/L | 0 | |
| 1,4-Dioxane | 10/26/2022 | 0.38 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 10/26/2022 | 620.07 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/26/2022 | 11.5 | 1.47 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/26/2022 | 11 | 3.29 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/26/2022 | 4.85 | 1.65 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/26/2022 | 5.79 | 1.56 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/26/2022 | 6.43 | 1.65 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/26/2022 | 152 | 1.5 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/26/2022 | 31.5 | 1.65 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/26/2022 | 10.2 | 1.65 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/26/2022 | 333 | 8.23 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/26/2022 | 22 | 1.65 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/26/2022 | 16.8 | 1.55 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/26/2022 | 15 | 1.65 | NG/L | 0 | |
| 8260 TVOC | 10/26/2022 | 1.5 | 0 | UG/L | 0 | |
| Chloroform | 10/26/2022 | 1.5 | 0.5 | UG/L | 0 | |
| 1,4-Dioxane | 10/28/2022 | 0.31 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 10/28/2022 | 1071.83 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/28/2022 | 10.1 | 1.62 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/28/2022 | 11.9 | 1.53 | NG/L | 0 | h |
| Perfluorobutylsulfonamide (FBSA) | 10/28/2022 | 9.82 | 3.63 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/28/2022 | 10.8 | 3.45 | NG/L | 0 | h |
| Perfluorobutyric acid (PFBA) | 10/28/2022 | 4.64 | 1.82 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/28/2022 | 5.95 | 1.72 | NG/L | 0 | h |
| Perfluoroheptanesulfonate (PFHpS) | 10/28/2022 | 5.42 | 1.73 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/28/2022 | 7.11 | 1.64 | NG/L | 0 | h |
| Perfluoroheptanoic acid (PFHpA) | 10/28/2022 | 6.05 | 1.72 | NG/L | 0 | h |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| Perfluoroheptanoic acid (PFHpA) | 10/28/2022 | 6.12 | 1.82 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/28/2022 | 134 | 1.65 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/28/2022 | 161 | 1.57 | NG/L | 0 | h |
| Perfluorohexanoic acid (PFHxA) | 10/28/2022 | 27.7 | 1.82 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/28/2022 | 35.7 | 1.72 | NG/L | 0 | h |
| Perfluorononanoic acid (PFNA) | 10/28/2022 | 22.1 | 1.82 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/28/2022 | 28.4 | 1.72 | NG/L | 0 | h |
| Perfluorooctane sulfonamide (PFOSAm) | 10/28/2022 | 0.72 | 1.72 | NG/L | 0 | Jh |
| Perfluorooctanesulfonate (PFOS) | 10/28/2022 | 205 | 9.09 | NG/L | 0 | D |
| Perfluorooctanesulfonate (PFOS) | 10/28/2022 | 278 | 8.61 | NG/L | 0 | Dh |
| Perfluorooctanoic acid (PFOA) | 10/28/2022 | 17.9 | 1.82 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 10/28/2022 | 22.6 | 1.72 | NG/L | 0 | h |
| Perfluoropentanesulfonate (PFPeS) | 10/28/2022 | 14.1 | 1.71 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/28/2022 | 18.4 | 1.62 | NG/L | 0 | h |
| Perfluoropentanoic acid (PFPeA) | 10/28/2022 | 12.5 | 1.82 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/28/2022 | 15.8 | 1.72 | NG/L | 0 | h |
| 1,1-Dichloroethane | 10/28/2022 | 0.27 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 10/28/2022 | 1.87 | 0 | UG/L | 0 | |
| Chloroform | 10/28/2022 | 1.6 | 0.5 | UG/L | 0 | |
| 1,4-Dioxane | 10/31/2022 | 0.38 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 10/31/2022 | 531.05 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/31/2022 | 9.06 | 1.48 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/31/2022 | 7.94 | 3.33 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/31/2022 | 5.13 | 1.66 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/31/2022 | 4.81 | 1.58 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/31/2022 | 5.01 | 1.66 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/31/2022 | 126 | 1.51 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/31/2022 | 19.4 | 1.66 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/31/2022 | 37 | 1.66 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/31/2022 | 275 | 8.32 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/31/2022 | 17.7 | 1.66 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/31/2022 | 11.8 | 1.56 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/31/2022 | 12.2 | 1.66 | NG/L | 0 | |
| 1,1-Dichloroethane | 10/31/2022 | 0.28 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 10/31/2022 | 1.88 | 0 | UG/L | 0 | |
| Chloroform | 10/31/2022 | 1.6 | 0.5 | UG/L | 0 | |
| 1,4-Dioxane | 11/7/2022 | 0.33 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 11/7/2022 | 591.801 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/7/2022 | 11 | 1.56 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 11/7/2022 | 7.95 | 3.5 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 11/7/2022 | 4.74 | 1.75 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 11/7/2022 | 5.85 | 1.66 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 11/7/2022 | 6.24 | 1.75 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/7/2022 | 172 | 1.59 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/7/2022 | 25.7 | 1.75 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/7/2022 | 71.3 | 1.75 | NG/L | 0 | |
| Perfluorooctane sulfonamide (PFOSAm) | 11/7/2022 | 0.821 | 1.75 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 11/7/2022 | 234 | 8.76 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 11/7/2022 | 23 | 1.75 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/7/2022 | 17.1 | 1.65 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 11/7/2022 | 12.1 | 1.75 | NG/L | 0 | |
| 8260 TVOC | 11/7/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 11/14/2022 | 0.32 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 11/14/2022 | 525.532 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/14/2022 | 8.07 | 1.5 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 11/14/2022 | 6.74 | 3.38 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 11/14/2022 | 4.25 | 1.69 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 11/14/2022 | 5.13 | 1.6 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 11/14/2022 | 5.7 | 1.69 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/14/2022 | 136 | 1.54 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/14/2022 | 21.9 | 1.69 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/14/2022 | 72.9 | 1.69 | NG/L | 0 | |
| Perfluorooctane sulfonamide (PFOSAm) | 11/14/2022 | 0.742 | 1.69 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 11/14/2022 | 217 | 8.44 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 11/14/2022 | 19.4 | 1.69 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/14/2022 | 16 | 1.59 | NG/L | 0 | |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| Perfluoropentanoic acid (PFPeA) | 11/14/2022 | 11.7 | 1.69 | NG/L | 0 | |
| 1,1-Dichloroethane | 11/14/2022 | 0.23 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 11/14/2022 | 0.23 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 11/21/2022 | 0.118 | 0.2 | UG/L | 0 | J |
| 537 TPFAS | 11/21/2022 | 454.335 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/21/2022 | 7.15 | 1.5 | NG/L | 0 | h |
| Perfluorobutylsulfonamide (FBSA) | 11/21/2022 | 5.29 | 3.36 | NG/L | 0 | h |
| Perfluorobutyric acid (PFBA) | 11/21/2022 | 3.38 | 1.68 | NG/L | 0 | h |
| Perfluoroheptanesulfonate (PFHpS) | 11/21/2022 | 5.22 | 1.6 | NG/L | 0 | h |
| Perfluoroheptanoic acid (PFHpA) | 11/21/2022 | 4.1 | 1.68 | NG/L | 0 | h |
| Perfluorohexanesulfonate (PFHxS) | 11/21/2022 | 121 | 1.53 | NG/L | 0 | h |
| Perfluorohexanoic acid (PFHxA) | 11/21/2022 | 18.3 | 1.68 | NG/L | 0 | h |
| Perfluorononanoic acid (PFNA) | 11/21/2022 | 77.8 | 1.68 | NG/L | 0 | h |
| Perfluorooctane sulfonamide (PFOSAm) | 11/21/2022 | 0.885 | 1.68 | NG/L | 0 | Jh |
| Perfluorooctanesulfonate (PFOS) | 11/21/2022 | 173 | 8.41 | NG/L | 0 | Dh |
| Perfluorooctanoic acid (PFOA) | 11/21/2022 | 18.4 | 1.68 | NG/L | 0 | h |
| Perfluoropentanesulfonate (PFPeS) | 11/21/2022 | 12.1 | 1.58 | NG/L | 0 | h |
| Perfluoropentanoic acid (PFPeA) | 11/21/2022 | 7.71 | 1.68 | NG/L | 0 | h |
| 1,1-Dichloroethane | 11/21/2022 | 0.24 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 11/21/2022 | 0.24 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 11/28/2022 | 0.26 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 11/28/2022 | 533.289 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/28/2022 | 7.26 | 1.5 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 11/28/2022 | 6.68 | 3.38 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 11/28/2022 | 3.44 | 1.69 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 11/28/2022 | 5.13 | 1.6 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 11/28/2022 | 4.59 | 1.69 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/28/2022 | 118 | 1.54 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/28/2022 | 20.4 | 1.69 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/28/2022 | 83 | 1.69 | NG/L | 0 | |
| Perfluorooctane sulfonamide (PFOSAm) | 11/28/2022 | 0.879 | 1.69 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 11/28/2022 | 239 | 8.44 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 11/28/2022 | 24.2 | 1.69 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/28/2022 | 11.1 | 1.59 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 11/28/2022 | 9.61 | 1.69 | NG/L | 0 | |
| 1,1-Dichloroethane | 11/28/2022 | 0.22 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 11/28/2022 | 0.22 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 12/5/2022 | 0.3 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 12/5/2022 | 508.38 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/5/2022 | 6.24 | 1.63 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 12/5/2022 | 6.21 | 3.67 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 12/5/2022 | 3.29 | 1.83 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 12/5/2022 | 5.26 | 1.74 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 12/5/2022 | 4.71 | 1.83 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 12/5/2022 | 115 | 1.67 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/5/2022 | 18.2 | 1.83 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 12/5/2022 | 84.9 | 1.83 | NG/L | 0 | |
| Perfluorooctane sulfonamide (PFOSAm) | 12/5/2022 | 1.12 | 1.83 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 12/5/2022 | 220 | 9.17 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 12/5/2022 | 23.6 | 1.83 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 12/5/2022 | 11.1 | 1.72 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 12/5/2022 | 8.75 | 1.83 | NG/L | 0 | |
| 1,1-Dichloroethane | 12/5/2022 | 0.3 | 0.5 | UG/L | 0 | J |
| 8260 TVOC | 12/5/2022 | 0.3 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 12/20/2022 | 0.28 | 0.19 | UG/L | 0 | |
| 537 TPFAS | 12/20/2022 | 502.804 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/20/2022 | 6.34 | 1.61 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 12/20/2022 | 5.6 | 3.62 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 12/20/2022 | 3.51 | 1.81 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 12/20/2022 | 4.39 | 1.72 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 12/20/2022 | 4.25 | 1.81 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 12/20/2022 | 124 | 1.65 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/20/2022 | 20.4 | 1.81 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 12/20/2022 | 71.9 | 1.81 | NG/L | 0 | |
| Perfluorooctane sulfonamide (PFOSAm) | 12/20/2022 | 0.614 | 1.81 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 12/20/2022 | 218 | 9.04 | NG/L | 0 | D |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| Perfluorooctanoic acid (PFOA) | 12/20/2022 | 23.2 | 1.81 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 12/20/2022 | 11.6 | 1.7 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 12/20/2022 | 9 | 1.81 | NG/L | 0 | |
| 8260 TVOC | 12/20/2022 | 1.4 | 0 | UG/L | 0 | |
| Chloroform | 12/20/2022 | 1.4 | 0.5 | UG/L | 0 | |

**Site ID :** 102-32 (CF-RW-F)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 537 TPFAS | 6/13/2022 | 0.888 | 0 | NG/L | 60 | |
| 8260 TVOC | 6/13/2022 | 0.65 | 0 | UG/L | 60 | |
| Chloroform | 6/13/2022 | 0.65 | 0.5 | UG/L | 60 | J |
| Perfluorooctanesulfonate (PFOS) | 6/13/2022 | 0.888 | 2.27 | NG/L | 60 | J |
| 537 TPFAS | 10/24/2022 | 3.41 | 0 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/24/2022 | 1.1 | 1.61 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 10/24/2022 | 2.31 | 1.77 | NG/L | 0 | |
| 8260 TVOC | 10/24/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 10/26/2022 | 3.434 | 0 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/26/2022 | 0.974 | 1.62 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 10/26/2022 | 2.46 | 1.78 | NG/L | 0 | J |
| 8260 TVOC | 10/26/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 10/28/2022 | 2.539 | 0 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/28/2022 | 0.699 | 1.67 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 10/28/2022 | 1.84 | 1.83 | NG/L | 0 | |
| 8260 TVOC | 10/28/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 10/31/2022 | 2.88 | 0 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/31/2022 | 0.91 | 1.48 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 10/31/2022 | 1.97 | 1.63 | NG/L | 0 | |
| 8260 TVOC | 10/31/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/7/2022 | 4.48 | 0 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/7/2022 | 1.27 | 1.62 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 11/7/2022 | 3.21 | 1.78 | NG/L | 0 | |
| 8260 TVOC | 11/7/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/14/2022 | 3.99 | 0 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/14/2022 | 1.53 | 1.56 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 11/14/2022 | 2.46 | 1.72 | NG/L | 0 | |
| 8260 TVOC | 11/14/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/21/2022 | 4.33 | 0 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/21/2022 | 1.78 | 1.52 | NG/L | 0 | h |
| Perfluorooctanesulfonate (PFOS) | 11/21/2022 | 2.55 | 1.67 | NG/L | 0 | h |
| 8260 TVOC | 11/21/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/28/2022 | 5.79 | 0 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/28/2022 | 1.54 | 1.62 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 11/28/2022 | 4.25 | 1.78 | NG/L | 0 | |
| 8260 TVOC | 11/28/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 12/5/2022 | 26.642 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/5/2022 | 0.783 | 1.63 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 12/5/2022 | 0.748 | 1.84 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 12/5/2022 | 11.3 | 1.67 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/5/2022 | 1.09 | 1.84 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 12/5/2022 | 10.3 | 1.84 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 12/5/2022 | 0.861 | 1.84 | NG/L | 0 | J |
| Perfluoropentanesulfonate (PFPeS) | 12/5/2022 | 1.56 | 1.73 | NG/L | 0 | J |
| 8260 TVOC | 12/5/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 12/12/2022 | 5.66 | 0 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 12/12/2022 | 1.69 | 1.54 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 12/12/2022 | 3.97 | 1.7 | NG/L | 0 | |
| 8260 TVOC | 12/12/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 12/20/2022 | 8.96 | 0 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 12/20/2022 | 2.24 | 1.63 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 12/20/2022 | 6.72 | 1.79 | NG/L | 0 | |
| 8260 TVOC | 12/20/2022 | 0 | 0 | UG/L | 0 | |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

**Site ID :** 102-33 (CF-RW-G)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 537 TPFAS | 6/13/2022 | 14.988 | 0 | NG/L | 65 | |
| 8260 TVOC | 6/13/2022 | 32.23 | 0 | UG/L | 65 | |
| Chloroform | 6/13/2022 | 19.9 | 0.5 | UG/L | 65 | |
| Methyl chloride | 6/13/2022 | 0.55 | 0.5 | UG/L | 65 | J |
| Methylene chloride | 6/13/2022 | 11.3 | 0.5 | UG/L | 65 | |
| Perfluorobutanesulfonate (PFBS) | 6/13/2022 | 4.09 | 1.92 | NG/L | 65 | |
| Perfluorobutyric acid (PFBA) | 6/13/2022 | 1.32 | 2.16 | NG/L | 65 | J |
| Perfluorohexanesulfonate (PFHxS) | 6/13/2022 | 1.44 | 1.96 | NG/L | 65 | J |
| Perfluorohexanoic acid (PFHxA) | 6/13/2022 | 0.828 | 2.16 | NG/L | 65 | J |
| Perfluorooctanesulfonate (PFOS) | 6/13/2022 | 4.38 | 2.16 | NG/L | 65 | |
| Perfluorooctanoic acid (PFOA) | 6/13/2022 | 1.11 | 2.16 | NG/L | 65 | J |
| Perfluoropentanoic acid (PFPeA) | 6/13/2022 | 1.82 | 2.16 | NG/L | 65 | J |
| Toluene | 6/13/2022 | 0.48 | 0.5 | UG/L | 65 | J |
| 1,4-Dioxane | 6/13/2022 | 0.6 | 0.2 | UG/L | 65 | |
| 537 TPFAS | 10/24/2022 | 15.45 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/24/2022 | 3.28 | 1.6 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/24/2022 | 1.35 | 1.79 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 10/24/2022 | 1.29 | 1.63 | NG/L | 0 | J |
| Perfluorohexanoic acid (PFHxA) | 10/24/2022 | 1.5 | 1.79 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 10/24/2022 | 4.64 | 1.79 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 10/24/2022 | 2.09 | 1.79 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/24/2022 | 1.3 | 1.79 | NG/L | 0 | J |
| 8260 TVOC | 10/24/2022 | 0.71 | 0 | UG/L | 0 | |
| Chloroform | 10/24/2022 | 0.71 | 0.5 | UG/L | 0 | |
| 537 TPFAS | 10/26/2022 | 18.029 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/26/2022 | 4.4 | 1.47 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/26/2022 | 1.35 | 1.65 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 10/26/2022 | 0.589 | 1.65 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 10/26/2022 | 1.29 | 1.5 | NG/L | 0 | J |
| Perfluorohexanoic acid (PFHxA) | 10/26/2022 | 1.78 | 1.65 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/26/2022 | 4.91 | 1.65 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 10/26/2022 | 2.04 | 1.65 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/26/2022 | 1.67 | 1.65 | NG/L | 0 | |
| 8260 TVOC | 10/26/2022 | 0.65 | 0 | UG/L | 0 | |
| Chloroform | 10/26/2022 | 0.65 | 0.5 | UG/L | 0 | |
| 537 TPFAS | 10/28/2022 | 16.61 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/28/2022 | 4.95 | 1.65 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/28/2022 | 1.24 | 1.85 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 10/28/2022 | 1.34 | 1.69 | NG/L | 0 | J |
| Perfluorohexanoic acid (PFHxA) | 10/28/2022 | 1.46 | 1.85 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 10/28/2022 | 4.51 | 1.85 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 10/28/2022 | 1.8 | 1.85 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 10/28/2022 | 1.31 | 1.85 | NG/L | 0 | J |
| 8260 TVOC | 10/28/2022 | 0.81 | 0 | UG/L | 0 | |
| Chloroform | 10/28/2022 | 0.81 | 0.5 | UG/L | 0 | |
| 537 TPFAS | 10/31/2022 | 15.25 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/31/2022 | 4.35 | 1.45 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/31/2022 | 1.45 | 1.63 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 10/31/2022 | 1.51 | 1.48 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/31/2022 | 1.17 | 1.63 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 10/31/2022 | 3.93 | 1.63 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 10/31/2022 | 1.74 | 1.63 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/31/2022 | 1.1 | 1.63 | NG/L | 0 | J |
| 8260 TVOC | 10/31/2022 | 0.8 | 0 | UG/L | 0 | |
| Chloroform | 10/31/2022 | 0.8 | 0.5 | UG/L | 0 | |
| 537 TPFAS | 11/7/2022 | 18.163 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/7/2022 | 4.98 | 1.65 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 11/7/2022 | 1.4 | 1.85 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 11/7/2022 | 0.693 | 1.85 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 11/7/2022 | 1.2 | 1.69 | NG/L | 0 | J |
| Perfluorohexanoic acid (PFHxA) | 11/7/2022 | 1.48 | 1.85 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 11/7/2022 | 5.03 | 1.85 | NG/L | 0 | |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| Perfluorooctanoic acid (PFOA) | 11/7/2022 | 2.16 | 1.85 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 11/7/2022 | 1.22 | 1.85 | NG/L | 0 | J |
| 8260 TVOC | 11/7/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/14/2022 | 16.9 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/14/2022 | 5.23 | 1.48 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 11/14/2022 | 1.49 | 1.66 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 11/14/2022 | 1.54 | 1.51 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/14/2022 | 1.25 | 1.66 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 11/14/2022 | 4.43 | 1.66 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 11/14/2022 | 1.77 | 1.66 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 11/14/2022 | 1.19 | 1.66 | NG/L | 0 | J |
| 8260 TVOC | 11/14/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/21/2022 | 13.354 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/21/2022 | 4.06 | 1.49 | NG/L | 0 | h |
| Perfluorobutyric acid (PFBA) | 11/21/2022 | 1.05 | 1.67 | NG/L | 0 | Jh |
| Perfluorohexanesulfonate (PFHxS) | 11/21/2022 | 1.29 | 1.52 | NG/L | 0 | Jh |
| Perfluorohexanoic acid (PFHxA) | 11/21/2022 | 1.11 | 1.67 | NG/L | 0 | Jh |
| Perfluorooctanesulfonate (PFOS) | 11/21/2022 | 3.84 | 1.67 | NG/L | 0 | h |
| Perfluorooctanoic acid (PFOA) | 11/21/2022 | 1.11 | 1.67 | NG/L | 0 | Jh |
| Perfluoropentanoic acid (PFPeA) | 11/21/2022 | 0.894 | 1.67 | NG/L | 0 | Jh |
| 8260 TVOC | 11/21/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/28/2022 | 14.77 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/28/2022 | 4.69 | 1.49 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 11/28/2022 | 1.17 | 1.68 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 11/28/2022 | 1.12 | 1.53 | NG/L | 0 | J |
| Perfluorohexanoic acid (PFHxA) | 11/28/2022 | 1.19 | 1.68 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 11/28/2022 | 3.68 | 1.68 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 11/28/2022 | 1.65 | 1.68 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 11/28/2022 | 1.27 | 1.68 | NG/L | 0 | J |
| 8260 TVOC | 11/28/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 12/5/2022 | 21.273 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/5/2022 | 4.62 | 1.58 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 12/5/2022 | 2.16 | 1.78 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 12/5/2022 | 0.663 | 1.78 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 12/5/2022 | 3.07 | 1.62 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/5/2022 | 1.48 | 1.78 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 12/5/2022 | 6.11 | 1.78 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 12/5/2022 | 1.86 | 1.78 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 12/5/2022 | 1.31 | 1.78 | NG/L | 0 | J |
| 8260 TVOC | 12/5/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 12/12/2022 | 13.525 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/12/2022 | 4.23 | 1.67 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 12/12/2022 | 1.11 | 1.87 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 12/12/2022 | 1.13 | 1.71 | NG/L | 0 | J |
| Perfluorohexanoic acid (PFHxA) | 12/12/2022 | 1.13 | 1.87 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 12/12/2022 | 3.6 | 1.87 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 12/12/2022 | 1.4 | 1.87 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 12/12/2022 | 0.925 | 1.87 | NG/L | 0 | J |
| 8260 TVOC | 12/12/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 12/20/2022 | 14.009 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/20/2022 | 4.37 | 1.48 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 12/20/2022 | 1.04 | 1.66 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 12/20/2022 | 1.34 | 1.51 | NG/L | 0 | J |
| Perfluorohexanoic acid (PFHxA) | 12/20/2022 | 1.15 | 1.66 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 12/20/2022 | 3.85 | 1.66 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 12/20/2022 | 1.42 | 1.66 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 12/20/2022 | 0.839 | 1.66 | NG/L | 0 | J |
| 8260 TVOC | 12/20/2022 | 0.68 | 0 | UG/L | 0 | |
| Chloroform | 12/20/2022 | 0.68 | 0.5 | UG/L | 0 | |

**Site ID :** 102-34 (CF-RW-H)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 537 TPFAS | 6/13/2022 | 245.52 | 0 | NG/L | 70 | |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| 8260 TVOC | 6/13/2022 | 245.82 | 0 | UG/L | 70 | |
| Carbon tetrachloride | 6/13/2022 | 0.44 | 0.5 | UG/L | 70 | J |
| Chloroform | 6/13/2022 | 241 | 0.5 | UG/L | 70 | D |
| Methyl chloride | 6/13/2022 | 1.36 | 0.5 | UG/L | 70 | |
| Methylene chloride | 6/13/2022 | 3.02 | 0.5 | UG/L | 70 | J |
| Perfluorobutanesulfonate (PFBS) | 6/13/2022 | 1.52 | 2.04 | NG/L | 70 | J |
| Perfluorobutyric acid (PFBA) | 6/13/2022 | 1.81 | 2.29 | NG/L | 70 | J |
| Perfluoroheptanesulfonate (PFHpS) | 6/13/2022 | 2.12 | 2.18 | NG/L | 70 | J |
| Perfluoroheptanoic acid (PFHpA) | 6/13/2022 | 1.06 | 2.29 | NG/L | 70 | J |
| Perfluorohexanesulfonate (PFHxS) | 6/13/2022 | 35.5 | 2.09 | NG/L | 70 | |
| Perfluorohexanoic acid (PFHxA) | 6/13/2022 | 4.64 | 2.29 | NG/L | 70 | |
| Perfluorononanoic acid (PFNA) | 6/13/2022 | 14.5 | 2.29 | NG/L | 70 | |
| Perfluorooctanesulfonate (PFOS) | 6/13/2022 | 174 | 2.29 | NG/L | 70 | |
| Perfluorooctanoic acid (PFOA) | 6/13/2022 | 2.2 | 2.29 | NG/L | 70 | J |
| Perfluoropentanesulfonate (PFPeS) | 6/13/2022 | 2.8 | 2.15 | NG/L | 70 | |
| Perfluoropentanoic acid (PFPeA) | 6/13/2022 | 5.37 | 2.29 | NG/L | 70 | |
| 1,4-Dioxane | 6/13/2022 | 2.1 | 0.2 | UG/L | 70 | |
| 1,4-Dioxane | 10/24/2022 | 0.3 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 10/24/2022 | 209.28 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/24/2022 | 2.3 | 1.6 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/24/2022 | 1.72 | 3.6 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 10/24/2022 | 1.44 | 1.8 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 10/24/2022 | 2 | 1.71 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/24/2022 | 1.69 | 1.8 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 10/24/2022 | 33 | 1.64 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/24/2022 | 6.75 | 1.8 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/24/2022 | 8.41 | 1.8 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/24/2022 | 143 | 1.8 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 10/24/2022 | 3.09 | 1.8 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/24/2022 | 2.84 | 1.69 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/24/2022 | 3.04 | 1.8 | NG/L | 0 | |
| 8260 TVOC | 10/24/2022 | 0.91 | 0 | UG/L | 0 | |
| Chloroform | 10/24/2022 | 0.91 | 0.5 | UG/L | 0 | |
| 1,4-Dioxane | 10/26/2022 | 0.46 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 10/26/2022 | 183.98 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/26/2022 | 2.69 | 1.55 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/26/2022 | 1.95 | 3.49 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 10/26/2022 | 1.96 | 1.75 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/26/2022 | 1.67 | 1.66 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/26/2022 | 1.33 | 1.75 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 10/26/2022 | 29.7 | 1.59 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/26/2022 | 6.34 | 1.75 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/26/2022 | 6.59 | 1.75 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/26/2022 | 122 | 1.75 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 10/26/2022 | 3.4 | 1.75 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/26/2022 | 2.75 | 1.64 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/26/2022 | 3.6 | 1.75 | NG/L | 0 | |
| 8260 TVOC | 10/26/2022 | 0.72 | 0 | UG/L | 0 | |
| Chloroform | 10/26/2022 | 0.72 | 0.5 | UG/L | 0 | |
| 1,4-Dioxane | 10/28/2022 | 0.51 | 0.21 | UG/L | 0 | |
| 537 TPFAS | 10/28/2022 | 188.29 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/28/2022 | 3.19 | 1.63 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/28/2022 | 2.25 | 3.65 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 10/28/2022 | 2.05 | 1.83 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/28/2022 | 1.45 | 1.74 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 10/28/2022 | 1.56 | 1.83 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 10/28/2022 | 31.6 | 1.66 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/28/2022 | 7.54 | 1.83 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/28/2022 | 6.16 | 1.83 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/28/2022 | 121 | 1.83 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 10/28/2022 | 4.1 | 1.83 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/28/2022 | 3.34 | 1.72 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/28/2022 | 4.05 | 1.83 | NG/L | 0 | |
| 8260 TVOC | 10/28/2022 | 0.69 | 0 | UG/L | 0 | |
| Chloroform | 10/28/2022 | 0.69 | 0.5 | UG/L | 0 | |
| 1,4-Dioxane | 10/31/2022 | 0.6 | 0.2 | UG/L | 0 | |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| 537 TPFAS | 10/31/2022 | 188.8 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/31/2022 | 2.97 | 1.47 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/31/2022 | 1.8 | 3.31 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 10/31/2022 | 2.68 | 1.66 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/31/2022 | 1.8 | 1.57 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/31/2022 | 1.73 | 1.66 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/31/2022 | 25.5 | 1.51 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/31/2022 | 7.64 | 1.66 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/31/2022 | 6.8 | 1.66 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/31/2022 | 127 | 1.66 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 10/31/2022 | 4.39 | 1.66 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/31/2022 | 2.05 | 1.56 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/31/2022 | 4.44 | 1.66 | NG/L | 0 | |
| 8260 TVOC | 10/31/2022 | 0.62 | 0 | UG/L | 0 | |
| Chloroform | 10/31/2022 | 0.62 | 0.5 | UG/L | 0 | |
| 1,4-Dioxane | 11/7/2022 | 0.61 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 11/7/2022 | 206.46 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/7/2022 | 3.54 | 1.55 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 11/7/2022 | 1.81 | 3.49 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 11/7/2022 | 2.98 | 1.75 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 11/7/2022 | 1.78 | 1.66 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 11/7/2022 | 2.3 | 1.75 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/7/2022 | 34.7 | 1.59 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/7/2022 | 10.7 | 1.75 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/7/2022 | 6.34 | 1.75 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 11/7/2022 | 128 | 1.75 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 11/7/2022 | 5.33 | 1.75 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/7/2022 | 3.98 | 1.64 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 11/7/2022 | 5 | 1.75 | NG/L | 0 | |
| 8260 TVOC | 11/7/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 11/14/2022 | 0.58 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 11/14/2022 | 181.09 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/14/2022 | 3.01 | 1.46 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 11/14/2022 | 1.61 | 3.27 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 11/14/2022 | 2.26 | 1.64 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 11/14/2022 | 1.67 | 1.56 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 11/14/2022 | 1.82 | 1.64 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/14/2022 | 26.2 | 1.49 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/14/2022 | 7.17 | 1.64 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/14/2022 | 5.59 | 1.64 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 11/14/2022 | 120 | 1.64 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 11/14/2022 | 4.21 | 1.64 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/14/2022 | 2.89 | 1.54 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 11/14/2022 | 4.66 | 1.64 | NG/L | 0 | |
| 8260 TVOC | 11/14/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 11/21/2022 | 0.308 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 11/21/2022 | 127.694 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/21/2022 | 2.15 | 1.55 | NG/L | 0 | h |
| Perfluorobutylsulfonamide (FBSA) | 11/21/2022 | 1.29 | 3.48 | NG/L | 0 | Jh |
| Perfluorobutyric acid (PFBA) | 11/21/2022 | 2.04 | 1.74 | NG/L | 0 | h |
| Perfluoroheptanesulfonate (PFHpS) | 11/21/2022 | 0.994 | 1.65 | NG/L | 0 | Jh |
| Perfluoroheptanoic acid (PFHpA) | 11/21/2022 | 1.51 | 1.74 | NG/L | 0 | Jh |
| Perfluorohexanesulfonate (PFHxS) | 11/21/2022 | 25.3 | 1.58 | NG/L | 0 | h |
| Perfluorohexanoic acid (PFHxA) | 11/21/2022 | 5.78 | 1.74 | NG/L | 0 | h |
| Perfluorononanoic acid (PFNA) | 11/21/2022 | 4.63 | 1.74 | NG/L | 0 | h |
| Perfluorooctanesulfonate (PFOS) | 11/21/2022 | 74.9 | 1.74 | NG/L | 0 | h |
| Perfluorooctanoic acid (PFOA) | 11/21/2022 | 3.14 | 1.74 | NG/L | 0 | h |
| Perfluoropentanesulfonate (PFPeS) | 11/21/2022 | 2.84 | 1.64 | NG/L | 0 | h |
| Perfluoropentanoic acid (PFPeA) | 11/21/2022 | 3.12 | 1.74 | NG/L | 0 | h |
| 8260 TVOC | 11/21/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 11/28/2022 | 0.54 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 11/28/2022 | 180.87 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/28/2022 | 2.57 | 1.53 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 11/28/2022 | 1.76 | 3.43 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 11/28/2022 | 2.21 | 1.72 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 11/28/2022 | 1.5 | 1.63 | NG/L | 0 | J |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| Perfluoroheptanoic acid (PFHpA) | 11/28/2022 | 1.61 | 1.72 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 11/28/2022 | 27.9 | 1.56 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/28/2022 | 7.42 | 1.72 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/28/2022 | 5.41 | 1.72 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 11/28/2022 | 120 | 1.72 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 11/28/2022 | 4.26 | 1.72 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/28/2022 | 2.44 | 1.61 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 11/28/2022 | 3.79 | 1.72 | NG/L | 0 | |
| 8260 TVOC | 11/28/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 12/5/2022 | 139.421 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/5/2022 | 3.72 | 1.58 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 12/5/2022 | 4.02 | 3.55 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 12/5/2022 | 1.13 | 1.78 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 12/5/2022 | 1.4 | 1.69 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 12/5/2022 | 0.751 | 1.78 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 12/5/2022 | 51.4 | 1.62 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/5/2022 | 4.52 | 1.78 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 12/5/2022 | 61.7 | 1.78 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 12/5/2022 | 3.51 | 1.78 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 12/5/2022 | 5.79 | 1.67 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 12/5/2022 | 1.48 | 1.78 | NG/L | 0 | J |
| 8260 TVOC | 12/5/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 12/12/2022 | 0.61 | 0.21 | UG/L | 0 | |
| 537 TPFAS | 12/12/2022 | 127.29 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/12/2022 | 2.11 | 1.68 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 12/12/2022 | 1.39 | 3.77 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 12/12/2022 | 1.77 | 1.89 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 12/12/2022 | 1.07 | 1.79 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 12/12/2022 | 1.44 | 1.89 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 12/12/2022 | 24.2 | 1.72 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/12/2022 | 5.54 | 1.89 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 12/12/2022 | 3.65 | 1.89 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 12/12/2022 | 77.7 | 1.89 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 12/12/2022 | 3.05 | 1.89 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 12/12/2022 | 2.63 | 1.77 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 12/12/2022 | 2.74 | 1.89 | NG/L | 0 | |
| 8260 TVOC | 12/12/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 12/20/2022 | 0.55 | 0.18 | UG/L | 0 | |
| 537 TPFAS | 12/20/2022 | 127.87 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/20/2022 | 2.29 | 1.59 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 12/20/2022 | 1.39 | 3.58 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 12/20/2022 | 1.66 | 1.79 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 12/20/2022 | 1.16 | 1.7 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 12/20/2022 | 1.35 | 1.79 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 12/20/2022 | 21.7 | 1.63 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/20/2022 | 5.47 | 1.79 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 12/20/2022 | 4.49 | 1.79 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 12/20/2022 | 79.9 | 1.79 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 12/20/2022 | 3.37 | 1.79 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 12/20/2022 | 2.23 | 1.68 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 12/20/2022 | 2.86 | 1.79 | NG/L | 0 | |
| 8260 TVOC | 12/20/2022 | 0.47 | 0 | UG/L | 0 | |
| Chloroform | 12/20/2022 | 0.47 | 0.5 | UG/L | 0 | J |

**Site ID :** 102-35 (CF-RW-I)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 537 TPFAS | 6/13/2022 | 1708.77 | 0 | NG/L | 60 | |
| 8260 TVOC | 6/13/2022 | 140.17 | 0 | UG/L | 60 | |
| Bromodichloromethane | 6/13/2022 | 1.32 | 0.5 | UG/L | 60 | |
| Carbon tetrachloride | 6/13/2022 | 3.19 | 0.5 | UG/L | 60 | |
| Chloroform | 6/13/2022 | 133 | 0.5 | UG/L | 60 | D |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 6/13/2022 | 7.42 | 3.35 | NG/L | 60 | |
| Methyl chloride | 6/13/2022 | 2.66 | 0.5 | UG/L | 60 | |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| Perfluorobutanesulfonate (PFBS) | 6/13/2022 | 23.6 | 1.57 | NG/L | 60 | |
| Perfluorobutyric acid (PFBA) | 6/13/2022 | 4.04 | 1.76 | NG/L | 60 | |
| Perfluoroheptanesulfonate (PFHpS) | 6/13/2022 | 14.9 | 1.68 | NG/L | 60 | |
| Perfluoroheptanoic acid (PFHpA) | 6/13/2022 | 5.31 | 1.76 | NG/L | 60 | |
| Perfluorohexanesulfonate (PFHxS) | 6/13/2022 | 574 | 16 | NG/L | 60 | D |
| Perfluorohexanoic acid (PFHxA) | 6/13/2022 | 39.4 | 1.76 | NG/L | 60 | |
| Perfluorooctanesulfonate (PFOS) | 6/13/2022 | 948 | 17.6 | NG/L | 60 | D |
| Perfluorooctanoic acid (PFOA) | 6/13/2022 | 21 | 1.76 | NG/L | 60 | |
| Perfluoropentanesulfonate (PFPeS) | 6/13/2022 | 56.5 | 1.66 | NG/L | 60 | |
| Perfluoropentanoic acid (PFPeA) | 6/13/2022 | 14.6 | 1.76 | NG/L | 60 | |
| 1,4-Dioxane | 6/13/2022 | 1.6 | 0.2 | UG/L | 60 | |
| 537 TPFAS | 10/24/2022 | 1377.09 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/24/2022 | 20.5 | 1.58 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/24/2022 | 34.8 | 3.54 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/24/2022 | 4.79 | 1.77 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/24/2022 | 10.6 | 1.68 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/24/2022 | 3.9 | 1.77 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/24/2022 | 463 | 8.06 | NG/L | 0 | D |
| Perfluorohexanoic acid (PFHxA) | 10/24/2022 | 31.5 | 1.77 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/24/2022 | 741 | 8.86 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/24/2022 | 15.4 | 1.77 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/24/2022 | 41.5 | 1.67 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/24/2022 | 10.1 | 1.77 | NG/L | 0 | |
| 8260 TVOC | 10/24/2022 | 0.34 | 0 | UG/L | 0 | |
| Chloroform | 10/24/2022 | 0.34 | 0.5 | UG/L | 0 | J |
| 537 TPFAS | 10/26/2022 | 720.77 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/26/2022 | 15 | 1.6 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/26/2022 | 25 | 3.6 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/26/2022 | 3.13 | 1.8 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/26/2022 | 7.67 | 1.71 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/26/2022 | 2.81 | 1.8 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/26/2022 | 286 | 8.18 | NG/L | 0 | D |
| Perfluorohexanoic acid (PFHxA) | 10/26/2022 | 21.7 | 1.8 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/26/2022 | 317 | 8.99 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/26/2022 | 10.7 | 1.8 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/26/2022 | 24.9 | 1.69 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/26/2022 | 6.86 | 1.8 | NG/L | 0 | |
| 8260 TVOC | 10/26/2022 | 0.41 | 0 | UG/L | 0 | |
| Chloroform | 10/26/2022 | 0.41 | 0.5 | UG/L | 0 | J |
| 537 TPFAS | 10/28/2022 | 1128.31 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/28/2022 | 8.72 | 7.82 | NG/L | 0 | D |
| Perfluorobutanesulfonate (PFBS) | 10/28/2022 | 16.5 | 1.57 | NG/L | 0 | h |
| Perfluorobutylsulfonamide (FBSA) | 10/28/2022 | 24.1 | 3.52 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/28/2022 | 24.4 | 3.52 | NG/L | 0 | h |
| Perfluorobutyric acid (PFBA) | 10/28/2022 | 3.08 | 1.76 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/28/2022 | 3.82 | 1.76 | NG/L | 0 | h |
| Perfluoroheptanesulfonate (PFHpS) | 10/28/2022 | 5.65 | 1.67 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/28/2022 | 7.16 | 1.67 | NG/L | 0 | h |
| Perfluoroheptanoic acid (PFHpA) | 10/28/2022 | 2.56 | 1.76 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/28/2022 | 3.51 | 1.76 | NG/L | 0 | h |
| Perfluorohexanesulfonate (PFHxS) | 10/28/2022 | 167 | 8 | NG/L | 0 | D |
| Perfluorohexanesulfonate (PFHxS) | 10/28/2022 | 304 | 8.01 | NG/L | 0 | Dh |
| Perfluorohexanoic acid (PFHxA) | 10/28/2022 | 19.2 | 1.76 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/28/2022 | 24.5 | 1.76 | NG/L | 0 | h |
| Perfluorooctanesulfonate (PFOS) | 10/28/2022 | 165 | 8.79 | NG/L | 0 | D |
| Perfluorooctanesulfonate (PFOS) | 10/28/2022 | 265 | 8.8 | NG/L | 0 | Dh |
| Perfluorooctanoic acid (PFOA) | 10/28/2022 | 9.95 | 1.76 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 10/28/2022 | 11.6 | 1.76 | NG/L | 0 | h |
| Perfluoropentanesulfonate (PFPeS) | 10/28/2022 | 23.9 | 1.65 | NG/L | 0 | h |
| Perfluoropentanesulfonate (PFPeS) | 10/28/2022 | 26.2 | 1.65 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/28/2022 | 5.84 | 1.76 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/28/2022 | 6.62 | 1.76 | NG/L | 0 | h |
| 8260 TVOC | 10/28/2022 | 0.62 | 0 | UG/L | 0 | |
| Chloroform | 10/28/2022 | 0.62 | 0.5 | UG/L | 0 | |
| 537 TPFAS | 10/31/2022 | 636.67 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/31/2022 | 10.7 | 1.48 | NG/L | 0 | |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| Perfluorobutylsulfonamide (FBSA) | 10/31/2022 | 16.2 | 3.33 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/31/2022 | 2.65 | 1.66 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/31/2022 | 4.98 | 1.58 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/31/2022 | 2.11 | 1.66 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/31/2022 | 252 | 7.57 | NG/L | 0 | D |
| Perfluorohexanoic acid (PFHxA) | 10/31/2022 | 14.1 | 1.66 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/31/2022 | 303 | 8.32 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/31/2022 | 8.08 | 1.66 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/31/2022 | 18.2 | 1.56 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/31/2022 | 4.65 | 1.66 | NG/L | 0 | |
| 8260 TVOC | 10/31/2022 | 0.71 | 0 | UG/L | 0 | |
| Chloroform | 10/31/2022 | 0.71 | 0.5 | UG/L | 0 | |
| 537 TPFAS | 11/7/2022 | 441.57 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/7/2022 | 10.2 | 1.57 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 11/7/2022 | 15.3 | 3.52 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 11/7/2022 | 2.73 | 1.76 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 11/7/2022 | 4.68 | 1.67 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 11/7/2022 | 2.2 | 1.76 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/7/2022 | 174 | 8 | NG/L | 0 | D |
| Perfluorohexanoic acid (PFHxA) | 11/7/2022 | 17 | 1.76 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 11/7/2022 | 180 | 8.79 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 11/7/2022 | 8.88 | 1.76 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/7/2022 | 22.3 | 1.65 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 11/7/2022 | 4.28 | 1.76 | NG/L | 0 | |
| 8260 TVOC | 11/7/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/14/2022 | 353.1 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/14/2022 | 11.1 | 1.57 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 11/14/2022 | 12.5 | 3.54 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 11/14/2022 | 2.6 | 1.77 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 11/14/2022 | 3.74 | 1.68 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 11/14/2022 | 1.96 | 1.77 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/14/2022 | 142 | 1.61 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/14/2022 | 13.2 | 1.77 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 11/14/2022 | 134 | 8.85 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 11/14/2022 | 7.47 | 1.77 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/14/2022 | 20.2 | 1.66 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 11/14/2022 | 4.33 | 1.77 | NG/L | 0 | |
| 8260 TVOC | 11/14/2022 | 0 | 0 | UG/L | 0 | |

**Table F-48**
**Extraction Well Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| | | | | | | |
|---|---|---|---|---|---|---|
| 537 TPFAS | 11/21/2022 | 337.27 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/21/2022 | 8.16 | 1.48 | NG/L | 0 | h |
| Perfluorobutylsulfonamide (FBSA) | 11/21/2022 | 9.82 | 3.32 | NG/L | 0 | h |
| Perfluorobutyric acid (PFBA) | 11/21/2022 | 2.24 | 1.66 | NG/L | 0 | h |
| Perfluoroheptanesulfonate (PFHpS) | 11/21/2022 | 3.78 | 1.58 | NG/L | 0 | h |
| Perfluoroheptanoic acid (PFHpA) | 11/21/2022 | 1.54 | 1.66 | NG/L | 0 | Jh |
| Perfluorohexanesulfonate (PFHxS) | 11/21/2022 | 116 | 1.51 | NG/L | 0 | h |
| Perfluorohexanoic acid (PFHxA) | 11/21/2022 | 10.8 | 1.66 | NG/L | 0 | h |
| Perfluorooctanesulfonate (PFOS) | 11/21/2022 | 159 | 1.66 | NG/L | 0 | h |
| Perfluorooctanoic acid (PFOA) | 11/21/2022 | 6.16 | 1.66 | NG/L | 0 | h |
| Perfluoropentanesulfonate (PFPeS) | 11/21/2022 | 15.9 | 1.56 | NG/L | 0 | h |
| Perfluoropentanoic acid (PFPeA) | 11/21/2022 | 3.87 | 1.66 | NG/L | 0 | h |
| 8260 TVOC | 11/21/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/28/2022 | 345.66 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/28/2022 | 7.38 | 1.51 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 11/28/2022 | 10.8 | 3.38 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 11/28/2022 | 1.79 | 1.69 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 11/28/2022 | 4.39 | 1.61 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 11/28/2022 | 2 | 1.69 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/28/2022 | 117 | 1.54 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/28/2022 | 11.1 | 1.69 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 11/28/2022 | 164 | 1.69 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 11/28/2022 | 7.96 | 1.69 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/28/2022 | 16.1 | 1.59 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 11/28/2022 | 3.14 | 1.69 | NG/L | 0 | |
| 8260 TVOC | 11/28/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 12/5/2022 | 292.17 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/5/2022 | 7.66 | 1.61 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 12/5/2022 | 10.5 | 3.61 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 12/5/2022 | 1.8 | 1.8 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 12/5/2022 | 2.86 | 1.71 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 12/5/2022 | 1.68 | 1.8 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 12/5/2022 | 100 | 1.64 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/5/2022 | 10.5 | 1.8 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 12/5/2022 | 135 | 1.8 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 12/5/2022 | 6.61 | 1.8 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 12/5/2022 | 12.6 | 1.7 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 12/5/2022 | 2.96 | 1.8 | NG/L | 0 | |
| 8260 TVOC | 12/5/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 12/12/2022 | 225.11 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/12/2022 | 6.27 | 1.58 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 12/12/2022 | 8.18 | 3.54 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 12/12/2022 | 1.54 | 1.77 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 12/12/2022 | 2.75 | 1.68 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 12/12/2022 | 1.5 | 1.77 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 12/12/2022 | 74.2 | 1.61 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/12/2022 | 8.11 | 1.77 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 12/12/2022 | 104 | 1.77 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 12/12/2022 | 5.54 | 1.77 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 12/12/2022 | 10.3 | 1.67 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 12/12/2022 | 2.72 | 1.77 | NG/L | 0 | |
| 8260 TVOC | 12/12/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 12/20/2022 | 220.85 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/20/2022 | 5.57 | 1.61 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 12/20/2022 | 6.81 | 3.63 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 12/20/2022 | 1.34 | 1.81 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 12/20/2022 | 2.6 | 1.72 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 12/20/2022 | 1.11 | 1.81 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 12/20/2022 | 77.5 | 1.65 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/20/2022 | 6.78 | 1.81 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 12/20/2022 | 102 | 1.81 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 12/20/2022 | 5 | 1.81 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 12/20/2022 | 10.2 | 1.7 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 12/20/2022 | 1.94 | 1.81 | NG/L | 0 | |
| 8260 TVOC | 12/20/2022 | 0.49 | 0 | UG/L | 0 | |
| Chloroform | 12/20/2022 | 0.49 | 0.5 | UG/L | 0 | J |

**Table F-49**
**System Influent Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

**Site ID:** 084-99 (Influent)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 537 TPFAS | 10/24/2022 | 516.43 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/24/2022 | 9.69 | 1.62 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/24/2022 | 8.57 | 3.64 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/24/2022 | 4.7 | 1.82 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/24/2022 | 3.15 | 1.73 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/24/2022 | 4.65 | 1.82 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/24/2022 | 105 | 1.66 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/24/2022 | 18.9 | 1.82 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/24/2022 | 1.91 | 1.82 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/24/2022 | 324 | 9.1 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/24/2022 | 9.66 | 1.82 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/24/2022 | 11.7 | 1.71 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/24/2022 | 14.5 | 1.82 | NG/L | 0 | |
| 8260 TVOC | 10/24/2022 | 0.73 | 0 | UG/L | 0 | |
| Benzene, 1-methylethyl- | 10/24/2022 | 0.17 | 0.5 | UG/L | 0 | J |
| Chloroform | 10/24/2022 | 0.56 | 0.5 | UG/L | 0 | |
| 537 TPFAS | 10/25/2022 | 452.62 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/25/2022 | 7.63 | 1.56 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/25/2022 | 7.39 | 3.52 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/25/2022 | 3.81 | 1.76 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/25/2022 | 3.64 | 1.67 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/25/2022 | 4.18 | 1.76 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/25/2022 | 97.1 | 1.6 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/25/2022 | 16.9 | 1.76 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/25/2022 | 2.39 | 1.76 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/25/2022 | 278 | 8.79 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/25/2022 | 8.68 | 1.76 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/25/2022 | 11.3 | 1.65 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/25/2022 | 11.6 | 1.76 | NG/L | 0 | |
| 8260 TVOC | 10/25/2022 | 0.24 | 0 | UG/L | 0 | |
| Chloroform | 10/25/2022 | 0.24 | 0.5 | UG/L | 0 | J |
| 537 TPFAS | 10/26/2022 | 439.13 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/26/2022 | 6.47 | 1.53 | NG/L | 0 | J |
| Perfluorobutylsulfonamide (FBSA) | 10/26/2022 | 6.31 | 3.43 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 10/26/2022 | 3.44 | 1.72 | NG/L | 0 | J |
| Perfluoroheptanesulfonate (PFHpS) | 10/26/2022 | 3.47 | 1.63 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 10/26/2022 | 3.91 | 1.72 | NG/L | 0 | J |
| Perfluorohexanesulfonate (PFHxS) | 10/26/2022 | 94.9 | 1.56 | NG/L | 0 | J |
| Perfluorohexanoic acid (PFHxA) | 10/26/2022 | 15.8 | 1.72 | NG/L | 0 | J |
| Perfluorononanoic acid (PFNA) | 10/26/2022 | 3.61 | 1.72 | NG/L | 0 | J |
| Perfluorooctanesulfonate (PFOS) | 10/26/2022 | 273 | 1.72 | NG/L | 0 | J |
| Perfluorooctanoic acid (PFOA) | 10/26/2022 | 7.95 | 1.72 | NG/L | 0 | J |
| Perfluoropentanesulfonate (PFPeS) | 10/26/2022 | 9.87 | 1.61 | NG/L | 0 | J |
| Perfluoropentanoic acid (PFPeA) | 10/26/2022 | 10.4 | 1.72 | NG/L | 0 | J |
| 8260 TVOC | 10/26/2022 | 0.48 | 0 | UG/L | 0 | |
| Chloroform | 10/26/2022 | 0.48 | 0.5 | UG/L | 0 | J |
| 537 TPFAS | 10/27/2022 | 435.8 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/27/2022 | 6.99 | 1.65 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/27/2022 | 6.46 | 3.7 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/27/2022 | 3.56 | 1.85 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/27/2022 | 4.08 | 1.76 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/27/2022 | 3.87 | 1.85 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/27/2022 | 119 | 1.68 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/27/2022 | 16.1 | 1.85 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/27/2022 | 4.14 | 1.85 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/27/2022 | 241 | 9.24 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/27/2022 | 7.6 | 1.85 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/27/2022 | 12.8 | 1.74 | NG/L | 0 | |

**Table F-49**
**System Influent Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

**Site ID:** 084-99 (Influent)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| Perfluoropentanoic acid (PFPeA) | 10/27/2022 | 10.2 | 1.85 | NG/L | 0 | |
| 8260 TVOC | 10/27/2022 | 0.78 | 0 | UG/L | 0 | |
| Chloroform | 10/27/2022 | 0.78 | 0.5 | UG/L | 0 | |
| 537 TPFAS | 10/28/2022 | 312.03 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/28/2022 | 6.79 | 1.55 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/28/2022 | 6.58 | 3.48 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/28/2022 | 3.67 | 1.74 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/28/2022 | 2.31 | 1.65 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/28/2022 | 3.28 | 1.74 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/28/2022 | 85 | 1.58 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/28/2022 | 12.6 | 1.74 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/28/2022 | 4.62 | 1.74 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/28/2022 | 162 | 8.71 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/28/2022 | 6.96 | 1.74 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/28/2022 | 9.6 | 1.64 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/28/2022 | 8.62 | 1.74 | NG/L | 0 | |
| 8260 TVOC | 10/28/2022 | 0.72 | 0 | UG/L | 0 | |
| Chloroform | 10/28/2022 | 0.72 | 0.5 | UG/L | 0 | |
| 537 TPFAS | 10/31/2022 | 379.04 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 10/31/2022 | 5.94 | 1.47 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 10/31/2022 | 4.74 | 3.31 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 10/31/2022 | 3.42 | 1.66 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 10/31/2022 | 2.46 | 1.57 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 10/31/2022 | 2.77 | 1.66 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 10/31/2022 | 74.1 | 1.51 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 10/31/2022 | 10.1 | 1.66 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 10/31/2022 | 7.19 | 1.66 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 10/31/2022 | 248 | 8.28 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 10/31/2022 | 5.8 | 1.66 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 10/31/2022 | 7.3 | 1.56 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 10/31/2022 | 7.22 | 1.66 | NG/L | 0 | |
| 8260 TVOC | 10/31/2022 | 0.81 | 0 | UG/L | 0 | |
| Chloroform | 10/31/2022 | 0.81 | 0.5 | UG/L | 0 | |
| 537 TPFAS | 11/8/2022 | 334.98 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/8/2022 | 6.08 | 1.59 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 11/8/2022 | 4.97 | 3.57 | NG/L | 0 | |
| Perfluorobutyric acid (PFBA) | 11/8/2022 | 3.59 | 1.78 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 11/8/2022 | 2.85 | 1.69 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 11/8/2022 | 3.7 | 1.78 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/8/2022 | 80.5 | 1.62 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/8/2022 | 14.1 | 1.78 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/8/2022 | 11.4 | 1.78 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 11/8/2022 | 183 | 8.92 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 11/8/2022 | 7.52 | 1.78 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/8/2022 | 9.21 | 1.68 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 11/8/2022 | 8.06 | 1.78 | NG/L | 0 | |
| 8260 TVOC | 11/8/2022 | 0.74 | 0 | UG/L | 0 | |
| Chloroform | 11/8/2022 | 0.74 | 0.5 | UG/L | 0 | |
| 1,4-Dioxane | 11/14/2022 | 0.18 | 0.2 | UG/L | 0 | J |
| 537 TPFAS | 11/14/2022 | 294.24 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/14/2022 | 6.67 | 1.56 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 11/14/2022 | 3.48 | 3.5 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 11/14/2022 | 3.01 | 1.75 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 11/14/2022 | 1.92 | 1.66 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 11/14/2022 | 2.82 | 1.75 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/14/2022 | 78.9 | 1.59 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/14/2022 | 10.2 | 1.75 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/14/2022 | 11.7 | 1.75 | NG/L | 0 | |

**Table F-49**
**System Influent Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

**Site ID:** 084-99 (Influent)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| Perfluorooctanesulfonate (PFOS) | 11/14/2022 | 153 | 1.75 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 11/14/2022 | 6.19 | 1.75 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/14/2022 | 9.26 | 1.65 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 11/14/2022 | 7.09 | 1.75 | NG/L | 0 | |
| 8260 TVOC | 11/14/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/21/2022 | 260.87 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/21/2022 | 4.4 | 1.49 | NG/L | 0 | h |
| Perfluorobutylsulfonamide (FBSA) | 11/21/2022 | 3.28 | 3.35 | NG/L | 0 | Jh |
| Perfluorobutyric acid (PFBA) | 11/21/2022 | 2.71 | 1.67 | NG/L | 0 | h |
| Perfluoroheptanesulfonate (PFHpS) | 11/21/2022 | 2.14 | 1.59 | NG/L | 0 | h |
| Perfluoroheptanoic acid (PFHpA) | 11/21/2022 | 2.86 | 1.67 | NG/L | 0 | h |
| Perfluorohexanesulfonate (PFHxS) | 11/21/2022 | 57.3 | 1.52 | NG/L | 0 | h |
| Perfluorohexanoic acid (PFHxA) | 11/21/2022 | 8.86 | 1.67 | NG/L | 0 | h |
| Perfluorononanoic acid (PFNA) | 11/21/2022 | 11.5 | 1.67 | NG/L | 0 | h |
| Perfluorooctanesulfonate (PFOS) | 11/21/2022 | 148 | 1.67 | NG/L | 0 | h |
| Perfluorooctanoic acid (PFOA) | 11/21/2022 | 6.03 | 1.67 | NG/L | 0 | h |
| Perfluoropentanesulfonate (PFPeS) | 11/21/2022 | 7.17 | 1.57 | NG/L | 0 | h |
| Perfluoropentanoic acid (PFPeA) | 11/21/2022 | 6.62 | 1.67 | NG/L | 0 | h |
| 8260 TVOC | 11/21/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 11/28/2022 | 0.15 | 0.21 | UG/L | 0 | J |
| 537 TPFAS | 11/28/2022 | 206.07 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 11/28/2022 | 4.93 | 1.61 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 11/28/2022 | 3.04 | 3.63 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 11/28/2022 | 2.66 | 1.81 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 11/28/2022 | 1.77 | 1.72 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 11/28/2022 | 2.11 | 1.81 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 11/28/2022 | 42.8 | 1.65 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 11/28/2022 | 8.44 | 1.81 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 11/28/2022 | 10.8 | 1.81 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 11/28/2022 | 112 | 1.81 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 11/28/2022 | 5.85 | 1.81 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 11/28/2022 | 5.21 | 1.7 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 11/28/2022 | 6.46 | 1.81 | NG/L | 0 | |
| 8260 TVOC | 11/28/2022 | 0.74 | 0 | UG/L | 0 | |
| Chloroform | 11/28/2022 | 0.74 | 0.5 | UG/L | 0 | |
| 1,4-Dioxane | 12/5/2022 | 0.17 | 0.2 | UG/L | 0 | J |
| 537 TPFAS | 12/5/2022 | 292.01 | 0 | NG/L | 0 | |
| Fluorotelomer sulfonate 6:2 (6:2 FTS) | 12/5/2022 | 1.25 | 3.15 | NG/L | 0 | J |
| Perfluorobutanesulfonate (PFBS) | 12/5/2022 | 3.68 | 1.48 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 12/5/2022 | 2.46 | 3.32 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 12/5/2022 | 2.94 | 1.66 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 12/5/2022 | 2.32 | 1.58 | NG/L | 0 | |
| Perfluoroheptanoic acid (PFHpA) | 12/5/2022 | 3.67 | 1.66 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 12/5/2022 | 53.9 | 1.51 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/5/2022 | 10.4 | 1.66 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 12/5/2022 | 18.3 | 1.66 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 12/5/2022 | 173 | 8.29 | NG/L | 0 | D |
| Perfluorooctanoic acid (PFOA) | 12/5/2022 | 7.66 | 1.66 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 12/5/2022 | 5.33 | 1.56 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 12/5/2022 | 7.1 | 1.66 | NG/L | 0 | |
| 8260 TVOC | 12/5/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 12/12/2022 | 0.14 | 0.2 | UG/L | 0 | J |
| 537 TPFAS | 12/12/2022 | 171.4 | 0 | NG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/12/2022 | 3.56 | 1.58 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 12/12/2022 | 2.42 | 3.54 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 12/12/2022 | 1.82 | 1.77 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 12/12/2022 | 1.56 | 1.68 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 12/12/2022 | 1.92 | 1.77 | NG/L | 0 | |

**Table F-49**
**System Influent Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

**Site ID:** 084-99 (Influent)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| Perfluorohexanesulfonate (PFHxS) | 12/12/2022 | 40.2 | 1.61 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/12/2022 | 6.68 | 1.77 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 12/12/2022 | 2.01 | 1.77 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 12/12/2022 | 98.8 | 1.77 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 12/12/2022 | 3.43 | 1.77 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 12/12/2022 | 4.31 | 1.67 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 12/12/2022 | 4.69 | 1.77 | NG/L | 0 | |
| 8260 TVOC | 12/12/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 12/20/2022 | 0.2 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 12/20/2022 | 205.42 | 0 | NG/L | 0 | |
| Antimony | 12/20/2022 | 5.61 | 3.5 | UG/L | 0 | B |
| Arsenic | 12/20/2022 | 3.66 | 2 | UG/L | 0 | B |
| Barium | 12/20/2022 | 37.6 | 1 | UG/L | 0 | B |
| Calcium | 12/20/2022 | 6250 | 50 | UG/L | 0 | |
| Copper | 12/20/2022 | 15 | 3 | UG/L | 0 | B |
| Iron | 12/20/2022 | 2080 | 30 | UG/L | 0 | |
| Magnesium | 12/20/2022 | 2640 | 110 | UG/L | 0 | B |
| Manganese | 12/20/2022 | 57.9 | 2 | UG/L | 0 | |
| Perfluorobutanesulfonate (PFBS) | 12/20/2022 | 3.13 | 1.51 | NG/L | 0 | |
| Perfluorobutylsulfonamide (FBSA) | 12/20/2022 | 2.23 | 3.4 | NG/L | 0 | J |
| Perfluorobutyric acid (PFBA) | 12/20/2022 | 1.95 | 1.7 | NG/L | 0 | |
| Perfluoroheptanesulfonate (PFHpS) | 12/20/2022 | 1.56 | 1.61 | NG/L | 0 | J |
| Perfluoroheptanoic acid (PFHpA) | 12/20/2022 | 1.74 | 1.7 | NG/L | 0 | |
| Perfluorohexanesulfonate (PFHxS) | 12/20/2022 | 48.1 | 1.55 | NG/L | 0 | |
| Perfluorohexanoic acid (PFHxA) | 12/20/2022 | 7.54 | 1.7 | NG/L | 0 | |
| Perfluorononanoic acid (PFNA) | 12/20/2022 | 10.4 | 1.7 | NG/L | 0 | |
| Perfluorooctanesulfonate (PFOS) | 12/20/2022 | 114 | 1.7 | NG/L | 0 | |
| Perfluorooctanoic acid (PFOA) | 12/20/2022 | 5.05 | 1.7 | NG/L | 0 | |
| Perfluoropentanesulfonate (PFPeS) | 12/20/2022 | 4.9 | 1.6 | NG/L | 0 | |
| Perfluoropentanoic acid (PFPeA) | 12/20/2022 | 4.82 | 1.7 | NG/L | 0 | |
| Potassium | 12/20/2022 | 1000 | 50 | UG/L | 0 | B |
| Sodium | 12/20/2022 | 36800 | 100 | UG/L | 0 | |
| TDS | 12/20/2022 | 135 | 2.38 | MG/L | 0 | |
| TSS | 12/20/2022 | 1.43 | 0.814 | MG/L | 0 | J |
| Vanadium | 12/20/2022 | 1.45 | 1 | UG/L | 0 | B |
| Zinc | 12/20/2022 | 118 | 3.3 | UG/L | 0 | |
| 8260 TVOC | 12/20/2022 | 0.7 | 0 | UG/L | 0 | |
| Chloroform | 12/20/2022 | 0.7 | 0.5 | 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-50**
**System Effluent Data**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

**Site ID:** 084-101 (Effluent)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 537 TPFAS | 10/24/2022 | 0 | 0 | NG/L | 0 | |
| 8260 TVOC | 10/24/2022 | 0 | 0 | UG/L | 0 | |
| 8260 TVOC | 10/25/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 10/26/2022 | 0 | 0 | NG/L | 0 | |
| 8260 TVOC | 10/26/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 10/27/2022 | 0 | 0 | NG/L | 0 | |
| 8260 TVOC | 10/27/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 10/28/2022 | 0 | 0 | NG/L | 0 | |
| 8260 TVOC | 10/28/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 10/31/2022 | 0 | 0 | NG/L | 0 | |
| 8260 TVOC | 10/31/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 11/8/2022 | 0.21 | 0.2 | UG/L | 0 | |
| 537 TPFAS | 11/8/2022 | 0 | 0 | NG/L | 0 | |
| 8260 TVOC | 11/8/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 11/14/2022 | 0.1 | 0.2 | UG/L | 0 | J |
| 537 TPFAS | 11/14/2022 | 0 | 0 | NG/L | 0 | |
| 8260 TVOC | 11/14/2022 | 0 | 0 | UG/L | 0 | |
| 537 TPFAS | 11/21/2022 | 0 | 0 | NG/L | 0 | |
| 8260 TVOC | 11/21/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 11/28/2022 | 0.16 | 0.2 | UG/L | 0 | J |
| 537 TPFAS | 11/28/2022 | 0 | 0 | NG/L | 0 | |
| 8260 TVOC | 11/28/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 12/5/2022 | 0.21 | 0.21 | UG/L | 0 | |
| 537 TPFAS | 12/5/2022 | 0 | 0 | NG/L | 0 | |
| 8260 TVOC | 12/5/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 12/12/2022 | 0.2 | 0.23 | UG/L | 0 | J |
| 537 TPFAS | 12/12/2022 | 0 | 0 | NG/L | 0 | |
| 8260 TVOC | 12/12/2022 | 0 | 0 | UG/L | 0 | |
| 1,4-Dioxane | 12/20/2022 | 0.17 | 0.2 | UG/L | 0 | J |
| 537 TPFAS | 12/20/2022 | 0 | 0 | NG/L | 0 | |
| 8260 TVOC | 12/20/2022 | 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-51**
**Pumpage And Mass Removal**
**OU X PFAS CFH System**

2022 BNL Groundwater Status Report

| Date Sampled | Gallons Pumped | Total PFAS (NG/L) | Mass Removed | Total Mass Removed (lbs) |
|---|---|---|---|---|
| 10/24/22 | 4,078,294 | 516.43 | 0.0175 | 0.0175 |
| 10/25/22 | 169,929 | 452.62 | 0.0006 | 0.0181 |
| 10/26/22 | 169,929 | 439.13 | 0.0006 | 0.0187 |
| 10/27/22 | 169,929 | 435.8 | 0.0006 | 0.0194 |
| 10/28/22 | 169,929 | 312.03 | 0.0004 | 0.0198 |
| 10/31/22 | 509,787 | 379.04 | 0.0016 | 0.0214 |
| 11/08/22 | 3,466,637 | 334.98 | 0.0096 | 0.0310 |
| 11/14/22 | 2,559,980 | 294.24 | 0.0063 | 0.0373 |
| 11/21/22 | 3,033,310 | 260.87 | 0.0066 | 0.0439 |
| 11/28/22 | 3,033,310 | 206.07 | 0.0052 | 0.0490 |
| 12/05/22 | 3,266,790 | 292.01 | 0.0079 | 0.0570 |
| 12/12/22 | 3,360,182 | 171.4 | 0.0048 | 0.0617 |
| 12/20/22 | 2,840,208 | 205.42 | 0.0048 | 0.0666 |
| 01/04/23 | 7,792,914 | 232.19 | 0.0150 | 0.0816 |

**Table F-52**
**Extraction Well Data**
**OU X FFAS CFH System**

2022 BNL Groundwater Status Report

**Site ID :** 085-414 (FF-RW-A)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 1,4-Dioxane | 03/16/22 | 0.34 | 0.2 | UG/L | 40 | |
| 537 TPFAS | 03/16/22 | 193.79 | 0 | NG/L | 40 | |
| 8260 TVOC | 03/16/22 | 1.18 | 0 | UG/L | 40 | |
| Chloroform | 03/16/22 | 0.39 | 0.5 | UG/L | 40 | J |
| Methyl tert-butyl ether | 03/16/22 | 0.34 | 0.5 | UG/L | 40 | J |
| Perfluorobutanesulfonate (PFBS) | 03/16/22 | 1.75 | 1.65 | NG/L | 40 | |
| Perfluorobutyric acid (PFBA) | 03/16/22 | 5.94 | 1.85 | NG/L | 40 | |
| Perfluoroheptanesulfonate (PFHpS) | 03/16/22 | 1.97 | 1.76 | NG/L | 40 | |
| Perfluoroheptanoic acid (PFHpA) | 03/16/22 | 2 | 1.85 | NG/L | 40 | |
| Perfluorohexanesulfonate (PFHxS) | 03/16/22 | 41.3 | 1.68 | NG/L | 40 | |
| Perfluorohexanoic acid (PFHxA) | 03/16/22 | 3.45 | 1.85 | NG/L | 40 | |
| Perfluorononanoic acid (PFNA) | 03/16/22 | 2.22 | 1.85 | NG/L | 40 | |
| Perfluorooctanesulfonate (PFOS) | 03/16/22 | 123 | 1.85 | NG/L | 40 | |
| Perfluorooctanoic acid (PFOA) | 03/16/22 | 7.56 | 1.85 | NG/L | 40 | |
| Perfluoropentanesulfonate (PFPeS) | 03/16/22 | 1.33 | 1.74 | NG/L | 40 | J |
| Perfluoropentanoic acid (PFPeA) | 03/16/22 | 3.27 | 1.85 | NG/L | 40 | |
| Toluene | 03/16/22 | 0.45 | 0.5 | UG/L | 40 | J |
| Strontium-90 | 04/15/22 | 2.54 | 0.435 | PCI/L | 40 | |

**Site ID :** 096-132 (FF-RW-B)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 537 TPFAS | 03/16/22 | 43.18 | 0 | NG/L | 40 | |
| 8260 TVOC | 03/16/22 | 0.6 | 0 | UG/L | 40 | |
| Chloroform | 03/16/22 | 0.6 | 0.5 | UG/L | 40 | J |
| Perfluorobutanesulfonate (PFBS) | 03/16/22 | 2.44 | 2.01 | NG/L | 40 | |
| Perfluorobutyric acid (PFBA) | 03/16/22 | 4.03 | 2.26 | NG/L | 40 | |
| Perfluoroheptanoic acid (PFHpA) | 03/16/22 | 1.6 | 2.26 | NG/L | 40 | J |
| Perfluorohexanesulfonate (PFHxS) | 03/16/22 | 16.6 | 2.05 | NG/L | 40 | |
| Perfluorohexanoic acid (PFHxA) | 03/16/22 | 3.21 | 2.26 | NG/L | 40 | |
| Perfluorooctanesulfonate (PFOS) | 03/16/22 | 6.17 | 2.26 | NG/L | 40 | |
| Perfluorooctanoic acid (PFOA) | 03/16/22 | 6.74 | 2.26 | NG/L | 40 | |
| Perfluoropentanesulfonate (PFPeS) | 03/16/22 | 1.12 | 2.12 | NG/L | 40 | J |
| Perfluoropentanoic acid (PFPeA) | 03/16/22 | 1.27 | 2.26 | NG/L | 40 | J |

**Site ID :** 105-79 (FF-RW-C)

| Chemical Name | Sample Date | Value | Detlim | Units | Depth | Qual |
|---|---|---|---|---|---|---|
| 537 TPFAS | 03/17/22 | 107.034 | 0 | NG/L | 45 | |
| 8260 TVOC | 03/17/22 | 162.19 | 0 | UG/L | 45 | |
| Chloroform | 03/17/22 | 143 | 0.5 | UG/L | 45 | DH |
| Chloroform | 03/17/22 | 156 | 0.5 | UG/L | 45 | D |
| Chloroform | 03/17/22 | 159 | 0.5 | UG/L | 45 | EH |
| Methyl chloride | 03/17/22 | 1.91 | 0.5 | UG/L | 45 | |
| Methyl chloride | 03/17/22 | 2.2 | 0.5 | UG/L | 45 | H |
| Methylene chloride | 03/17/22 | 3.26 | 0.5 | UG/L | 45 | J |
| Methylene chloride | 03/17/22 | 5.69 | 0.5 | UG/L | 45 | H |
| Perfluorobutanesulfonate (PFBS) | 03/17/22 | 0.954 | 1.55 | NG/L | 45 | J |
| Perfluorobutyric acid (PFBA) | 03/17/22 | 3.76 | 1.74 | NG/L | 45 | |
| Perfluoroheptanesulfonate (PFHpS) | 03/17/22 | 1.42 | 1.65 | NG/L | 45 | J |
| Perfluoroheptanoic acid (PFHpA) | 03/17/22 | 1.88 | 1.74 | NG/L | 45 | |
| Perfluorohexanesulfonate (PFHxS) | 03/17/22 | 53.8 | 1.58 | NG/L | 45 | |
| Perfluorohexanoic acid (PFHxA) | 03/17/22 | 8.57 | 1.74 | NG/L | 45 | |
| Perfluorooctanesulfonate (PFOS) | 03/17/22 | 19.1 | 1.74 | NG/L | 45 | |
| Perfluorooctanoic acid (PFOA) | 03/17/22 | 13.4 | 1.74 | NG/L | 45 | |
| Perfluoropentanesulfonate (PFPeS) | 03/17/22 | 1.42 | 1.64 | NG/L | 45 | J |
| Perfluoropentanoic acid (PFPeA) | 03/17/22 | 2.73 | 1.74 | NG/L | 45 | |
| Styrene | 03/17/22 | 0.71 | 0.5 | UG/L | 45 | HJ |
| Styrene | 03/17/22 | 1.02 | 0.5 | UG/L | 45 | |
| 8260 TVOC | 04/14/22 | 38.26 | 0 | UG/L | 55 | |
| Chloroform | 04/14/22 | 5.43 | 0.5 | UG/L | 55 | |
| Methyl chloride | 04/14/22 | 0.93 | 0.5 | UG/L | 55 | J |
| Methylene chloride | 04/14/22 | 31.9 | 0.5 | UG/L | 55 | |
| 8260 TVOC | 04/21/22 | 1.39 | 0 | UG/L | 55 | |
| Chloroform | 04/21/22 | 1.39 | 0.5 | UG/L | 55 | |

**Table F-53**
**System Influent Data**
**OU X PFAS FFH System**

2022 BNL Groundwater Status Report

**Site ID:** 076-422 (Influent)

No samples were collected in 2022 as the system was started in January 2023.

**Table F-54**
**System Effluent Data**
**OU X PFAS FFH System**

2022 BNL Groundwater Status Report

**Site ID:** 074-424 (Effluent)

No samples were collected in 2022 as the system was started in January 2023.

**Table F-55**
**Pumpage and Mass Removal**
**OU X PFAS FFH System**

2022 BNL Groundwater Status Report

No mass removal calculation was perfomed in 2022 as the system was started in January 2023.

# APPENDIX G

# USABILITY REPORTS

**Attachment 1**

**Brookhaven National Laboratory**

**Analytical Data Package Verification Checklist**

| | |
|---|---|
| Project | WMD - AIR |
| Sampling Contractor | EPD Field Sampling Team |
| Analytical Laboratory | General Engineering |
| Analytical Method | DOE HASL 300, EPA 900.0/9310 Mod |
| Sample Delivery Group | 44126 |
| COC No./Sample IDs | 44126 / FLT-101, FLT-102, FLT-107, FLT-108 |
| Date Sampled | 6/29/2022 |
| 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 | | sample-003 for Gross Alpha has been qualified "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 |
| Chain-of-Custody Forms | X | | | |
| Field Sampling Logs | | | X | |
| Holding Times | X | | | |
| Nonconformance | | | X | |
| Other | | | X | |

Reviewed by : _____
(Project Manager)
Larry D. Singh

EI.80.QR.22

Date : _____
08/12/2022

## Site ID Verification Data

| Sample ID | Site ID |
|---|---|
| | |
| 44126-001 | FLT-101 |
| 44126-001 | |
| 44126-002 | FLT-102 |
| 44126-003 | FLT-107 |
| 44126-004 | FLT-108 |

**Attachment 1**

**Brookhaven National Laboratory**

**Analytical Data Package Verification Checklist**

| | |
|---|---|
| Project | ES - AIR |
| Sampling Contractor | EPD Field Sampling Team |
| Analytical Laboratory | General Engineering |
| Analytical Method | EPA 900.0/9310 Mod, EPA 906.0 Mod |
| Sample Delivery Group | 43706 |
| COC No./Sample IDs | 43706 / 065-400, Blip |
| Date Sampled | 2/1/2022 |
| Parameter(s) | Radionuclides |

| | Satisfactory | Unsatisfactory | NA | Comments |
|---|---|---|---|---|
| Sample IDs | | X | | 064-60 incorrectly written as Blip. 064-60 incorrectly written as Blip. |
| Detection Limits (CRDL) | X | | | |
| Duplicates | | | X | |
| Matrix Spike (MS/MSD) | X | | | |
| MS/MSD Recoveries | X | | | |
| Field Blanks | | | X | |
| Equipment Blanks | | | X | |
| Method Blanks | | X | | Gross Alpha, 0.000376 PCI/M3. Gross Beta, 0.00162 PCI/M3. Associated samples have been qualified as needed |
| Chain-of-Custody Forms | X | | | |
| Field Sampling Logs | | | X | |
| Holding Times | X | | | |
| Nonconformance | | | X | |
| Other | | | X | |

Reviewed by : _____
(Project Manager)
Larry D. Singh

Date : _____
03/09/2022

**Site ID Verification Data**

| Sample ID | Site ID |
|---|---|
| | |
| 43706-001 | 065-400 |
| 43706-002 | Blip |
| 43706-003 | |
| 43706-003 | Blip |
| 43706-003 | |
| 43706-003 | |

**Attachment 1**

**Brookhaven National Laboratory**

**Analytical Data Package Verification Checklist**

| | |
|---|---|
| Project | WFWSW - P1 |
| Sampling Contractor | EPD Field Sampling Team |
| Analytical Laboratory | General Engineering |
| Analytical Method | EPA 901.1, EPA 905.0/DOE RP501, EPA 906.0 Mod |
| Sample Delivery Group | 43743 |
| COC No./Sample IDs | 43743 / FRB-1, TB-1, 109-03, 117-01, BD-1, FB-1, 109-04 |
| Date Sampled | 2/15/2022 |
| 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 : _____
03/21/2022

## Site ID Verification Data

| Sample ID | Site ID |
|---|---|
| | |
| 43743-001 | FRB-1 |
| 43743-002 | TB-1 |
| 43743-003 | 109-03 |
| 43743-004 | |
| 43743-004 | 117-01 |
| 43743-004 | |
| 43743-004 | |
| 43743-004 | |
| 43743-004 | |
| 43743-004 | |
| 43743-004 | |
| 43743-004 | |
| 43743-004 | |
| 43743-004 | |
| 43743-005 | BD-1 |
| 43743-006 | FB-1 |
| 43743-007 | 109-04 |

**Attachment 1**

**Brookhaven National Laboratory**

**Analytical Data Package Verification Checklist**

| | |
|---|---|
| Project | ES - AIR |
| Sampling Contractor | EPD Field Sampling Team |
| Analytical Laboratory | General Engineering |
| Analytical Method | EPA 906.0 Mod |
| Sample Delivery Group | 43752 |
| COC No./Sample IDs | 43752 / HFBR T-Tube |
| Date Sampled | 2/22/2022 |
| Parameter(s) | Radionuclides |

| | Satisfactory | Unsatisfactory | NA | Comments |
|---|---|---|---|---|
| Sample IDs | | X | | 075-472 incorrectly written as HFBR T-Tube. |
| 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 : _____
03/25/2022

## Site ID Verification Data

| Sample ID | Site ID |
|---|---|
| 43752-001 | |
| 43752-001 | HFBR T-Tube |
| 43752-001 | |
| 43752-001 | |

**Attachment 1**

**Brookhaven National Laboratory**

**Analytical Data Package Verification Checklist**

| | |
|---|---|
| Project | OU1 - SR90 |
| Sampling Contractor | EPD Field Sampling Team |
| Analytical Laboratory | General Engineering |
| Analytical Method | EPA 905.0/DOE RP501 |
| Sample Delivery Group | 43849 |
| COC No./Sample IDs | 43849 / OU1-SR-90-GP-71 |
| Date Sampled | 3/29/2022, 3/30/2022 |
| 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 : _____

04/29/2022

**Site ID Verification Data**

| Sample ID | Site ID |
|---|---|
| 43849-001 | |
| 43849-001 | |
| 43849-001 | |
| 43849-001 | OU1-SR-90-GP-71 |
| 43849-002 | OU1-SR-90-GP-71 |
| 43849-003 | OU1-SR-90-GP-71 |
| 43849-004 | OU1-SR-90-GP-71 |
| 43849-005 | OU1-SR-90-GP-71 |
| 43849-006 | OU1-SR-90-GP-71 |
| 43849-007 | OU1-SR-90-GP-71 |
| 43849-008 | OU1-SR-90-GP-71 |
| 43849-009 | OU1-SR-90-GP-71 |
| 43849-010 | OU1-SR-90-GP-71 |
| 43849-011 | OU1-SR-90-GP-71 |
| 43849-012 | OU1-SR-90-GP-71 |

**Attachment 1**

**Brookhaven National Laboratory**

**Analytical Data Package Verification Checklist**

| | |
|---|---|
| Project | OU3 - BGRR |
| Sampling Contractor | Dvirka & Bartilucci |
| Analytical Laboratory | General Engineering |
| Analytical Method | EPA 905.0/DOE RP501 |
| Sample Delivery Group | 43981 |
| COC No./Sample IDs | 43981 / BGRR-GP-141, BD-1 |
| Date Sampled | 5/20/2022, 5/23/2022, 5/24/2022 |
| 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

EI.80.QR.22

Date : _____
07/11/2022

## Site ID Verification Data

| Sample ID | Site ID |
|---|---|
| | |
| 43981-001 | BGRR-GP-141 |
| 43981-002 | BGRR-GP-141 |
| 43981-003 | BGRR-GP-141 |
| 43981-004 | BGRR-GP-141 |
| 43981-005 | BGRR-GP-141 |
| 43981-006 | BGRR-GP-141 |
| 43981-007 | BGRR-GP-141 |
| 43981-008 | BGRR-GP-141 |
| 43981-009 | BGRR-GP-141 |
| 43981-009 | |
| 43981-009 | |
| 43981-009 | |
| 43981-010 | BGRR-GP-141 |
| 43981-011 | BGRR-GP-141 |
| 43981-012 | BGRR-GP-141 |
| 43981-013 | BD-1 |

**Attachment 1**

**Brookhaven National Laboratory**

**Analytical Data Package Verification Checklist**

| | |
|---|---|
| Project | FM - WMF |
| Sampling Contractor | EPD Field Sampling Team |
| Analytical Laboratory | Test America - Missouri |
| Analytical Method | 900.0, 901.1, 905, 906.0 |
| Sample Delivery Group | 44244 |
| COC No./Sample IDs | 44244 / 055-03, 055-10, 066-220, 066-221, 066-222, 066-223, 056-21, 056-22, TB-1 |
| Date Sampled | 8/19/2022, 8/14/2022, 8/22/2022 |
| 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 | | sample-007 for Na-22, Sample-003 for Gross Beta, and samples-003, -004, -005 for Sr-90 have been qualified "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 |
| Chain-of-Custody Forms | X | | | |
| Field Sampling Logs | | | X | |
| Holding Times | X | | | |
| Nonconformance | | | X | |
| Other | | | X | |

Reviewed by : _____
(Project Manager)
Larry D. Singh

EI.80.QR.22

Date : _____
10/05/2022

## Site ID Verification Data

| Sample ID | Site ID |
|---|---|
| 44244-001 | |
| 44244-001 | 055-03 |
| 44244-001 | |
| 44244-002 | 055-10 |
| 44244-002 | |
| 44244-003 | 066-220 |
| 44244-004 | 066-221 |
| 44244-005 | 066-222 |
| 44244-006 | 066-223 |
| 44244-007 | |

| | |
|---|---|
| 44244-007 | |
| 44244-007 | 056-21 |
| 44244-008 | 056-22 |
| 44244-008 | |
| 44244-008 | |
| 44244-008 | |
| 44244-009 | TB-1 |

**Attachment 1**

**Brookhaven National Laboratory**

**Analytical Data Package Verification Checklist**

| | |
|---|---|
| Project | C-AD - MISC |
| Sampling Contractor | Collider-Accelerator |
| Analytical Laboratory | Test America-Colorado |
| Analytical Method | 901.1 |
| Sample Delivery Group | 44309 |
| COC No./Sample IDs | 44309 / 936 Oil A, 936 Oil B |
| Date Sampled | 9/15/2022 |
| Parameter(s) | Radionuclides |

| | Satisfactory | Unsatisfactory | NA | Comments |
|---|---|---|---|---|
| Sample IDs | | X | | 936 OIL A incorrectly written as 936 Oil A. 936 OIL B incorrectly written as 936 Oil B. |
| 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

EI.80.QR.22

Date : _____
10/26/2022

## Site ID Verification Data

| Sample ID | Site ID |
|---|---|
| 44309-001 | 936 Oil A |
| 44309-002 | 936 Oil B |
| lab-qc | |

**Attachment 2**

**Brookhaven National Laboratory**

**Analytical Data Package Verification Checklist**

| | |
|---|---|
| Project : | SITEWD - NSEEDB |
| Sampling Contractor : | EPD Field Sampling Team |
| Analytical Laboratory : | Test America-Colorado |
| Analytical Method and/or Parameter : | 504.1 |
| Sample Delivery Group : | 44228 |
| COC No. / Sample IDs : | 44228 / TB-1, 000-565, 000-566, 000-564, BD-1, FB-1 |
| Date Sampled : | 8/9/2022, 8/10/2022 |

| | 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) EI.90.QR.22 Date : 08/31/2022

Reviewed by : Larry D. Singh (Project Manager) Date : 08/31/2022

**Site ID Verification Data**

| Sample ID | Site ID |
|---|---|
| 44228-001 | TB-1 |
| 44228-002 | 000-565 |
| 44228-003 | 000-566 |
| 44228-004 | 000-564 |
| 44228-004 | 000-564 |
| 44228-004 | 000-564 |
| 44228-005 | BD-1 |
| 44228-006 | FB-1 |

**Attachment 2**

**Brookhaven National Laboratory**

**Analytical Data Package Verification Checklist**

| | |
|---|---|
| Project : | SITEWD - O6R |
| Sampling Contractor : | EPD Field Sampling Team |
| Analytical Laboratory : | Test America-Colorado |
| Analytical Method and/or Parameter : | 504.1 |
| Sample Delivery Group : | 44238 |
| COC No. / Sample IDs : | 44238 / TB-1, 000-519, 000-527, 000-508, 000-572, 000-571, 000-500, 000-570 |
| Date Sampled : | 8/15/2022 |

| | 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)

EI.90.QR.22

Date : 09/09/2022

Reviewed by : Larry D. Singh
(Project Manager)

Date : 09/09/2022

## Site ID Verification Data

| Sample ID | Site ID |
|---|---|
| | |
| 44238-001 | TB-1 |
| 44238-002 | 000-519 |
| 44238-003 | 000-527 |
| 44238-004 | 000-508 |
| 44238-005 | 000-572 |
| 44238-006 | 000-571 |
| 44238-007 | 000-500 |
| 44238-008 | 000-570 |

**Attachment 2**

**Brookhaven National Laboratory**

**Analytical Data Package Verification Checklist**

| | |
|---|---|
| Project : | SITEWD - RAV |
| Sampling Contractor : | EPD Field Sampling Team |
| Analytical Laboratory : | General Engineering |
| Analytical Method and/or Parameter : | EPA 8260D |
| Sample Delivery Group : | 44264 |
| COC No. / Sample IDs : | 44264 / TB-1, 115-13, 115-14, 115-51, 108-12, 108-13, 108-14, 108-08 |
| Date Sampled : | 9/1/2022, 9/2/2022 |

| | 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, 0.83 UG/L. Associated samples have been qualified as needed |
| 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)

Reviewed by : Larry D. Singh
(Project Manager)

EI.90.QR.22

Date : 10/14/2022

Date : 10/14/2022

## Site ID Verification Data

| Sample ID | Site ID |
|---|---|
| | |
| 44264-001 | TB-1 |
| 44264-002 | |
| 44264-002 | 115-13 |
| 44264-003 | 115-14 |
| 44264-004 | 115-51 |
| 44264-005 | 108-12 |
| 44264-006 | 108-13 |
| 44264-007 | 108-14 |
| 44264-008 | 108-08 |

**Attachment 2**

**Brookhaven National Laboratory**

**Analytical Data Package Verification Checklist**

| | |
|---|---|
| Project : | SITEWD - O3M |
| Sampling Contractor : | EPD Field Sampling Team |
| Analytical Laboratory : | Test America-Colorado |
| Analytical Method and/or Parameter : | 8260C |
| Sample Delivery Group : | 44436 |
| COC No. / Sample IDs : | 44436 / TB-1, 104-36, 105-68, 113-31, 113-29, 113-30, 113-08, BD-1, FB-1, 113-07, 113-09, 113-18, 113-19 |
| Date Sampled : | 11/4/2022, 11/7/2022 |

| | 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 | | Chloroform, 0.6 UG/L. Associated samples have been qualified "U" as needed for Chloroform |
| Field Blanks : | | X | | Chloroform, 0.57 UG/L. Associated samples have been qualified "U" as needed for Chloroform |
| 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 Methyl chloride response above upper control limit. Associated samples have been qualified as needed |
| Surrogates : | X | | | |
| Other : | | | X | |
| | | | | |
| | | | | |

Reviewed by : Larry D. Singh
(Subject Matter Expert)

EI.90.QR.22

Date : 11/22/2022

Reviewed by : Larry D. Singh
(Project Manager)

Date : 11/22/2022

## Site ID Verification Data

| Sample ID | Site ID |
|---|---|
| | |
| 44436-001 | TB-1 |
| 44436-002 | 104-36 |
| 44436-003 | 105-68 |
| 44436-004 | 113-31 |
| 44436-005 | 113-29 |
| 44436-006 | 113-30 |
| 44436-007 | 113-08 |
| 44436-008 | BD-1 |
| 44436-009 | FB-1 |
| 44436-010 | 113-07 |
| 44436-011 | 113-09 |
| 44436-011 | 113-09 |
| 44436-011 | 113-09 |
| 44436-012 | 113-18 |
| 44436-013 | 113-19 |

## Triple Blank Verification Data

| Sample ID | Compound | Prev Val | Prev Det Lim | New Val | New Det Lim | Lab Qual | New Qual |
|---|---|---|---|---|---|---|---|
| 44436-001 | Chloroform | | | | | | |
| 44436-002 | Chloroform | 0.53 | 0.50 | 0.53 | 0.53 | | U |
| 44436-003 | Chloroform | 1.30 | 0.50 | 1.30 | 1.30 | | U |
| 44436-004 | Chloroform | 0.22 | 0.50 | 0.50 | 0.50 | J | U |
| 44436-005 | Chloroform | 0.60 | 0.50 | 0.60 | 0.60 | | U |
| 44436-006 | Chloroform | 1.10 | 0.50 | 1.10 | 1.10 | | U |
| 44436-011 | Chloroform | 2.10 | 2 | 2.10 | 2.10 | D | U |
| 44436-012 | Chloroform | 0.42 | 0.50 | 0.50 | 0.50 | J | U |
| 44436-013 | Chloroform | 1.30 | 0.50 | 1.30 | 1.30 | | U |

## Field Blank Verification Data

| Sample ID | Compound | Prev Val | Prev Det Lim | New Val | New Det Lim | Lab Qual | New Qual |
|---|---|---|---|---|---|---|---|
| 44436-002 | Chloroform | 0.53 | 0.50 | 0.53 | 0.53 | | U |
| 44436-003 | Chloroform | 1.30 | 0.50 | 1.30 | 1.30 | | U |
| 44436-004 | Chloroform | 0.22 | 0.50 | 0.50 | 0.50 | J | U |
| 44436-005 | Chloroform | 0.60 | 0.50 | 0.60 | 0.60 | | U |
| 44436-006 | Chloroform | 1.10 | 0.50 | 1.10 | 1.10 | | U |
| 44436-009 | Chloroform | | | | | | |
| 44436-011 | Chloroform | 2.10 | 2 | 2.10 | 2.10 | D | U |
| 44436-012 | Chloroform | 0.42 | 0.50 | 0.50 | 0.50 | J | U |
| 44436-013 | Chloroform | 1.30 | 0.50 | 1.30 | 1.30 | | U |

**Attachment 2**

**Brookhaven National Laboratory**

**Analytical Data Package Verification Checklist**

| | |
|---|---|
| Project : | SITEWD - 1Y4 |
| Sampling Contractor : | EPD Field Sampling Team |
| Analytical Laboratory : | Test America-Colorado |
| Analytical Method and/or Parameter : | 8260C |
| Sample Delivery Group : | 44539 |
| COC No. / Sample IDs : | 44539 / TB-1, 000-108, 000-474 |
| Date Sampled : | 12/7/2022 |

| | 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 | | Chloroform, 0.61 UG/L. Associated samples have been qualified "U" 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 | |
| Surrogates : | X | | | |
| Other : | | | X | |
| | | | | |
| | | | | |

Reviewed by : Larry D. Singh
(Subject Matter Expert)

EI.90.QR.22

Date : 12/30/2022

Reviewed by : Larry D. Singh
(Project Manager)

Date : 12/30/2022

## Site ID Verification Data

| Sample ID | Site ID |
|---|---|
| 44539-001 | TB-1 |
| 44539-002 | 000-108 |
| 44539-003 | 000-474 |

## Triple Blank Verification Data

| Sample ID | Compound | Prev Val | Prev Det Lim | New Val | New Det Lim | Lab Qual | New Qual |
|---|---|---|---|---|---|---|---|
| 44539-001 | Chloroform | | | | | | |
| 44539-002 | Chloroform | 0.92 | 0.50 | 0.92 | 0.92 | | U |

**Attachment 2**

**Brookhaven National Laboratory**

**Analytical Data Package Verification Checklist**

| | |
|---|---|
| Project : | SITEWD - O6R |
| Sampling Contractor : | EPD Field Sampling Team |
| Analytical Laboratory : | Test America-Colorado |
| Analytical Method and/or Parameter : | 504.1 |
| Sample Delivery Group : | 44585 |
| COC No. / Sample IDs : | 44585 / TB-1, 000-173, 000-175, 000-209, 000-284, 000-283, 000-524, BD-1, FB-1 |
| Date Sampled : | 12/28/2022 |

| | 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 : 01/19/2022

Reviewed by : Larry D. Singh
(Project Manager)

Date : 01/19/2022

EI.90.QR.22

## Site ID Verification Data

| Sample ID | Site ID |
|---|---|
| | |
| 44585-001 | TB-1 |
| 44585-002 | 000-173 |
| 44585-003 | 000-175 |
| 44585-004 | 000-209 |
| 44585-005 | 000-284 |
| 44585-006 | 000-283 |
| 44585-006 | 000-286 |
| 44585-006 | 000-286 |
| 44585-007 | 000-524 |
| 44585-008 | BD-1 |
| 44585-009 | FB-1 |

BROOKHAVEN NATIONAL LABORATORY

**Data Usability Summary Report**

| | |
|---|---|
| Project: | ES-SPDES |
| Sampling Contractor: | EPD Field Sampling Team |
| Analytical Laboratory: | GEL |
| Analytical Method and/or Parameter: | SW846 3005A/6020B |
| Sample Delivery Group: | 575776 |
| Chain-of-Custody (COC) No. / Sample IDs: | 43891 |
| Date Sampled: | 04/06/2022 |
| Parameter(s): | Lead |

| *SAMPLE ID* | *DATA USABILITY QUALIFIERS* | *EXPLANATION FOR QUALIFIERS* |
|---|---|---|
| 43891-002 and -004 | none | No qualifiers, data is accurate |

**Summary:**

Reviewed by: Larry D. Singh Date: 07/27/2022
Subject Matter Expert

Reviewed by: _____ Date: _____
Project Manager

BROOKHAVEN NATIONAL LABORATORY

**Data Usability Summary Report**

| | |
|---|---|
| Project: | ES SPDES |
| Sampling Contractor: | EPD Field Sampling Team |
| Analytical Laboratory: | GEL |
| Analytical Method and/or Parameter: | EPA 624.1 |
| Sample Delivery Group: | 44152 |
| Chain-of-Custody (COC) No. / Sample IDs: | 44152 |
| Date Sampled: | 07/12/2022 |
| Parameter(s): | EPA 624.1 |

| *SAMPLE ID* | *DATA USABILITY QUALIFIERS* | *EXPLANATION FOR QUALIFIERS* |
|---|---|---|
| Lab Post Spike and Post Spike duplicate | "R" | 2-chloroethlyvinly ether in the Post Spike and Post Spike Duplicate has been qualified "R" due to deficiencies in the method analysis. The acidification of samples results in the degradation of this compound. Non-Acidified vials should be used if 2-chlororthlyvinly ether is a compound of interest. |
| 44152-003 | 'No Qualifier" | Results are acceptable, |

**Summary:**

EI.90.QR.22

Reviewed by: Larry D. Singh Date: 08/03/2022
Subject Matter Expert

Reviewed by: _____ Date: _____
Project Manager

BROOKHAVEN NATIONAL LABORATORY

**Data Usability Summary Report**

| | |
|---|---|
| Project: | SITEWD-03C |
| Sampling Contractor: | EPD Field Sampling Team |
| Analytical Laboratory: | Test America-Missouri |
| Analytical Method and/or Parameter: | 901.1 |
| Sample Delivery Group: | 42894 |
| Chain-of-Custody (COC) No. / Sample IDs: | 42894/ TB-1, 109-03, 109-04 |
| Date Sampled: | 03/30/2021 |
| Parameter(s): | Sodium-22 |

| *SAMPLE ID* | *DATA USABILITY QUALIFIERS* | *EXPLANATION FOR QUALIFIERS* |
|---|---|---|
| 42894-002<br><br>Well 109-03 | 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 |

**Summary: Sodium-22 result for sample -002 has been qualified as N2, Not usable.**

Reviewed by: Larry D. Singh Date: 03/23/2022
QA Chemist

Reviewed by: _____ Date: _____
Project Manager

**Appendix H**

**Groundwater Modeling - Assessment of OU VI EDB Capture and Cleanup Timeframe (Arcadis 2022)**

**Groundwater Modeling - Assessment of OU VI EDB Transport Evaluation (Arcadis 2023)**

# Memo

**SUBJECT**
OU VI EDB Capture Evaluation

**TO**
Vincent Racaniello, BNL

**DATE**
September 26, 2022

**DEPARTMENT**
ENVIRONMENT

**PROJECT NUMBER**
30134269

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This memo documents the work performed in support of the expansion of the groundwater pump and treat system for the Operable Unit (OU) VI ethylene dibromide (EDB) off-site plume. Specifically, this memo documents the capture analysis conducted to evaluate the locations and extraction rates of proposed remedial wells. This modeling effort was completed following updates of the BNL Regional Groundwater Flow Model (Arcadis, 2020; Arcadis, 2021) and the development of a new EDB sub-model.

## INTRODUCTION

This modeling effort was performed to evaluate the hydraulic capture of EDB-impacted off-site groundwater extending south of North Street for approximately 2,500 feet (ft). 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 existing groundwater remediation system to address this off-site plume began operation in August 2004 and includes 2 extraction wells and 2 shallow recharge wells. However, there was a concern that further EDB groundwater contamination existed deeper than the existing monitoring and hydraulic capture network.

Vertical geologic profile borings were drilled and sampled in March/April 2021. This allowed for a more refined understanding of local hydrogeologic conditions, specifically indicating the presence of a locally continuous Upper Glacial Silt and Clay deposit approximately 10 ft thick from about -75 to -85 ft mean sea level (msl; 145-155 ft below ground surface [bgs]). This sampling effort also confirmed that EDB contamination was present below this deposit, significantly deeper than the existing extraction wells are screened (approximately -49 to -69 ft msl).

The goal of the remedial system is to clean-up the EDB plume to below the groundwater standard of 0.05 micrograms per liter (µg/L) by 2030. A previous assessment of the cleanup timeframe based on the current understanding of the plume delineation and current extraction system projected the low-level impacts near the groundwater standard of 0.05 µg/L at monitoring wells 000-284 and 000-283 would at minimum take approximately 9 to 10 years to travel 1,700 ft to the extraction wells (Arcadis, 2021). This estimate pushes the cleanup timeframe past the 2030 goal, indicating the need for adjustments to the extraction system to accelerate the process.

This work was conducted in support of the Groundwater Protection Group of BNL's Environmental Protection Division's remedial design efforts. The modeling software Groundwater Vistas (Version 8.22 Build 9), a graphical user interface which serves as a pre- and post-processor for MODFLOW (McDonald, 1988) and MODPATH (Pollack, 1994), was used to develop the EDB sub-model, update hydraulic parameters and boundary conditions,

and delineate the capture zones of the existing OU VI EDB Treatment System, and suggest modifications to the system to improve EDB capture and reduce EDB plume cleanup times. MODFLOW is the U.S. Geological Survey's modular finite-difference flow model and is used to simulate groundwater flow. MODPATH is a particle tracking post-processing package developed to compute three-dimensional flow paths using output from steady-state or transient groundwater flow simulations completed with MODFLOW.

# KEY ASSUMPTIONS AND SUB-MODEL DEVELOPMENT

The EDB flow and particle tracking simulations described herein were conducted using a purpose-built sub-model, derived from the recently updated regional groundwater flow model. The sub-model was developed using a process called telescopic mesh refinement (TMR), which enables the development of a sub-model from a larger model while preserving the model parameters, structure, and boundary conditions.

TMR is a well-accepted method for developing sub-models or simply refining more regional scale models in an area of interest. Arcadis developed a simple FORTRAN utility which enables the user to easily create a new model that inherits the properties and boundary conditions from the parent or regional model.

TMR was used to extract a portion of the regional groundwater flow model and modify model grid cell sizes and the discretization of what was formerly regional model layers 2 and 4.

The following key assumptions and modifications were made for this modeling effort:

- Properties and boundary conditions in the sub-model were inherited from the updated Regional Groundwater Flow Model (Arcadis, 2021), which was modified to incorporate an area of lower hydraulic conductivity near the EDB plume. The new hydraulic conductivity zone bridges regional model layers 3 and 4. A focused calibration check was conducted to ensure that the submodel accurately replicated the performance of the regional model with respect to groundwater flow directions and groundwater gradients. **Figure 1** shows the layers of the regional and sub-model in relation to one another, and the positions assigned to the proposed extraction wells.
- The localized Upper Glacial Silt and Clay deposit was represented as an additional hydraulic conductivity zone in the area of the EDB plume in Model Layers 6 and 7.
- Aerial extent of sub-model:
    - Approximately 4,400 ft in the east-west direction.
    - Approximately 8,200 ft in the north-south direction.
- There were no changes made to the sub-model which would alter flow directions or rates of flow predicted by the regional flow model. No changes were made to aerial recharge rates or boundary flow conditions.
- Groundwater flow was simulated under steady state conditions.

## Sub-Model Discretization

Following development of the sub-model, model layers 2 and 4 were modified by splitting the layers into four and five layers, respectively; **see Figure 1**. This was done to enhance the vertical discretization for the purposes of evaluating the vertical movement of the EDB plume and enabling optimization of the proposed remedial well screens. The observed EDB plume is present in model layers 4 through 10. Layer 2 had 3 additional layers added of 10 ft thickness, while Layer 4 had significant variation in thickness across the submodel domain and was

divided into 5 layers, each with 20% of the total thickness of Layer 4. In the area of the EDB plume, the layer thickness varied from approximately 14 to 18 ft.

The sub-model includes all eight layers from the regional groundwater flow model, reconfigured as follows and shown on Figure 1:

- Regional model layers 2 and 4 correspond to sub-model layers 2 through 5 and 7 through 11, respectively.
- Layer 2 was divided into 3 additional layers of 10 ft thickness, while Layer 4 had significant variation in thickness across the submodel domain and was divided into 5 layers, each with 20% of the total thickness of Layer 4. In the area of the EDB plume, the layer thickness varied from approximately 14 to 18 ft.
- Regional model layers 1, 3, and 5 through 8 correspond to sub-model layers 1, 6, and 12 – 16, respectively; the thickness of these layers in the sub-model are unchanged from the regional model.

In addition, the model grid was modified to reduce model cell sizes from 100 ft by 100 ft in the regional groundwater flow model to 10 ft by 10 ft across the sub-model.

# DISCUSSION OF MODEL SIMULATION AND RESULTS

The primary goal of this groundwater modeling exercise was to use the model to develop a proposed remedial well network which would mitigate the continued downgradient movement of the EDB plume at concentrations above 0.05 µg/L, with a secondary goal of capturing the plume more quickly than the current system allows. The capture analysis was an iterative process during which 7 capture assessment scenarios were simulated under various combinations of well locations and pumping rates. Proposed pumping rates and well placements were adjusted to achieve containment of the EDB plume, and a sensitivity analysis of the hydraulic properties of the Upper Glacial Silt and Clay was completed to confirm capture of the plume both above and below this lower hydraulic conductivity zone.

## Evaluation and Optimization of Hydraulic Capture

The evaluation and optimization of hydraulic capture achieved by the proposed remedial well network was completed through an iterative process of testing the impact of anticipated minimum and maximum pumping rates assigned to the proposed remedial wells, then varying the locations and assigned pumping rates for the wells to achieve capture of the 0.05 µg/L EDB plume. During this iterative process, the necessity of a mid-plume extraction well was recognized, and its placement had the greatest effect on expediting plume cleanup. The optimal location of this midpoint well for capturing the northernmost portion of the plume was between monitoring wells 000-549 and 000-567 (**Figure 2**).

As the capture assessment proceeded, it became evident that with the addition of deeper extraction wells, the existing, shallow remedial wells (EW-1E and EW-2E) were not necessary to maintain containment of the 0.05 µg/L EDB plume. As a result of this determination, EW-1E and EW-2E were eliminated from the proposed remedial well network (**Figure 2**).

Various combinations of well locations, well screen intervals and pumping rates were evaluated during the development of the proposed remedial well network. Initially, the remedial system was expanded by adding two proposed deep extraction wells, co-located with the existing shallow extraction wells, followed by a mid-plume deep extraction well. Following discussion of the proposed layout with BNL, the location of the mid-plume well

was shifted to the south and positioned along the centerline of the plume, near monitoring wells 000-567 and 000-568. The model predicted performance of this remedial well network was unacceptable, as some of the deeper EDB impacts were predicted to by-pass the mid-plume well, prolonging the length of time required to clean-up. In the final configuration, the mid-plume well was shifted to a location along the centerline of the plume, between monitoring wells 000-549 and 000-567/000-568. These tested locations are shown in **Figure 2**. The evaluation considered system-wide flow rates as high as 450 gpm and as low as 300 gpm and included well networks of as many as 6 wells; the final proposed network consists of 3 wells. The pumping rates and screen zones associated with the final capture simulation are summarized on **Table 1**. All remedial wells were simulated with 20-ft long screens. Simulated pumping rates across the well network ranged from 80 to 150 gallons per minute (gpm) each, with the simulated system having a total pumping rate of 310 gpm. Treated discharge from the EDB remedial well network will be returned to the aquifer through the existing shallow injection wells, DW-1E and DW-2E. The final proposed layout of the remedial well network is shown in **Figure 3.**

## Endpoint Analysis

The extent (vertically and horizontally) of the capture zone resulting from the operation of the proposed EDB remedial well network was determined through an endpoint analysis. For this analysis, a “cloud” of particles is released throughout the model area, such that particles are started within each model cell over an area that encompasses and extends beyond the limits of the portion of the aquifer targeted for capture (i.e., the 0.05 µg/L EDB plume).

Under the simulated groundwater flow field resulting from the operation of the proposed remedial well network and the local recharge of groundwater to the shallow injection wells, particles are tracked from their starting point to their endpoint. When a particle’s starting location corresponds to an ending location at one of the EDB remedial wells, the starting location is marked with a solid color fill. The resulting figure uses fills of different colors to show the capture zones associated with each of the proposed remedial wells. **Figures 4 - 10** show the model predicted capture zones associated with the EDB remedial well network, in model layers 4 through 10, respectively. On each figure the capture zones of the remedial wells are identified with a unique color fill. The figures show both the model predicted area of capture and the overall extent of the 0.05 µg/L EDB plume.

In aggregate, the area of capture established by the EDB remedial well system is predicted to capture the 0.05 µg/L EDB plume.

## Forward Particle Tracking

The model predicted advective movement of the EDB plume under the influence of the proposed remedial well network was evaluated by conducting a forward particle tracking simulation. **Figures 11-17** shows the predicted pathlines for particles released along the projected plume edge in model layers 4 through 10.

The simulation tracked the model-predicted movement of the particles. The colors of the particle pathlines indicate the model layers through which the particles are travelling during the simulation. The arrowheads along each pathline mark 1 year of travel time (calculated with an aquifer porosity of 15%). A contaminant transport model would be needed to accurately estimate a cleanup time for the EDB plume, but the particle pathlines are a useful indicator of the groundwater flowlines the plume would follow. An evaluation of the model-predicted travel time from the edge of plume under the current remedial system configuration had indicated travel times of 8 to 9 years for particles to travel from the northern edge of the plume to downgradient wells. This evaluation suggests

that the addition of the deep wells and midpoint well will expedite the clean up timeframe, with particles placed along the estimated edge of the plume being captured in 5 to 6 years.

### Sensitivity Analysis

There is limited hydrogeologic information about the localized lens of Upper Glacial Silt and Clay in the area of the EDB plume beyond the confirmation of its presence. A sensitivity analysis was conducted regarding the hydraulic conductivity and anisotropy of this unit, with parameter variations listed in **Table 2**. Ultimately, the capture of the plume by the proposed extraction system had minimal sensitivity to the properties tested and the capture zones and particle trace pathlines were similar to the base scenario.

### Results

The proposed EDB remedial well network consists of three remedial wells arrayed in two lines (mid-plume and southern) as follows:

- A deep mid-plume extraction well
- A southern line of two deep extraction wells at the same location as the existing (shallow) extraction wells

When implemented in the field the proposed system will offer operational flexibility to maximize capture and minimize the time to cleanup. The proposed EDB remedial well network is predicted to achieve the goals of the design effort by preventing the continued downgradient movement of EDB at concentrations above 0.05 µg/L and expediting the time to cleanup when compared to the existing EDB remedial system..

## CONCLUSIONS

The results of this modeling effort suggest that hydraulic containment of the majority of the EDB plume at concentrations of 0.05 µg/L or higher can be achieved with a network of 3 remedial wells, pumping (in total) 310 gpm, and returning the treated water to the aquifer through the existing injection well system. This configuration results in optimized capture of the EDB plume; the area of hydraulic capture is focused to encompass the extent of the EDB plume while minimizing the time to capture. Due to the complexities of contaminant transport, solute transport modeling is recommended to confirm whether this configuration would achieve the 2030 objective for cleaning up the EDB plume.

## REFERENCES

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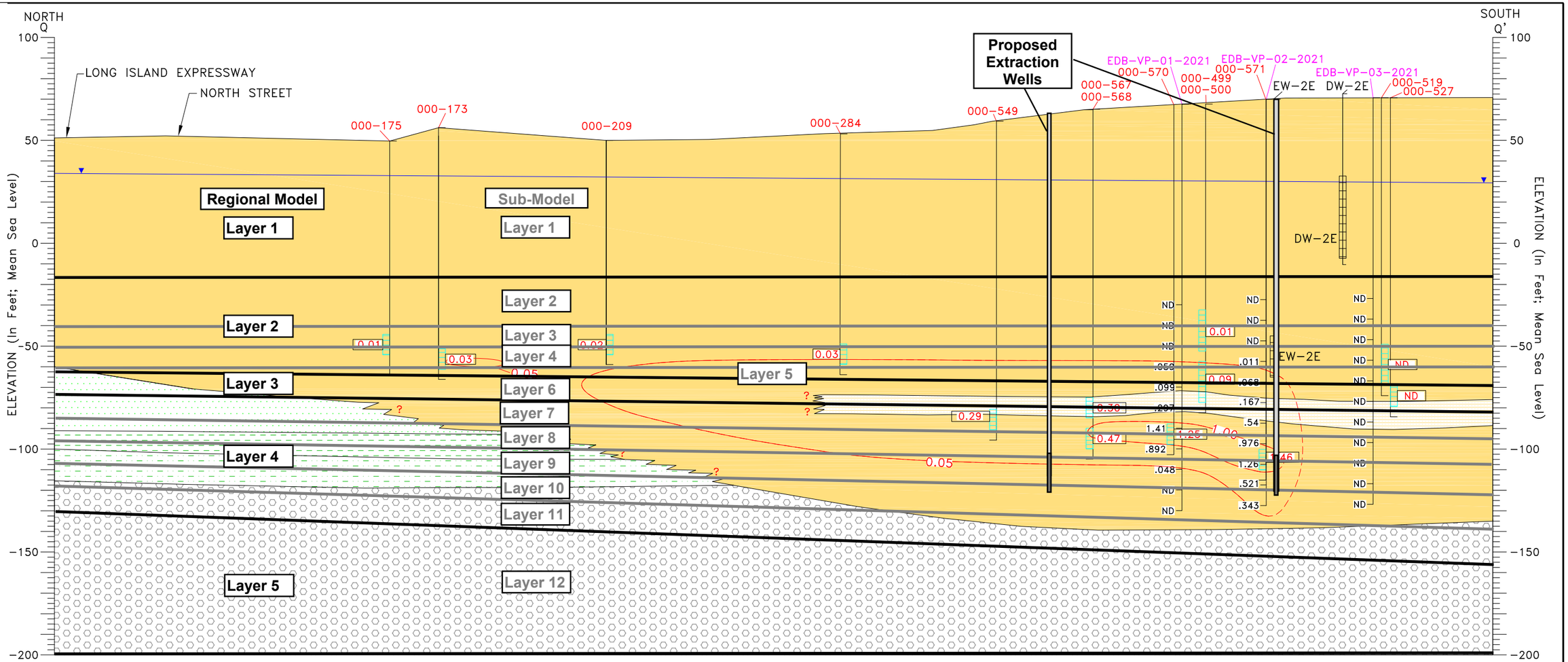


LEGEND

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 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

000–499
000–500

Regional Model Layer Divide

New Submodel Layer Divide

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.

NOTES (continued):

2. EDB RESULTS BASED ON FOURTH QUARTER 2021 OU VI SAMPLING EVENTS.
3. CONTOUR INTERVAL IS AS SHOWN.
4. FIGURE ADAPTED FROM FIGURE 3.4-02 OF THE 2021 BNL GROUNDWATER STATUS REPORT.

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OU VI EDB CAPTURE EVALUATION

# OU VI EDB PLUME SUBMODEL CROSS-SECTION

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1

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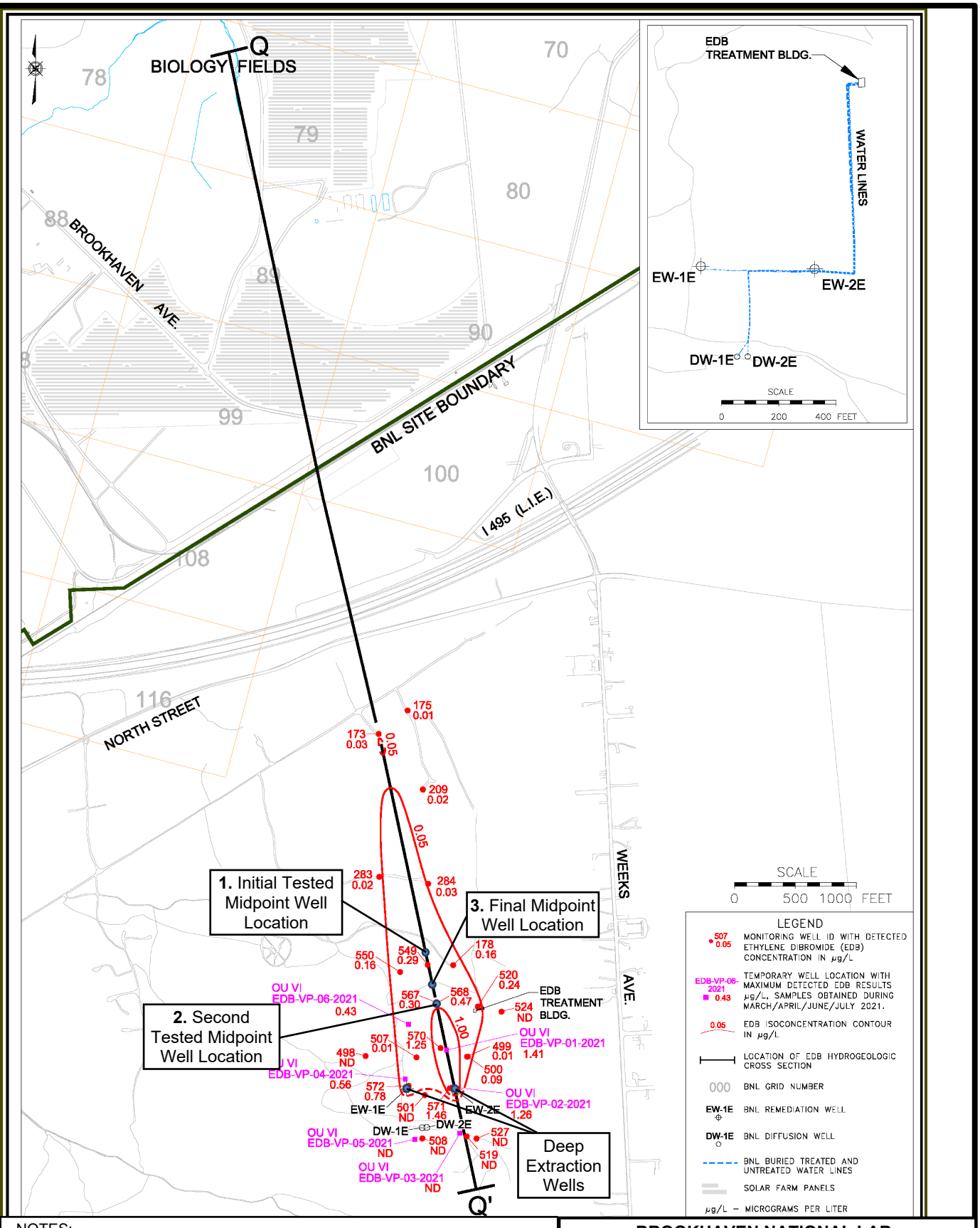


NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.
3. "ND" INDICATEDS NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMITS.
4. RESULTS BASED ON EPA METHOD 504.
5. FIGURE ADAPTED FROM FIGURE 3.4-01 OF THE 2021 BNL GROUNDWATER STATUS REPORT.

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**OU VI EDB CAPTURE EVALUATION**

# MODEL TESTED WELL LOCATIONS

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FIGURE
**2**

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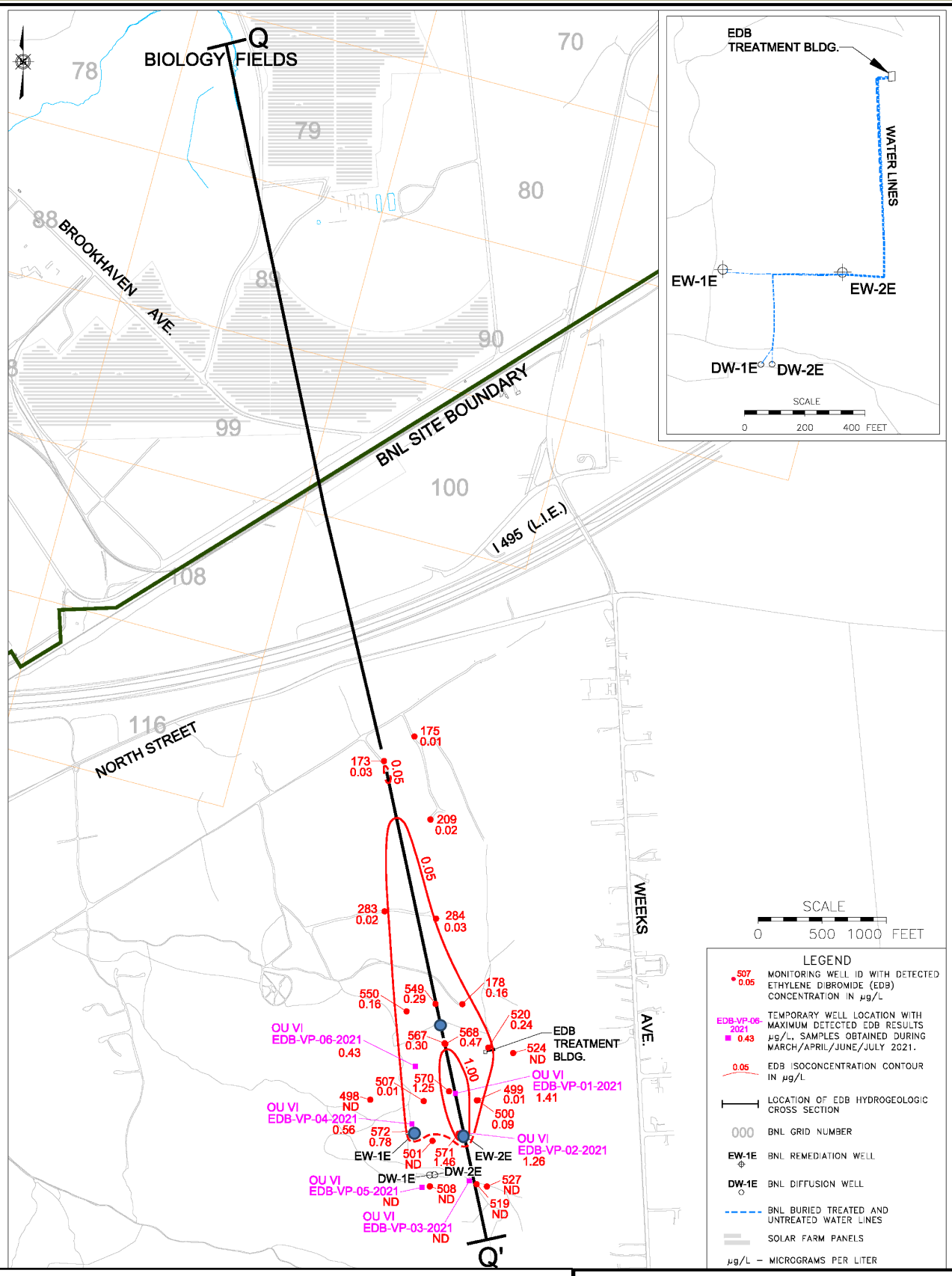


NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.
3. "ND" INDICATEDS NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMITS.
4. RESULTS BASED ON EPA METHOD 504.
5. FIGURE ADAPTED FROM FIGURE 3.4-01 OF THE 2021 BNL GROUNDWATER STATUS REPORT.

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**OU VI EDB CAPTURE EVALUATION**

# FINAL PROPOSED WELL LOCATIONS

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FIGURE
**3**

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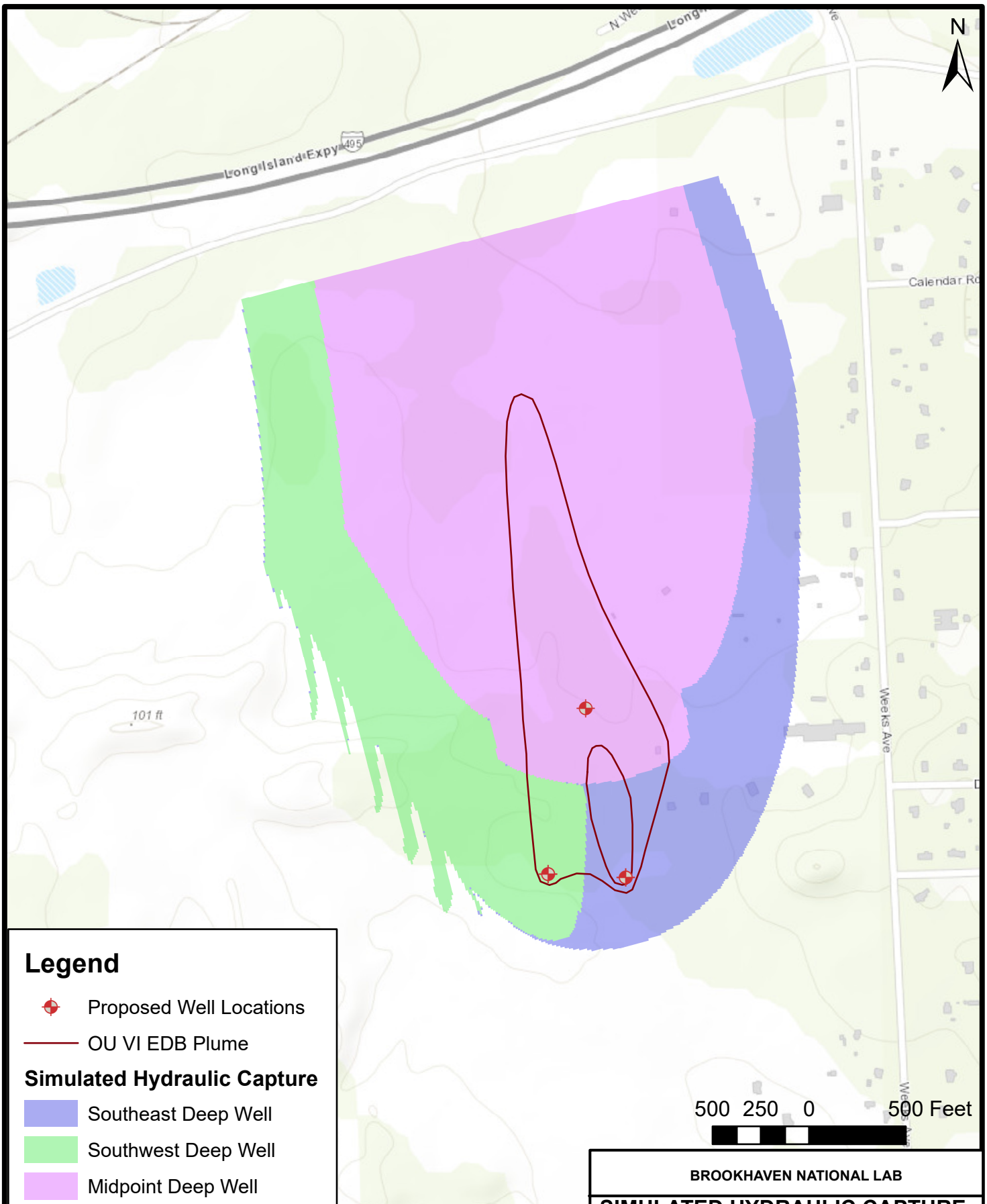


## Legend

- Proposed Well Locations
- OU VI EDB Plume

**Simulated Hydraulic Capture**

- Southeast Deep Well
- Southwest Deep Well
- Midpoint Deep Well

NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.

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**SIMULATED HYDRAULIC CAPTURE LAYER 4**

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FIGURE 4

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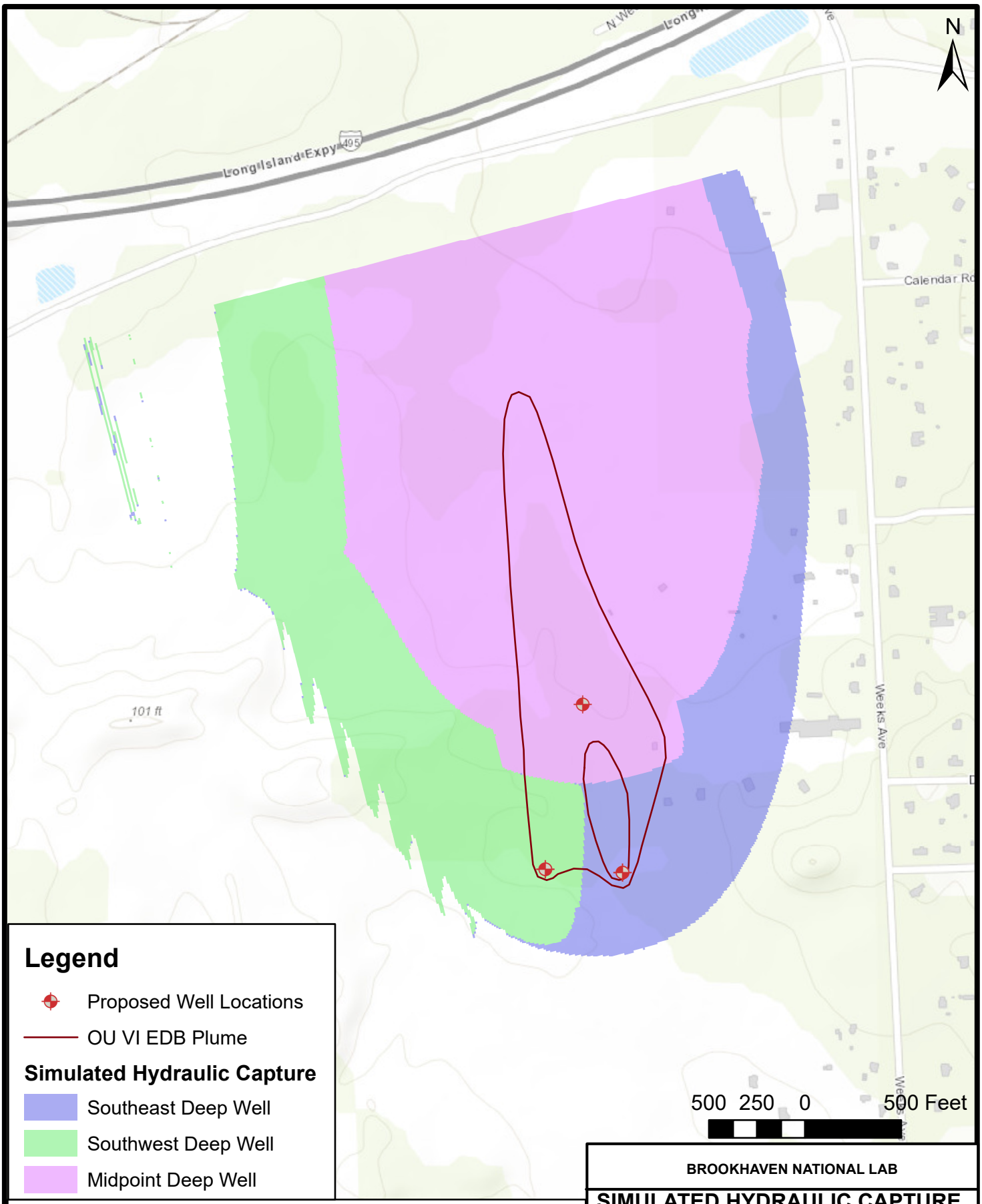


## Legend

- Proposed Well Locations
- OU VI EDB Plume

**Simulated Hydraulic Capture**

- Southeast Deep Well
- Southwest Deep Well
- Midpoint Deep Well

NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.

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**SIMULATED HYDRAULIC CAPTURE LAYER 5**

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FIGURE 5

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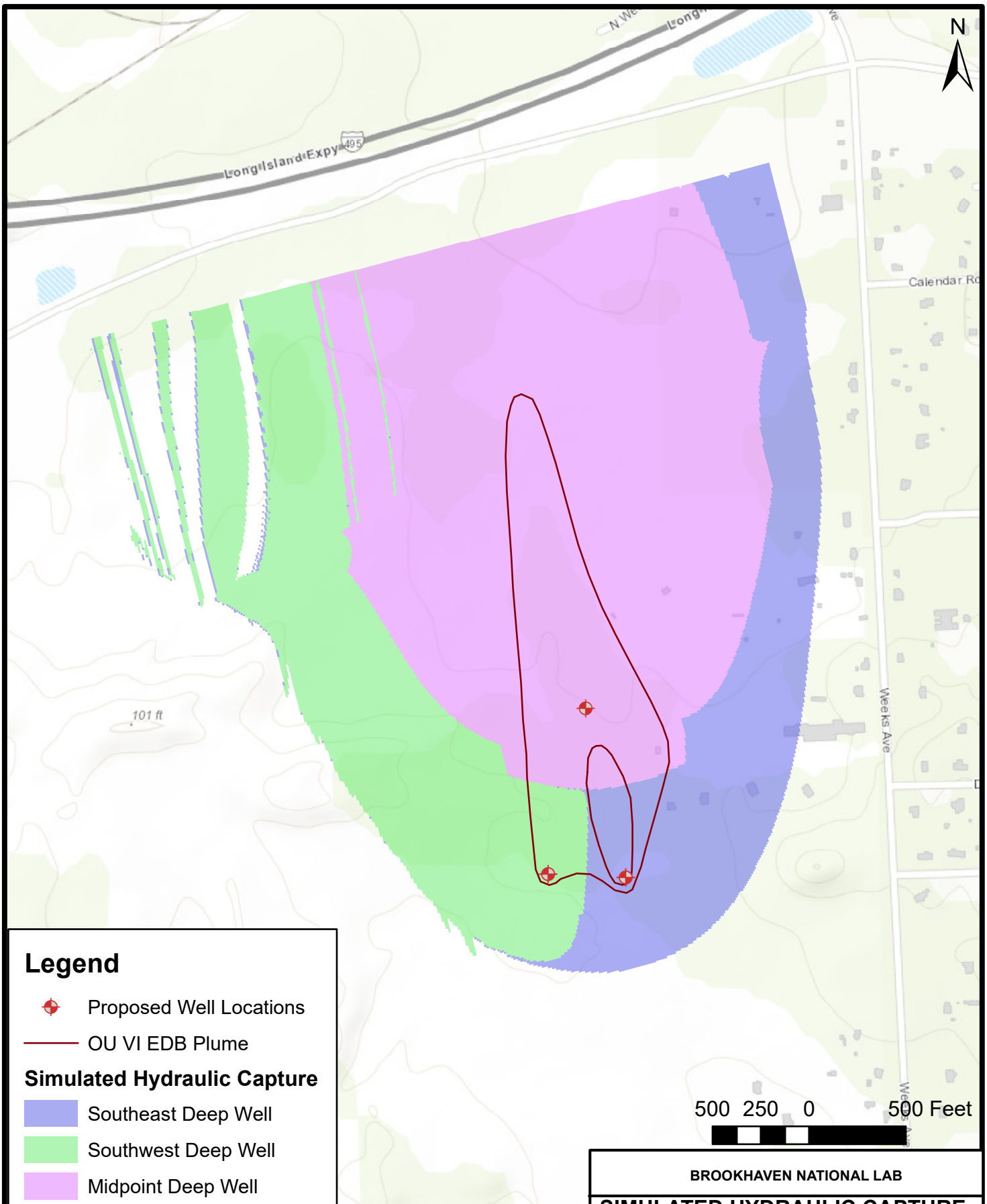


NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.

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**SIMULATED HYDRAULIC CAPTURE LAYER 6**

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FIGURE 6

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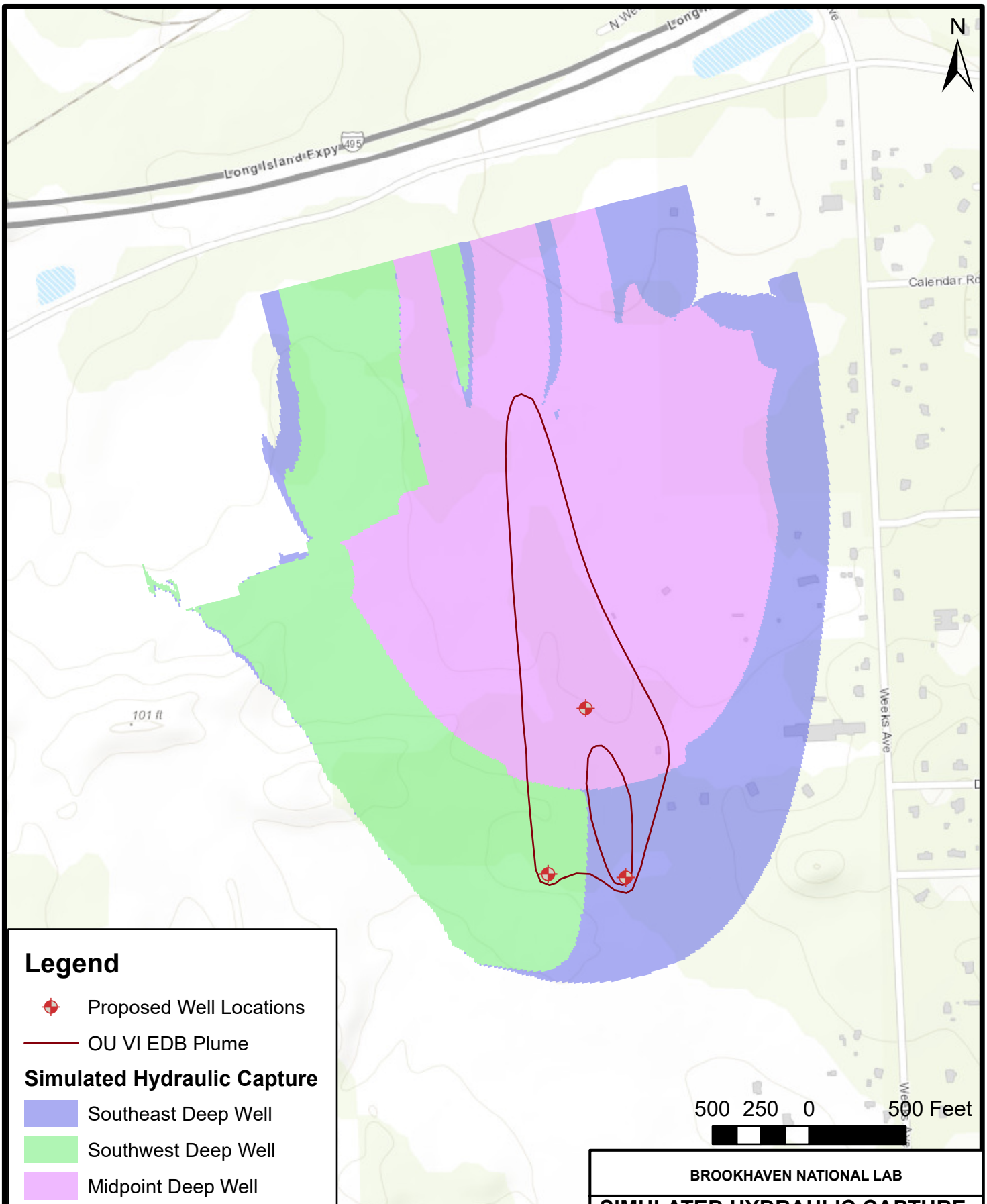


## Legend

- Proposed Well Locations
- OU VI EDB Plume

**Simulated Hydraulic Capture**

- Southeast Deep Well
- Southwest Deep Well
- Midpoint Deep Well

NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.

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**SIMULATED HYDRAULIC CAPTURE LAYER 7**

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FIGURE 7

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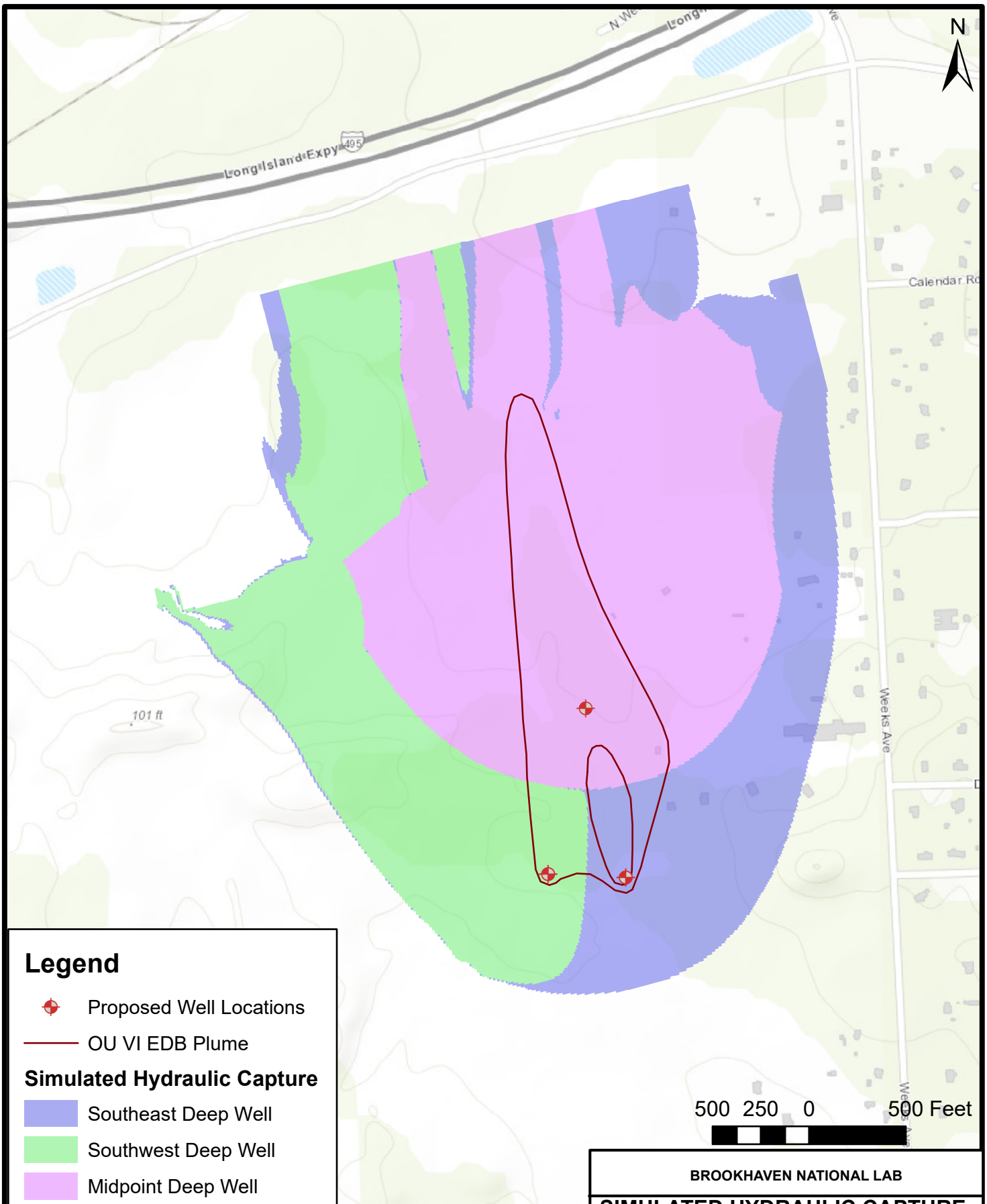


NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.

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**SIMULATED HYDRAULIC CAPTURE LAYER 8**

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FIGURE 8

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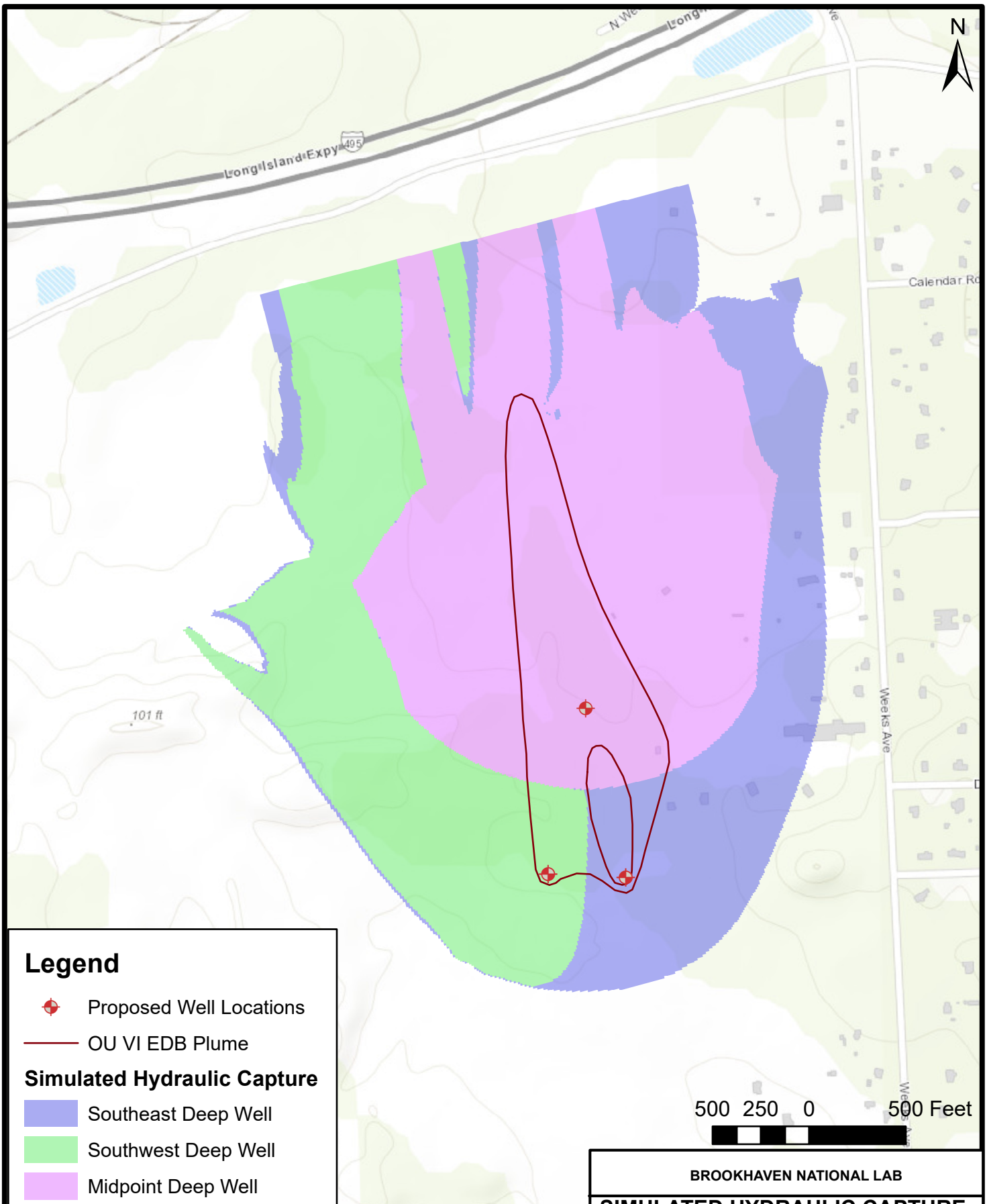


## Legend

- Proposed Well Locations
- OU VI EDB Plume

**Simulated Hydraulic Capture**

- Southeast Deep Well
- Southwest Deep Well
- Midpoint Deep Well

NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.

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**SIMULATED HYDRAULIC CAPTURE LAYER 9**

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FIGURE 9

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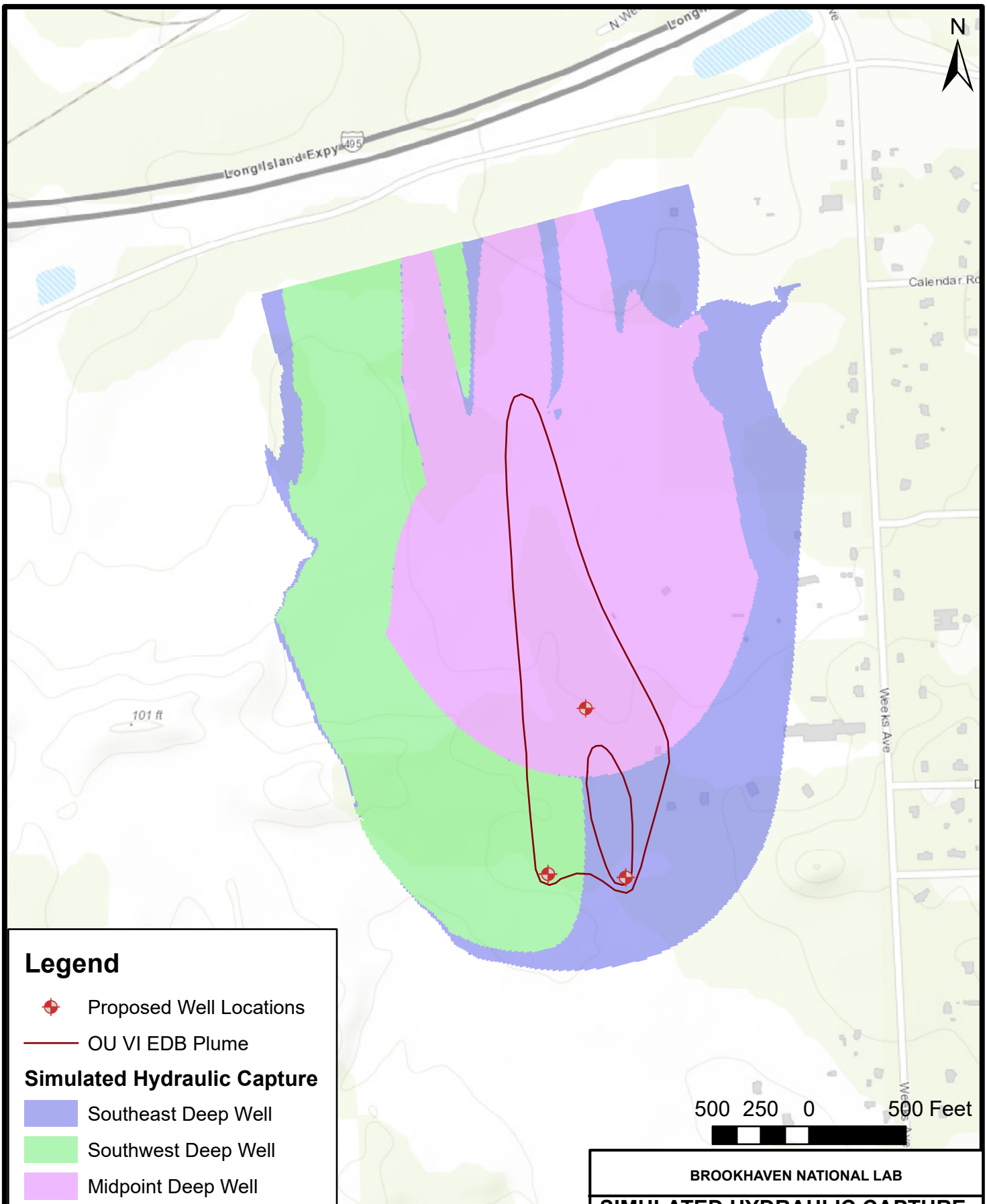


NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.

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**SIMULATED HYDRAULIC CAPTURE LAYER 10**

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FIGURE
**10**

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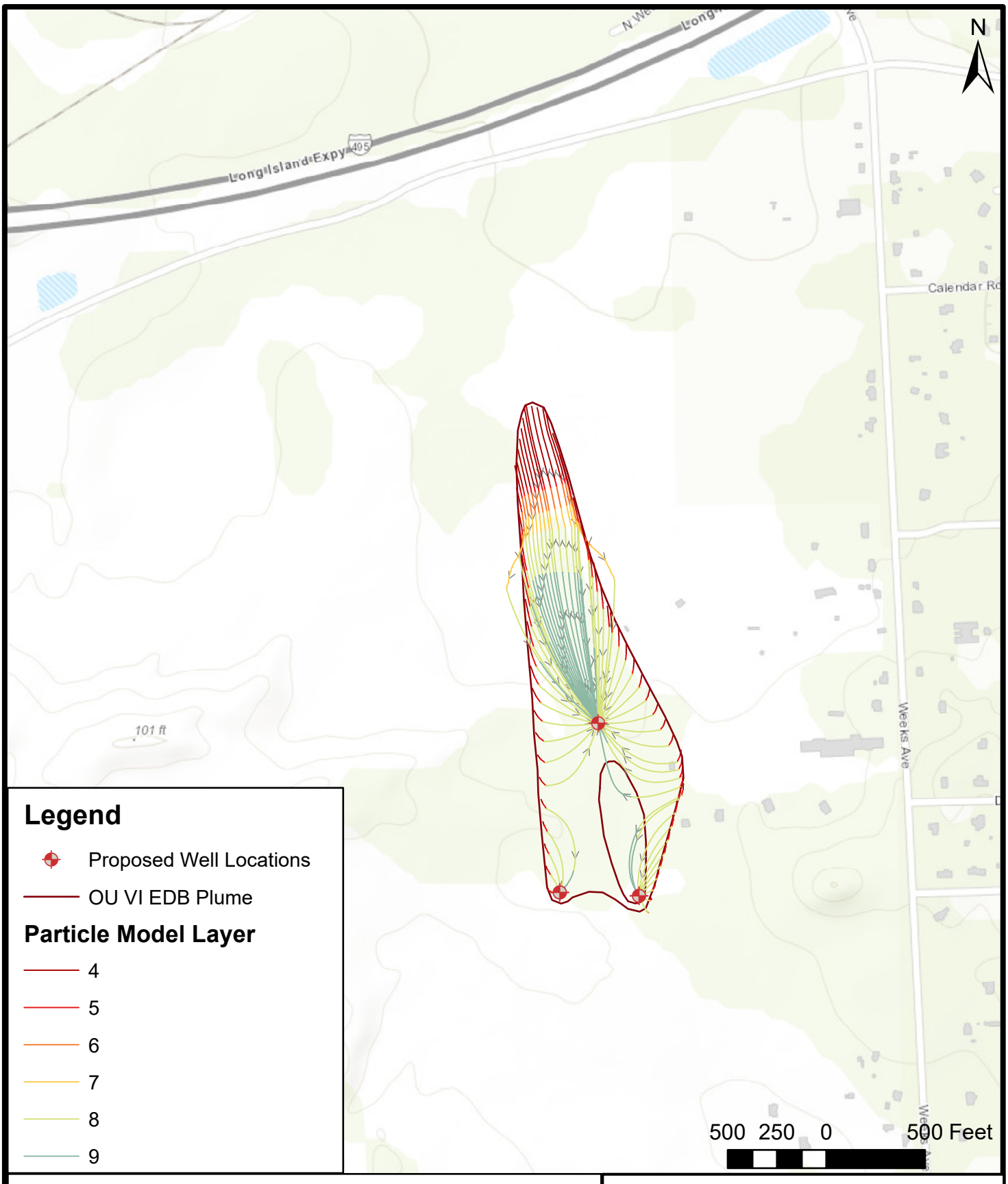


## Legend

- Proposed Well Locations
- OU VI EDB Plume

**Particle Model Layer**

- 4
- 5
- 6
- 7
- 8
- 9

NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.
3. ARROWS ARE PLACED AT 1 YEAR INTERVALS OF PARTICLE TRAVEL.

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# SIMULATED PARTICLE CAPTURE LAYER 4

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FIGURE 11

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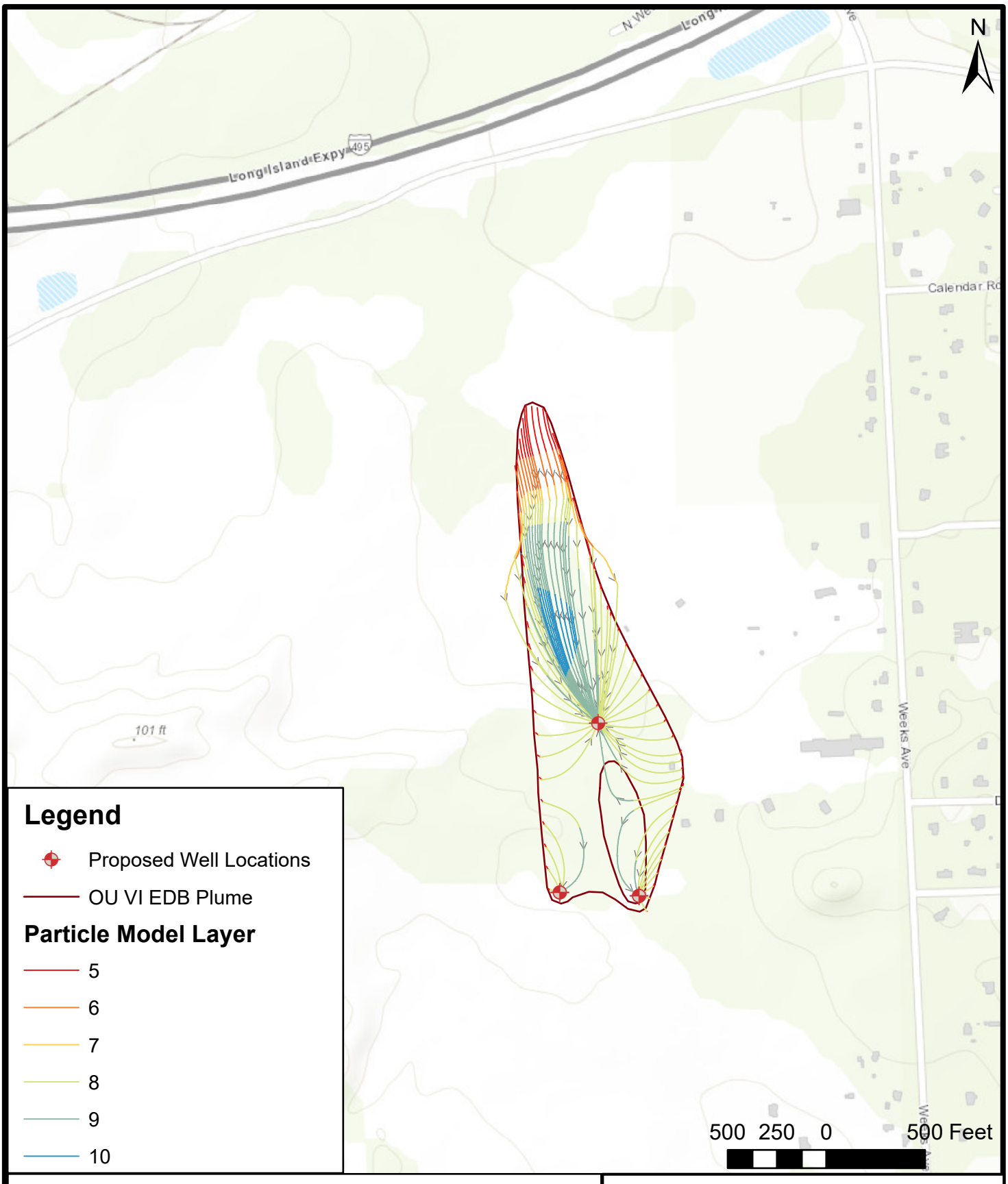


## Legend

- Proposed Well Locations
- OU VI EDB Plume

**Particle Model Layer**

- 5
- 6
- 7
- 8
- 9
- 10

NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.
3. ARROWS ARE PLACED AT 1 YEAR INTERVALS OF PARTICLE TRAVEL.

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# SIMULATED PARTICLE CAPTURE LAYER 5

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FIGURE 12

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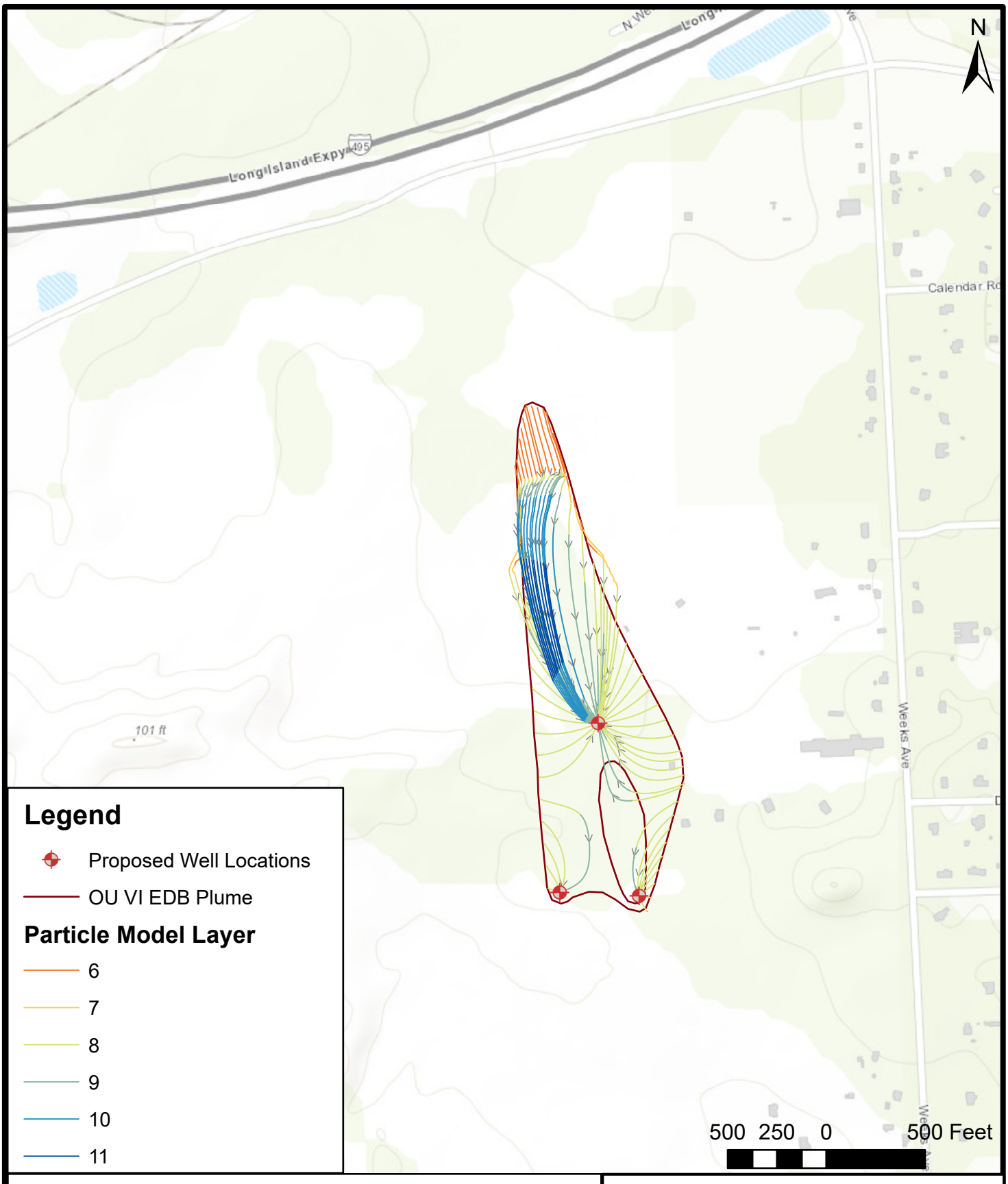


## Legend

- Proposed Well Locations
- OU VI EDB Plume

### Particle Model Layer

- 6
- 7
- 8
- 9
- 10
- 11

NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.
3. ARROWS ARE PLACED AT 1 YEAR INTERVALS OF PARTICLE TRAVEL.

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# SIMULATED PARTICLE CAPTURE LAYER 6

ARCADIS

FIGURE 13

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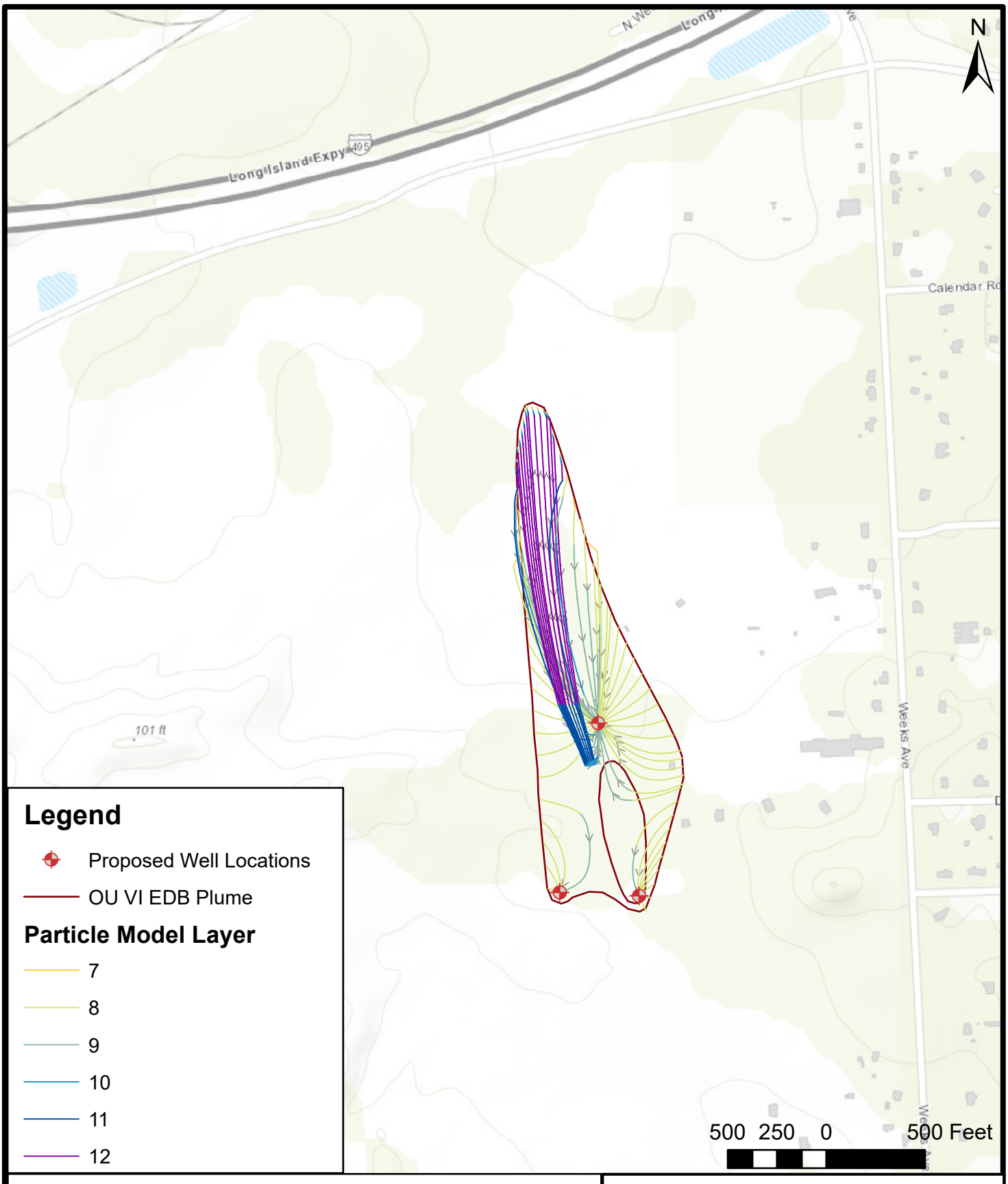


## Legend

- Proposed Well Locations
- OU VI EDB Plume

### Particle Model Layer

- 7
- 8
- 9
- 10
- 11
- 12

NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.
3. ARROWS ARE PLACED AT 1 YEAR INTERVALS OF PARTICLE TRAVEL.

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# SIMULATED PARTICLE CAPTURE LAYER 7

ARCADIS

FIGURE 14

FILE: C:\Users\LEastes\OneDrive - ARCADIS\Documents\Brookhaven National Laboratory\EDB\GIS\Fig_14.mxd
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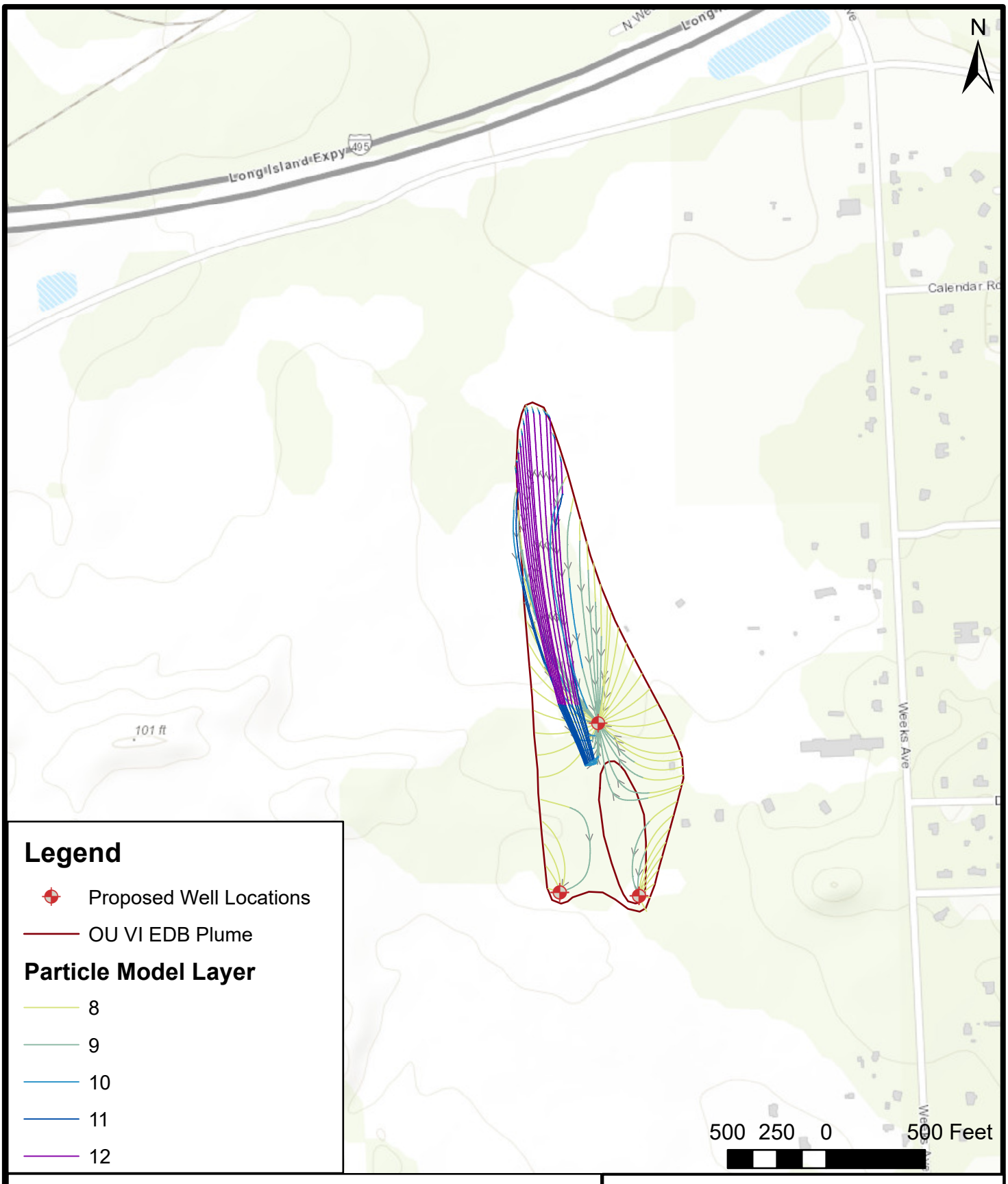


NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.
3. ARROWS ARE PLACED AT 1 YEAR INTERVALS OF PARTICLE TRAVEL.

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**SIMULATED PARTICLE CAPTURE LAYER 8**

ARCADIS

FIGURE 15

FILE: C:\Users\LEastes\OneDrive - ARCADIS\Documents\Brookhaven National Laboratory\EDB\GIS\Fig_15.mxd
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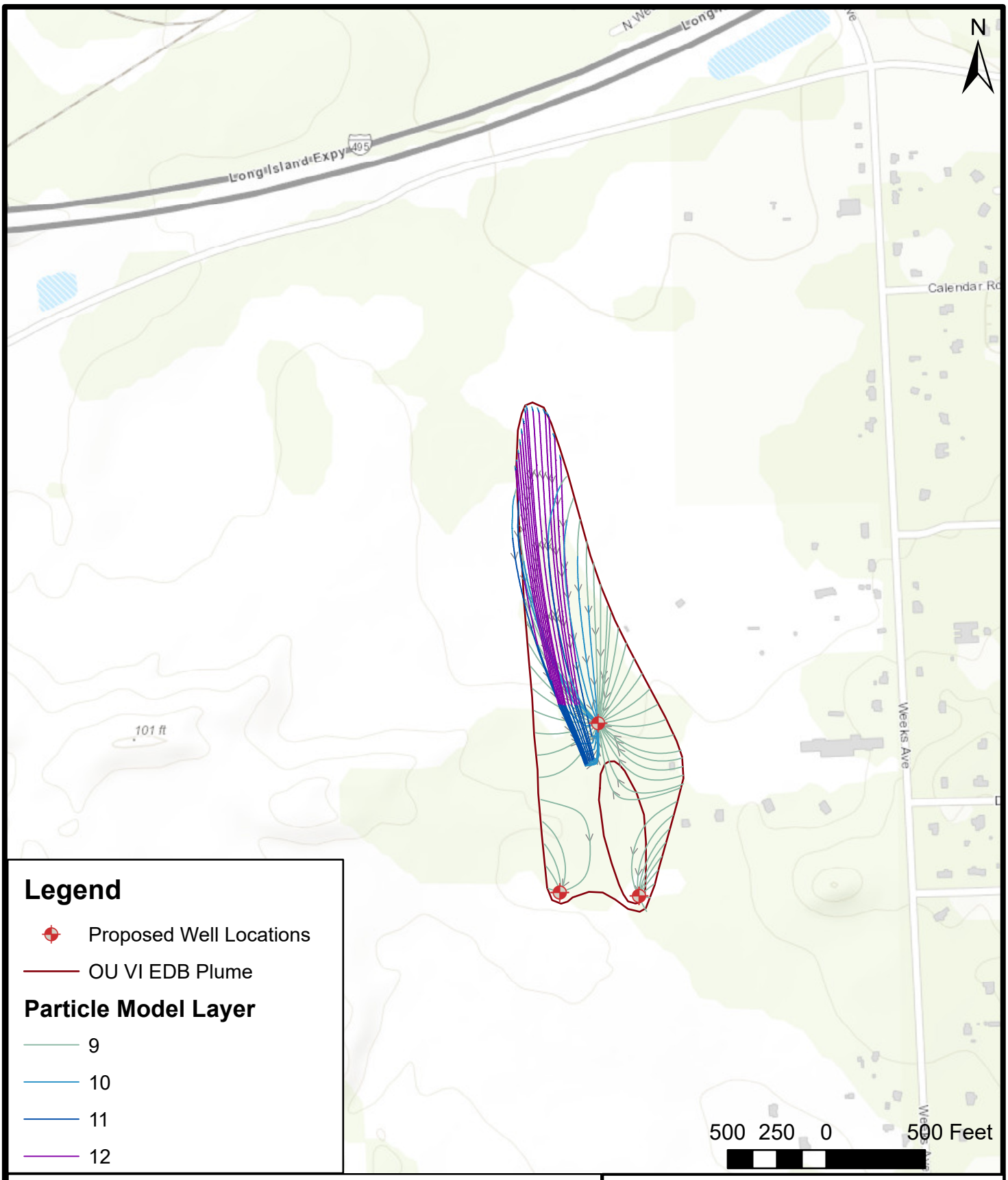


## Legend

- Proposed Well Locations
- OU VI EDB Plume

**Particle Model Layer**

- 9
- 10
- 11
- 12

NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.
3. ARROWS ARE PLACED AT 1 YEAR INTERVALS OF PARTICLE TRAVEL.

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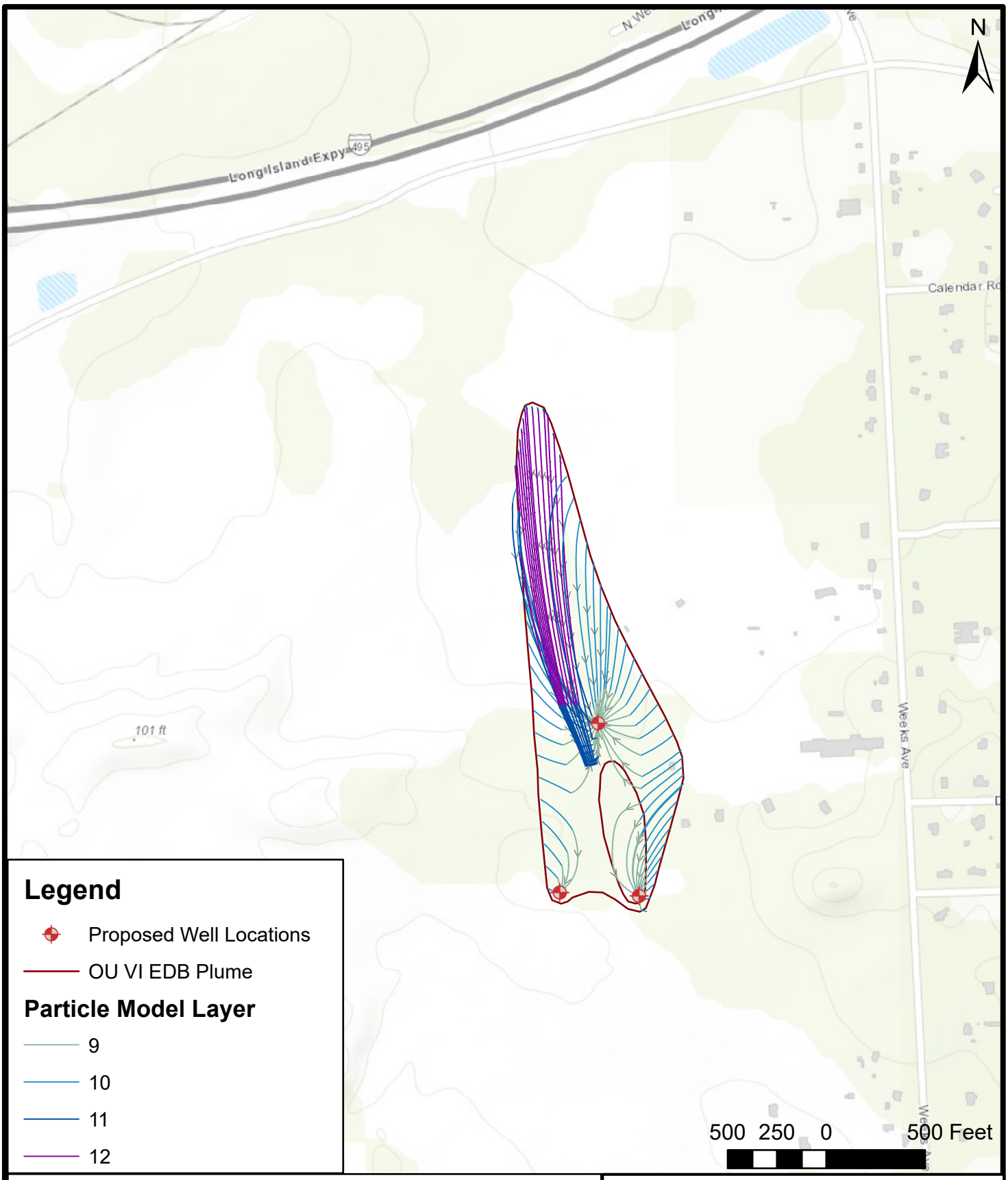
# SIMULATED PARTICLE CAPTURE LAYER 9

ARCADIS

FIGURE 16

FILE: C:\Users\LEastes\OneDrive - ARCADIS\Documents\Brookhaven National Laboratory\EDB\GIS\Fig_16.mxd
CITY:COL DIV/GROUP:ENV USER:LEastes




## Legend

- Proposed Well Locations
- OU VI EDB Plume

**Particle Model Layer**

- 9
- 10
- 11
- 12

NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.
3. ARROWS ARE PLACED AT 1 YEAR INTERVALS OF PARTICLE TRAVEL.

BROOKHAVEN NATIONAL LAB

# SIMULATED PARTICLE CAPTURE LAYER 10

ARCADIS

FIGURE 17

FILE: C:\Users\LEastes\OneDrive - ARCADIS\Documents\Brookhaven National Laboratory\EDB\GIS\Fig_17.mxd
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**Table 1.**
**Summary of Simulated Pumping Rate and Well Screen Zone,**
**OU VI EDB Capture Evaluation**
**Brookhaven National Laboratory**
**Upton, New York.**

| Well ID | Pumping Rate (gpm) | Elevation Screen Top (ft msl) | Elevation Screen Bottom (ft msl) | Screen Length (ft) | Model Layers Screened |
|---|---|---|---|---|---|
| Existing Southern Shallow Wells | OFF | -49 | -69 | 20 | 4, 5 |
| Southern Deep Wells | 2 wells, 80 each | -100 | -120 | 20 | 8, 9 |
| Midpoint Deep Well | 150 | -100 | -120 | 20 | 8, 9 |
| | | | | | |
| **Total Flow:** | **310** | | | | |

gpm - gallons per minute
ft - feet
ft msl - feet relative to mean sea level

**Table 2.**
**Summary of Sensitivity Runs Performed,**
**OU VI EDB Capture Evaluation**
**Brookhaven National Laboratory**
**Upton, New York.**

| Run Description | Horizontal Hydraulic Conductivity (ft/d) | Vertical Hydraulic Conductivity (ft/d) | Horizontal to Vertical Hydraulic Conductivity Ratio |
|---|---|---|---|
| Base Run | 1 | 0.1 | 10 : 1 |
| Low Horizontal Hydraulic Conductivity | 0.25 | 0.025 | 10 : 1 |
| High Horizontal Hydraulic Conductivity | 2 | 0.2 | 10 : 1 |
| High Anisotropy | 2 | 0.002 | 1000 : 1 |

Note: The hydraulic conductivities and anisotropy ratios tested here were all applied to the localized lens of Upper Glacial Silt and Clay in the area of the OU VI EDB plume.

ft/d - feet per day

# Memo

**SUBJECT**
OU VI EDB Transport Evaluation

**TO**
Vincent Racaniello, BNL

**DATE**
March 28, 2023

**DEPARTMENT**
ENVIRONMENT

**PROJECT NUMBER**
30134270

**COPIES TO**
William Dorsch, BNL

**NAME**
Robert Porsche
rporsche@arcadis-us.com

This memo documents the work performed in support of the expansion of the groundwater pump and treat system for the Operable Unit (OU) VI ethylene dibromide (EDB) off-site plume. Specifically, this memo documents the contaminant transport analysis conducted to evaluate the locations and extraction rates of proposed remedial wells. This modeling effort was completed following updates of the BNL Regional Groundwater Flow Model (Arcadis, 2020; Arcadis, 2021b) and the development of a new EDB sub-model.

## INTRODUCTION

This modeling effort was performed to evaluate the hydraulic capture of EDB-impacted off-site groundwater extending south of North Street for approximately 2,500 feet (ft). 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 existing groundwater remediation system to address this off-site plume began operation in August 2004 and includes 2 extraction wells and 2 shallow recharge wells. However, there was a concern that further EDB groundwater contamination existed deeper than the existing monitoring and hydraulic capture network.

Vertical geologic profile borings were drilled and sampled in March/April 2021. This allowed for a more refined understanding of local hydrogeologic conditions, specifically indicating the presence of a locally continuous Upper Glacial Silt and Clay deposit approximately 10 ft thick from about -75 to -85 ft mean sea level (msl; 145-155 ft below ground surface [bgs]). This sampling effort also confirmed that EDB contamination was present below this deposit, significantly deeper than the existing extraction wells are screened (approximately -49 to -69 ft msl). **Figure 1** shows the relative positions of the extraction wells, and EDB plume in cross section.

The goal of the remedial system is to clean-up the EDB plume to below the groundwater standard of 0.05 micrograms per liter (µg/L) by 2030. A previous assessment of the cleanup timeframe based on the current understanding of the plume delineation and current extraction system projected the low-level impacts near the groundwater standard of 0.05 µg/L at monitoring wells 000-284 and 000-283 would at a minimum take approximately 9 to 10 years to travel 1,700 ft to the extraction wells (Arcadis, 2021a). This estimate pushes the cleanup timeframe past the 2030 goal, indicating the need for adjustments to the extraction system to accelerate the process.

This work was conducted in support of the Groundwater Protection Group of BNL's Environmental Protection Division's remedial design efforts. The modeling software Groundwater Vistas (Version 8.22 Build 9), a graphical user interface which serves as a pre- and post-processor for MODFLOW (McDonald, 1988), MODPATH (Pollack,

1994), MT3D (Zheng and Wang, 1999), and MODALL (Potter et al., 2008) was used to develop the EDB sub-model, update hydraulic parameters and boundary conditions, delineate the capture zones of the existing OU VI EDB Treatment System, determine time to cleanup, and suggest modifications to the system to improve EDB capture and reduce EDB plume cleanup times. MODFLOW is the U.S. Geological Survey's modular finite-difference flow model and is used to simulate groundwater flow. MODPATH is a particle tracking post-processing package developed to compute three-dimensional flow paths using output from steady-state or transient groundwater flow simulations completed with MODFLOW. MT3DMS is a solute transport package that simulates advection, dispersion and diffusion, and chemical reactions of contaminants in groundwater flow systems. MODALL is a tool for assessing capture zones for groundwater pump-and-treat systems by determining the fraction of groundwater captured by a system in each cell of a MODFLOW model, indicating the strength of capture in various areas of the model.

Previously, Arcadis had developed a submodel encompassing the EDB plume and performed a flow and pathline analysis on the existing remedial system and proposed modifications to the system incorporating some potential improvements (Arcadis, 2022) The EDB flow and transport simulations described herein were conducted using this purpose-built sub-model, derived from the recently updated regional groundwater flow model.

## KEY ASSUMPTIONS AND MODIFICATIONS

The following key assumptions and modifications were made for this modeling effort:

- Properties and boundary conditions in the sub-model were inherited from the updated Regional Groundwater Flow Model (Arcadis, 2021b), which was modified to incorporate an area of lower hydraulic conductivity near the EDB plume. The new hydraulic conductivity zone bridges regional model layers 3 and 4. A focused calibration check was conducted to ensure that the submodel accurately replicated the performance of the regional model with respect to groundwater flow directions and groundwater gradients. **Figure 1** shows the layers of the regional and sub-model in relation to one another, relative positions of the existing extraction wells, and EDB plume in cross section.
- The localized Upper Glacial Silt and Clay deposit was represented as an additional hydraulic conductivity zone in the area of the EDB plume in Model Layers 6 and 7. This zone was assigned a horizontal and vertical hydraulic conductivity of 1 foot per day (ft/d).
- Transport parameters, specifically the $K_d$ and bulk density values were assigned within the model for the transport simulations. **Table 1** compares the values assigned within this transport model to the values used in previous transport simulations by P.W. Grosser Consulting (P.W. Grosser Consulting, 2019). Arcadis' updates to the model included assigning a bulk density of 132 lb/ft$^3$ (or 2.11 g/cm$^3$) and a porosity of 0.20 throughout the model domain. The $K_d$ value assigned was calculated assuming a fraction of organic carbon ($f_{oc}$) of 0.00079 and a $K_{oc}$ of 51.3 (US EPA). This value for $f_{oc}$ is within the range of reported values in the Upper Glacial Deposits (Wang et al., 2013). The assigned values for this most recent transport modeling targeted a retardation factor of 1.43, which is a reasonable estimate given the previous analyses of historical concentration trends observed at EDB monitoring well network (Arcadis, 2021a).
- The plume was initialized in the model within the 0.05 µg/L vertical and plan view delineations of the EDB plume (**Figures 1 and 2**). Areas where field data had indicated concentrations below 0.05 µg/L were initialized with a concentration of 0 µg/L. The plume mass was initialized both in the Upper Glacial Unconsolidated Materials and the Upper Glacial Silt and Clay deposit. The plume mass was initialized from model layers 4 through 10.

- There were no changes made to the sub-model which would alter flow directions or rates of flow predicted by the regional flow model. No changes were made to aerial recharge rates or boundary flow conditions.
- Groundwater flow was simulated under steady state conditions.

# DISCUSSION OF MODEL SIMULATION AND RESULTS

The primary goal of this groundwater modeling exercise was to use the model to develop a proposed remedial well network which would mitigate the continued downgradient movement of the EDB plume at concentrations above 0.05 µg/L, with a secondary goal of capturing the plume more quickly than the current system allows. The capture analysis was an iterative process during which 4 main capture assessment scenarios were simulated under various combinations of well locations and pumping rates. Various configurations of proposed pumping rates and well placements were adjusted to achieve containment of the EDB plume.

## Existing System

The existing extraction system incorporates 2 extraction wells screened from roughly -49 to -69 ft msl, relatively shallow in comparison to the extent of the 0.05 µg/L limit of EDB plume indicated by 2021 vertical profiling results. Based on the current understanding of the 0.05 µg/L delineation of EDB plume, EDB extends up to 60 feet below these well screens (**see Figure 1**). **Figure 2** shows the plan view layout of the existing extraction system and delineation of the EDB plume. The existing extraction system has the extraction wells pumping an average of 150 gallons per minute (GPM) each, with a maximum treatment capacity of approximately 400 GPM.

The transport simulation of this existing setup indicated that the current extraction well setup would not be sufficient to contain contaminant transport at depth. **Figure 3** shows the simulated distribution of EDB after 10 years of transport with the current system in operation in Layer 9 of the model. The plume has begun to migrate beyond the initial concentration distribution established within the model, past the downgradient extraction wells. This suggests that the existing extraction system does not achieve containment of the downgradient movement of the EDB plume. After establishing this, various combinations of well locations, well screen intervals and pumping rates were evaluated as part of the development of the proposed remedial well network.

## Proposed System

The evaluation and optimization of hydraulic capture achieved by the proposed remedial well network was completed through an iterative process of testing the impact of anticipated minimum and maximum pumping rates assigned to the proposed remedial wells, then varying the locations and assigned pumping rates for the wells to achieve capture of the 0.05 µg/L EDB plume. All remedial wells were simulated with 20-ft long screens.

Based on the evaluation of the existing system, it was determined that system upgrades should, at minimum, incorporate deeper remedial wells (screened -100 to -120 ft msl) in the same approximate location as current extraction wells EW-1E and EW-2E. The previous pathline evaluation had evaluated systems with both the existing shallow remedial wells and the deeper remedial wells pumping, as well as configurations where the existing, shallow wells were retired. From this previous evaluation, it was evident that with the addition of deeper extraction wells, the existing shallow remedial wells (EW-1E and EW-2E) were not necessary to maintain containment of the 0.05 µg/L EDB plume (Arcadis, 2022). As a result of this determination, EW-1E and EW-2E were eliminated from the proposed remedial well network configurations that were tested during this transport analysis.

Initially, the remedial system was expanded by adding two proposed deep extraction wells, co-located with the existing shallow extraction wells, followed by a mid-plume deep extraction well (screened from -100 to -120 ft amsl) (**Figure 4**). The deep extraction wells were pumped at 80 GPM each and the midpoint well was pumped at 150 GPM, for a system total of 310 GPM. This configuration was arrived at following the previous pathline evaluation (Arcadis, 2022). Unfortunately, the 10-year transport simulation indicated that while this configuration would achieve containment of the plume, it would not be sufficient to clean up EDB below the 0.05 µg/L concentration goal. While EDB no longer migrates beyond the southern line of extraction wells, concentrations up to 1.18 µg/L are still present in the aquifer after 10 years.

An alternate configuration of remedial wells that targeted the high concentration "spine" of the plume was then tested, shown in **Figure 5**. This configuration added a total of 3 deep wells along the spine of the plume in addition to the replacement of the existing downgradient shallow wells with a single deep extraction well, all screened from -100 to -120 ft amsl. The 2 northernmost plume spine wells were simulated as pumping 50 GPM each, the southern plume spine well at 60 GPM, and the deep downgradient well at 40 GPM for a system total of 200 GPM. The implementation of this configuration would involve significant alterations to the current extraction system. Even with these significant alterations to the arrangement of wells, the EDB plume still lingered in the aquifer at concentrations up to 1.01 µg/L after 10 years, well above the 0.05 µg/L goal. This iteration of the system placed the extraction wells in close to one another (within 300 feet) which resulted in significant hydraulic interference and the development of zones of stagnation between the wells.

Strategic relocation of DW-1E and DW-2E, the 2 shallow re-injection wells was considered, but capture zone analysis performed with MODALL indicated that this relocation would not significantly improve the targeting of the plume. Following discussion with Groundwater Protection Group managers, it was agreed that the cost that would be incurred with a relocation of the re-injection wells and the risk of potential smearing of the plume was not justified, given the minimal predicted improvement in extraction system performance.

Ultimately, the evaluation of the potential effectiveness of the plume spine wells was inconclusive. As such, modeling efforts were refocused on hydraulic containment to prevent further downgradient migration of the EDB plume. The final proposed EDB extraction system does not incorporate any plume spine wells but does replace the 2 shallow downgradient wells with the 2 deep extraction wells (screened -100 to -120 ft msl). The simulated pumping rates at these proposed deep wells were 150 GPM each for a system total of 300 GPM, consistent with the rates sustained at the current extraction wells. The concentrations in model layers 6 through 9 after the 10-year transport simulation are shown in **Figures 6 through 9**. As seen in these figures, the deep extraction wells maintain containment of the 0.05 µg/L plume, which is predicted to no longer migrate past the downgradient line of wells as it did with the existing extraction system (seen in **Figure 3**).

## CONCLUSIONS

The results of this modeling effort suggest that hydraulic containment of the majority of the EDB plume at concentrations of 0.05 µg/L or higher can be achieved with a network of 2 deep remedial wells pumping (in total) 300 GPM and returning the treated water to the aquifer through the existing injection well system. However, given the current understanding and representation of the site hydrogeology, it is unlikely that the 2030 objective for the cleanup of EDB to concentrations below 0.05 µg/L can be met.

There is some uncertainty in the model as to the transmissivity of the Upper Glacial Unconsolidated Material, and its representation does significantly affect the rate of transport. Additional work to determine possible improvements to the model and resolve some of the sources of uncertainty should be considered. For example,

data collection in the form of pumping tests for the proposed deeper extraction wells once installed could provide useful insight as to whether the current model representation of the hydraulic conductivity in the site area is reasonable.

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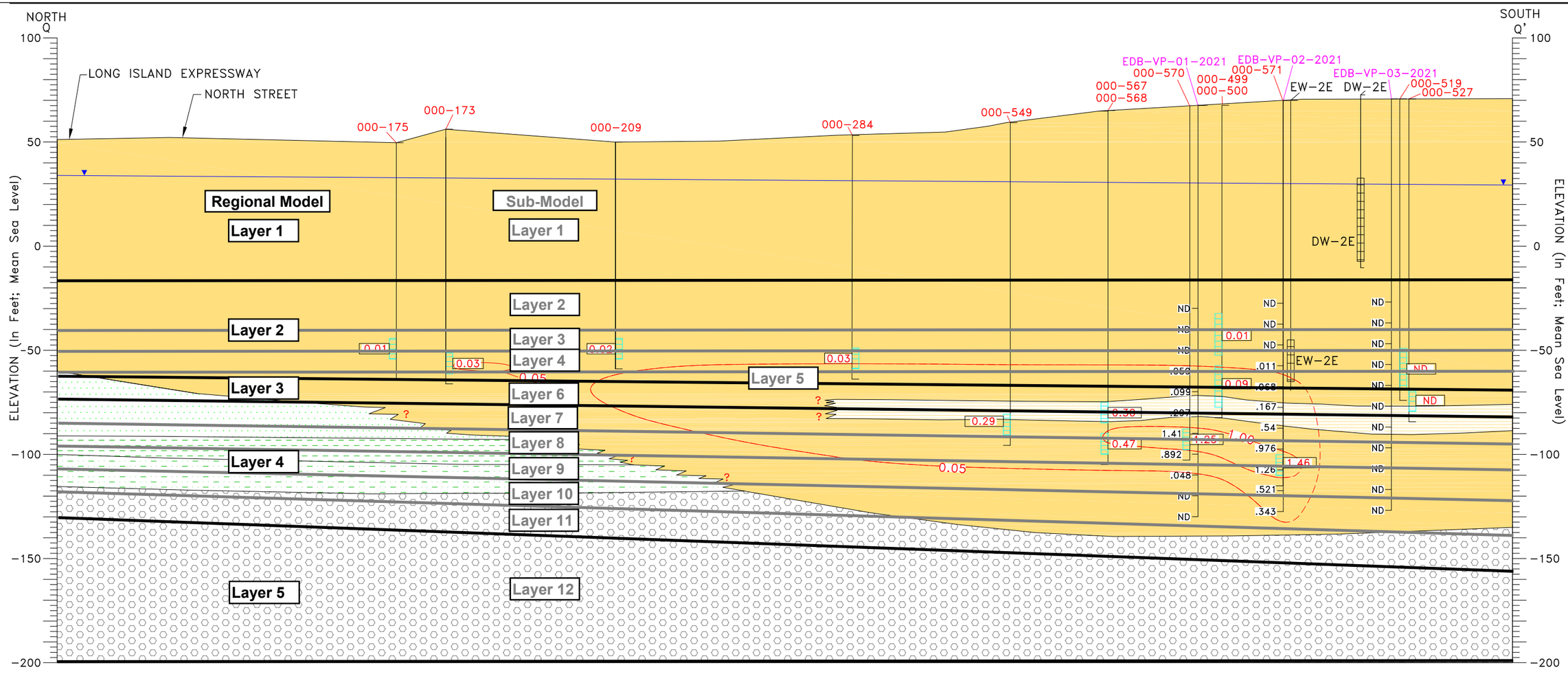
Zheng, Chunmiao & Wang, Pu. (1999). MT3DMS: A Modular Three-Dimensional Multispecies Transport Model for Simulation of Advection, Dispersion, and Chemical Reactions of Contaminants in Groundwater Systems; Documentation and User's Guide.

**Table 1**
**Transport Parameters**
**OU VI EDB Transport Evaluation**
**Brookhaven National Laboratory**
**Upton, New York**

| Model Layer | K (ft/d) | Geologic Unit | $K_d$ | Fraction of Organic Carbon | Retardation Factor |
|---|---|---|---|---|---|
| **P.W. Grosser Consulting Report (P.W. Grosser Consulting, 2019)** | | | | | |
| Layer 1 | 200/250 | Upper Glacial | 0.0006 | 1.20E-05 | ~1.05 |
| Layer 2 | 200/250 | Upper Glacial | 0.0006 | 1.20E-05 | |
| Layer 3 | 200 | Upper Glacial | 0.0075 | 1.50E-04 | |
| Layer 4 | 200 | Basal Upper Glacial | 0.02 | 3.90E-04 | |
| Layer 5 | 0.05 | Gardiners Clay | 0.05 | 9.70E-04 | |
| **Arcadis Transport Model** | | | | | |
| Layers 1 - 2 | 250 | Upper Glacial | 0.0405 | 7.90E-04 | 1.43 |
| Layers 3 - 5 | 75 | Upper Glacial | 0.0405 | 7.90E-04 | |
| Layers 6 - 7 | 1 | Localized Silts/Clays | 0.0405 | 7.90E-04 | |
| Layers 8 - 11 | 75 | Upper Glacial | 0.0405 | 7.90E-04 | |
| Layer 12 | 45 | Magothy | 0.0405 | 7.90E-04 | |

**Acronyms and Abbreviations:**
ft/d = feet per day




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

000-499
000-500

Regional Model Layer Divide

New Submodel Layer Divide

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.

NOTES (continued):
2. EDB RESULTS BASED ON FOURTH QUARTER 2021 OU VI SAMPLING EVENTS.
3. CONTOUR INTERVAL IS AS SHOWN.
4. FIGURE ADAPTED FROM FIGURE 3.4-02 OF THE 2021 BNL GROUNDWATER STATUS REPORT.

**BROOKHAVEN NATIONAL LAB**
**OU VI EDB CAPTURE EVALUATION**

# OU VI EDB PLUME SUBMODEL CROSS-SECTION

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1

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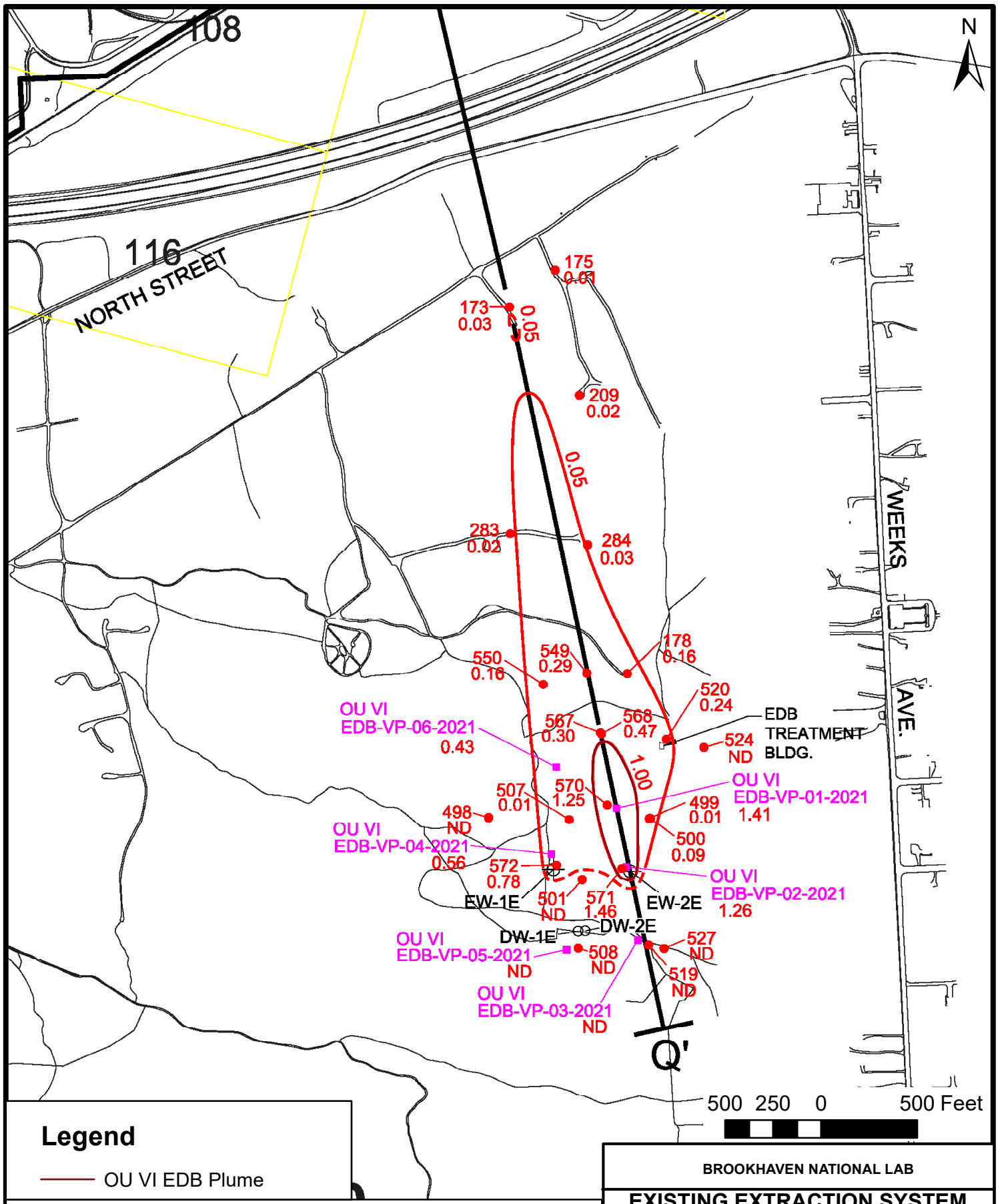



## Legend

OU VI EDB Plume

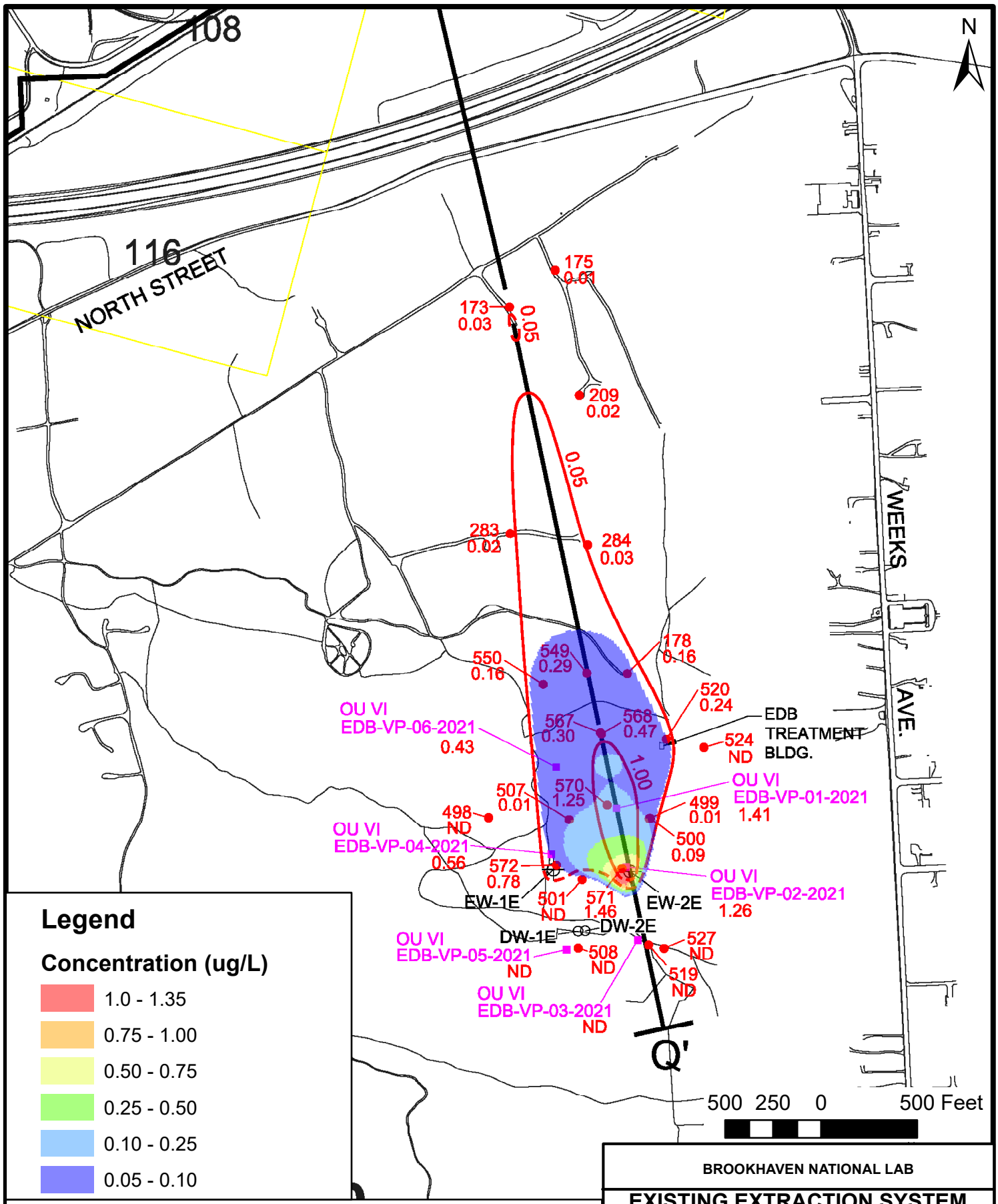
NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.

BROOKHAVEN NATIONAL LAB

**EXISTING EXTRACTION SYSTEM AND EDB PLUME**

ARCADIS

FIGURE
**2**



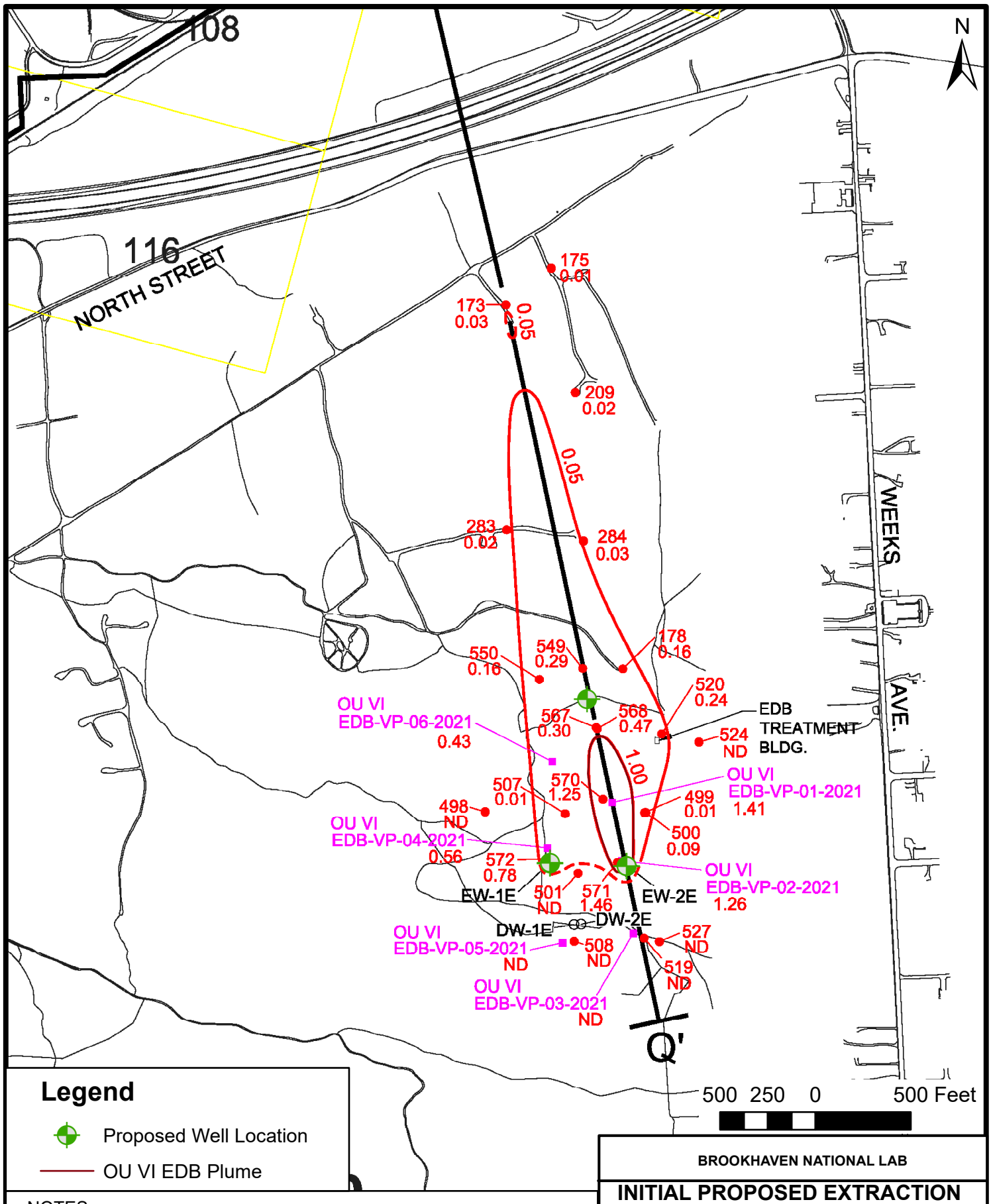

NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.

BROOKHAVEN NATIONAL LAB

**EXISTING EXTRACTION SYSTEM**
**10 YEAR TRANSPORT - LAYER 9**

ARCADIS

FIGURE
**3**




NOTES:
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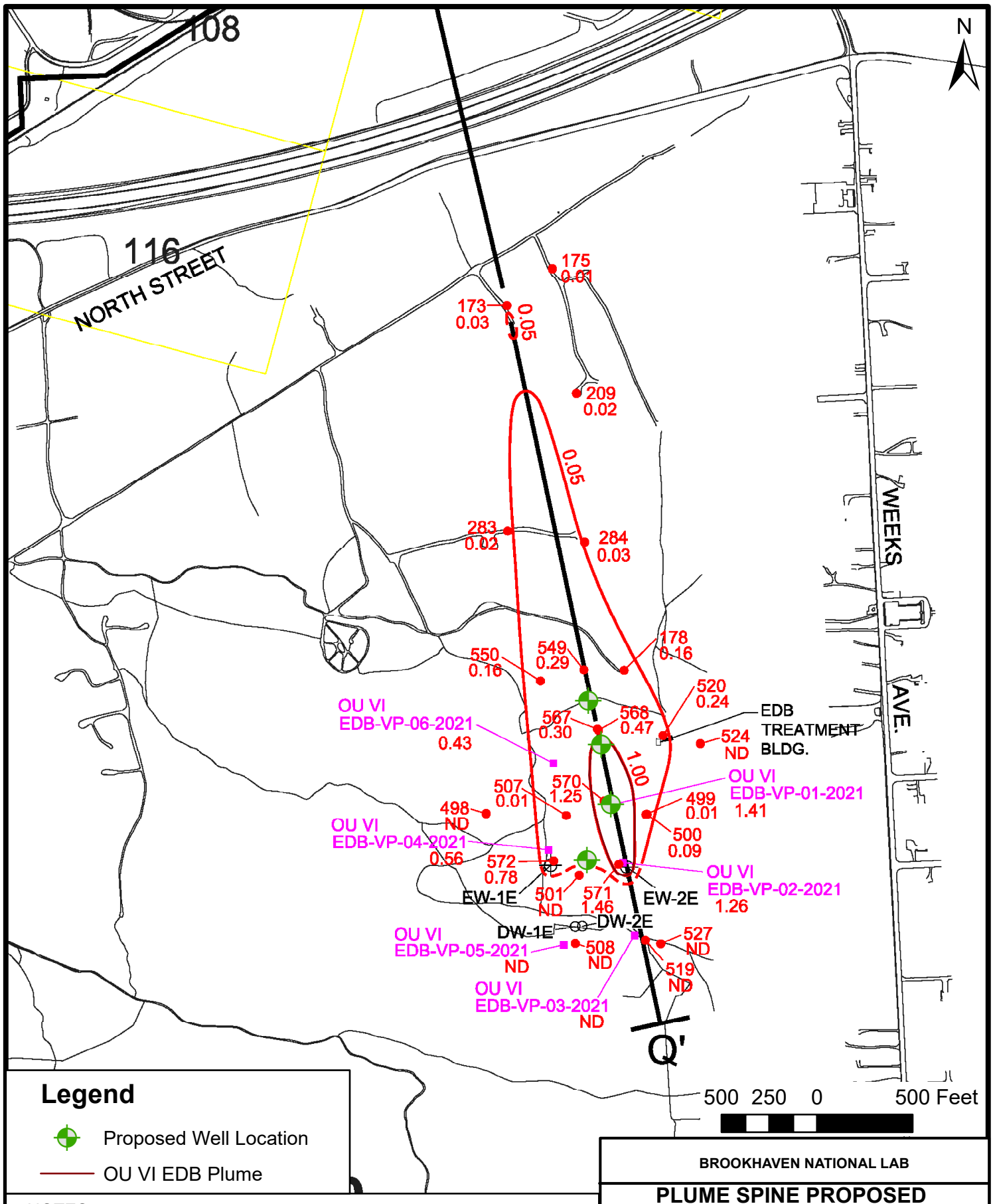
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.

BROOKHAVEN NATIONAL LAB

**INITIAL PROPOSED EXTRACTION SYSTEM (ARCADIS, 2022)**

ARCADIS

FIGURE
4



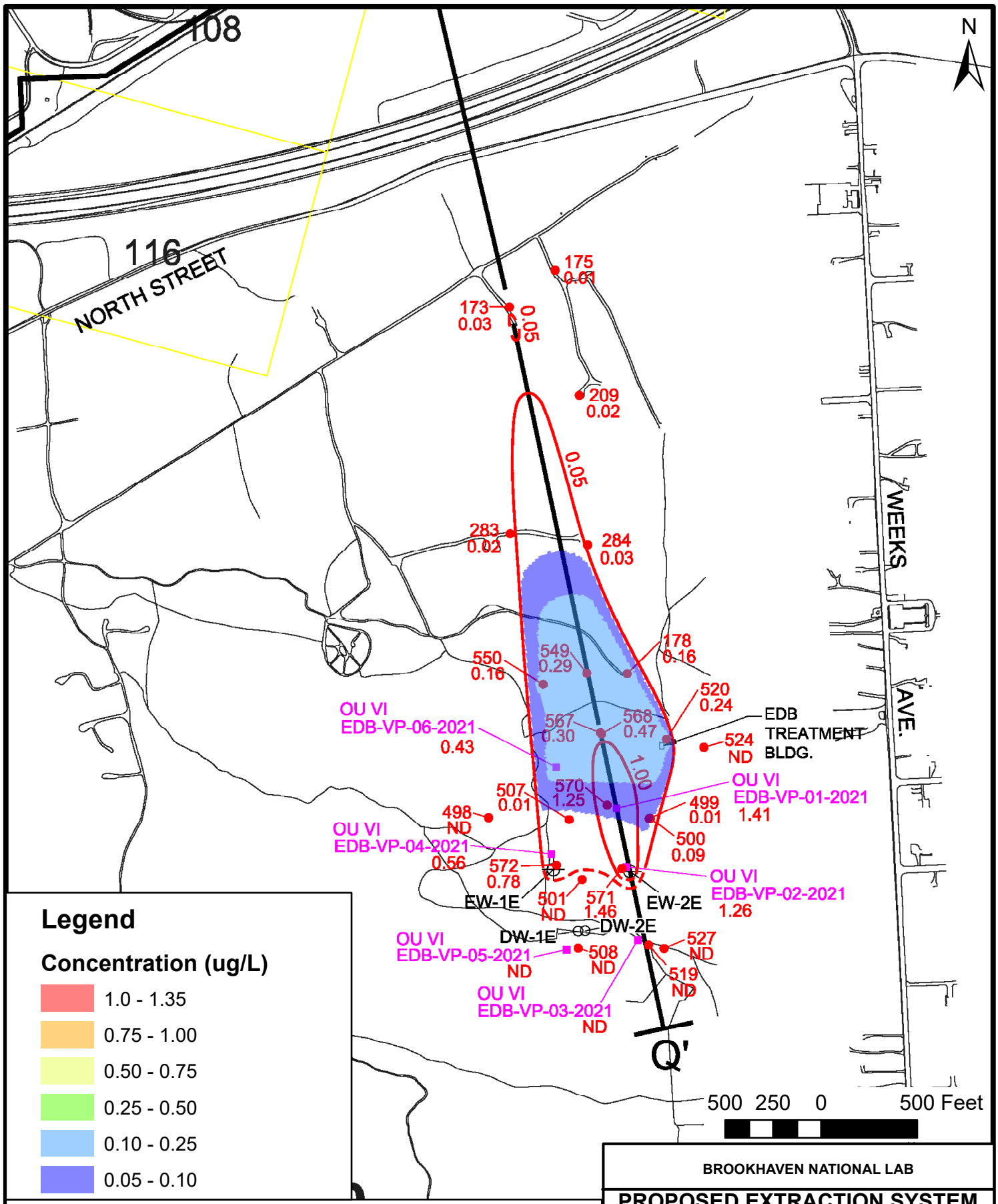

NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.

BROOKHAVEN NATIONAL LAB

**PLUME SPINE PROPOSED EXTRACTION SYSTEM**

ARCADIS

FIGURE
**5**



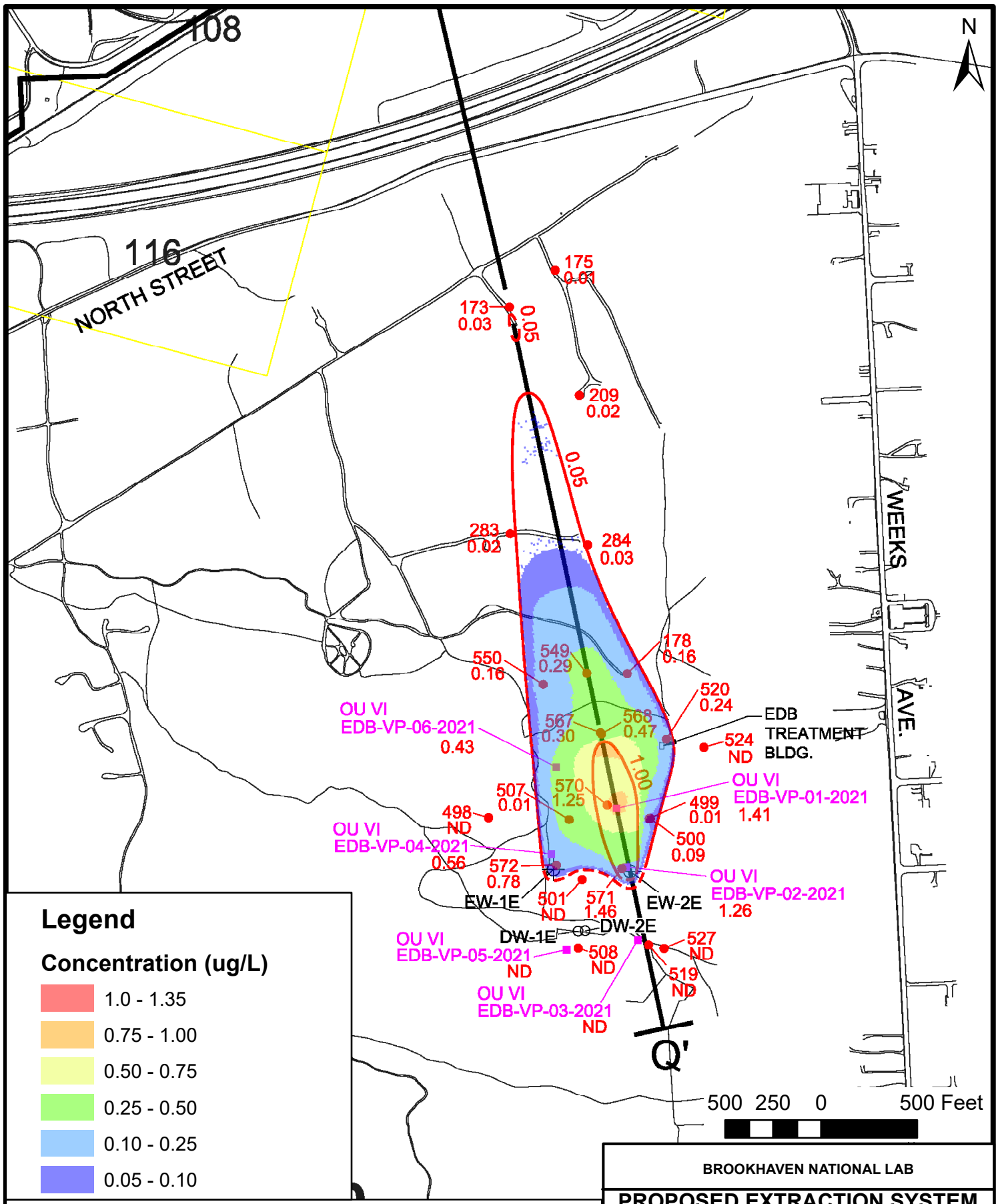

NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.

BROOKHAVEN NATIONAL LAB

**PROPOSED EXTRACTION SYSTEM**
**10 YEAR TRANSPORT - LAYER 6**

ARCADIS

FIGURE
**6**



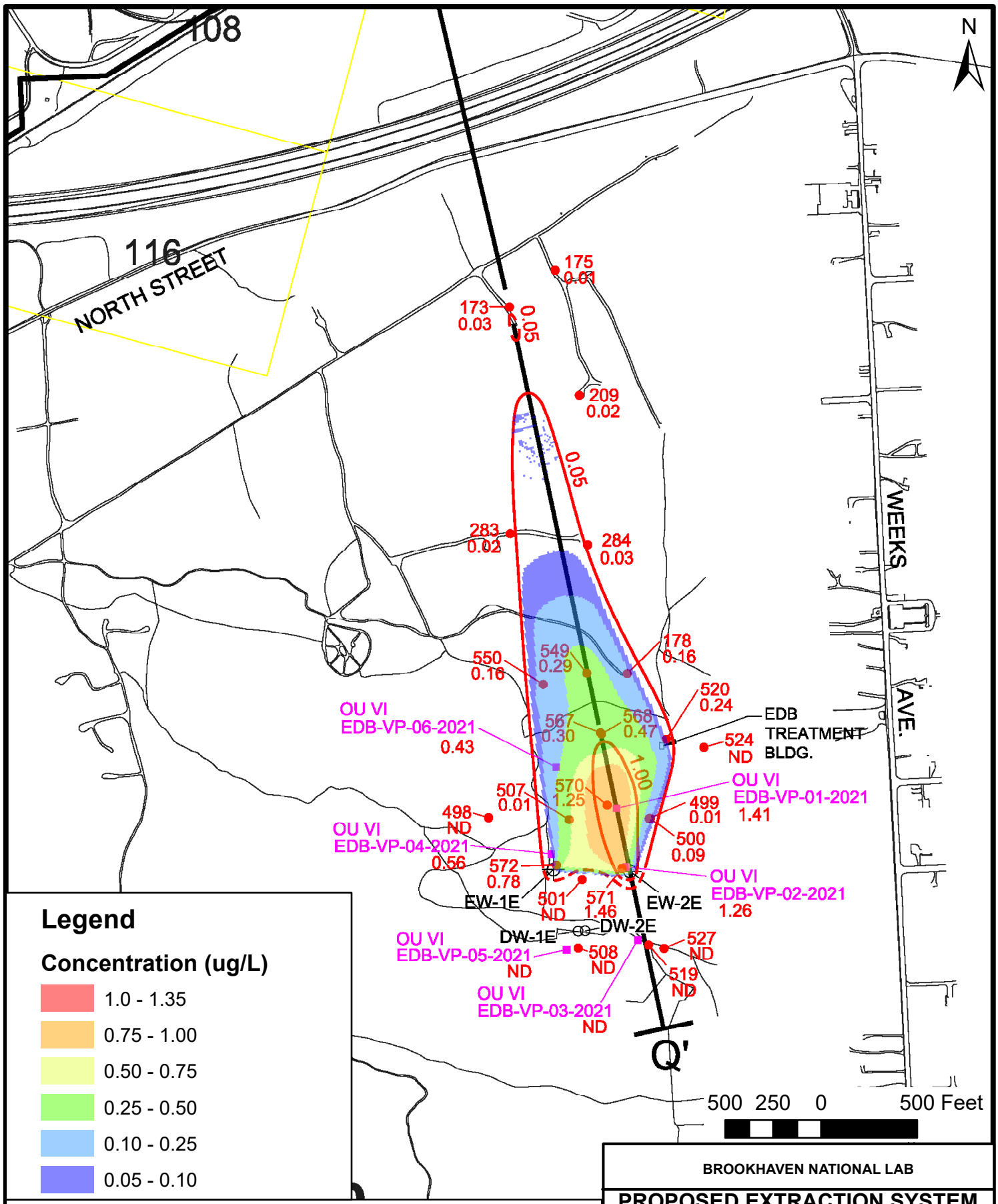

NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.

BROOKHAVEN NATIONAL LAB

**PROPOSED EXTRACTION SYSTEM**
**10 YEAR TRANSPORT - LAYER 7**

ARCADIS

FIGURE
7



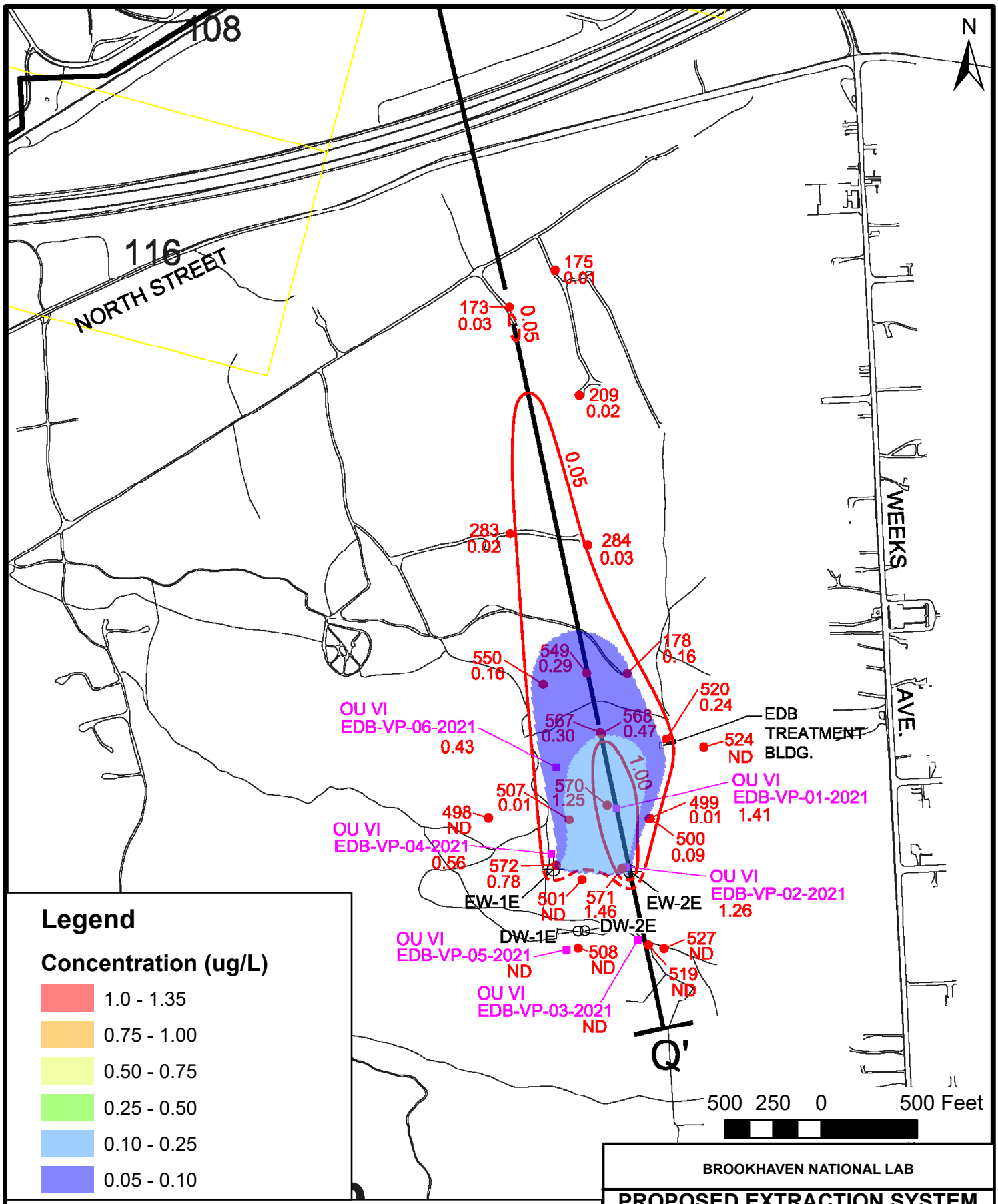

NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.

BROOKHAVEN NATIONAL LAB

**PROPOSED EXTRACTION SYSTEM**
**10 YEAR TRANSPORT - LAYER 8**

ARCADIS

FIGURE
**8**




NOTES:
1. IN WELL CLUSTERS THE HIGHEST EDB VALUE WAS USED IN CONTOURING.
2. EDB PLUME EXTENT BASED ON FOURTH QUARTER 2021 OU VI EDB SAMPLING EVENT.

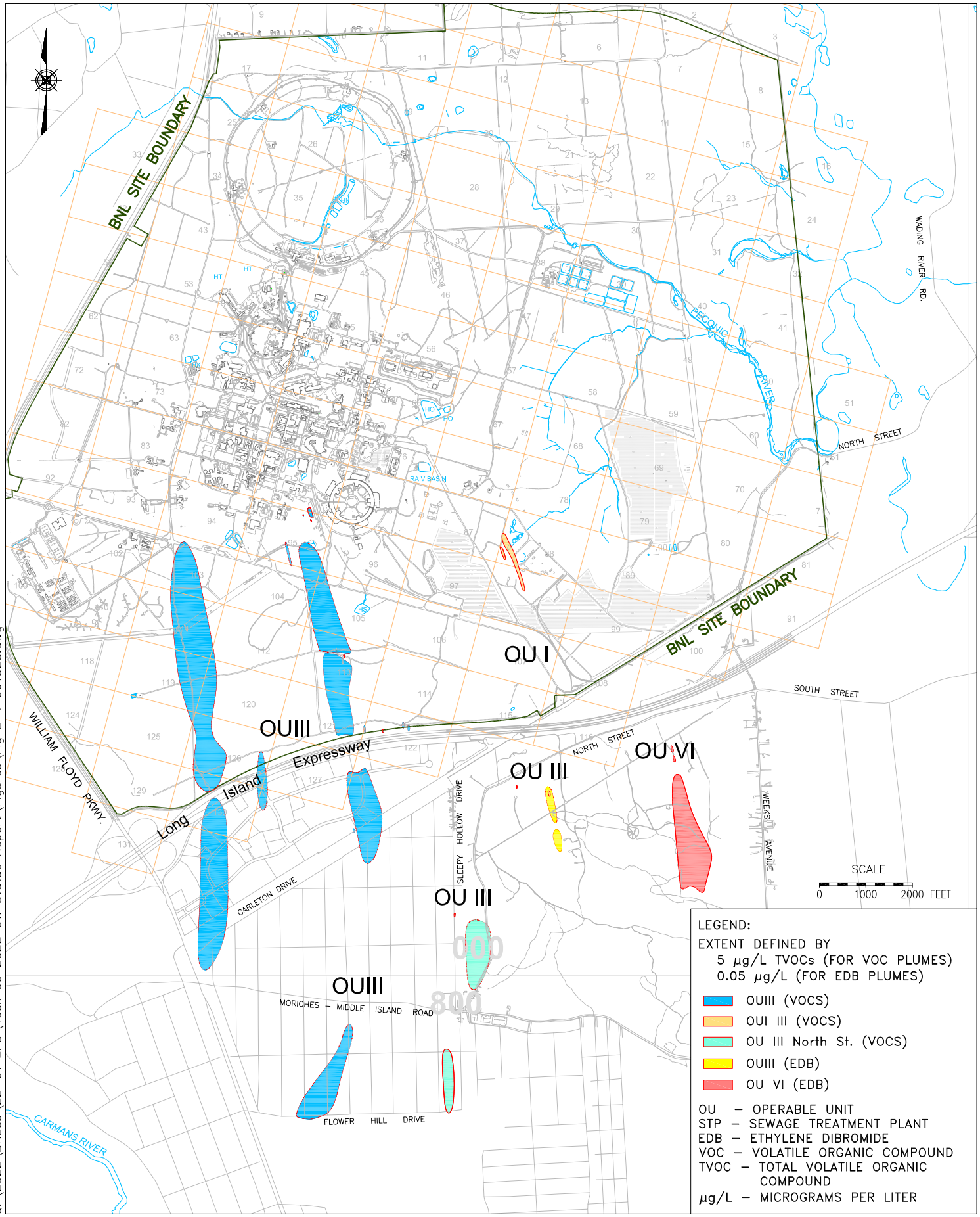
BROOKHAVEN NATIONAL LAB

**PROPOSED EXTRACTION SYSTEM**
**10 YEAR TRANSPORT - LAYER 9**

ARCADIS

FIGURE
**9**

# 2023 Figures Combined

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

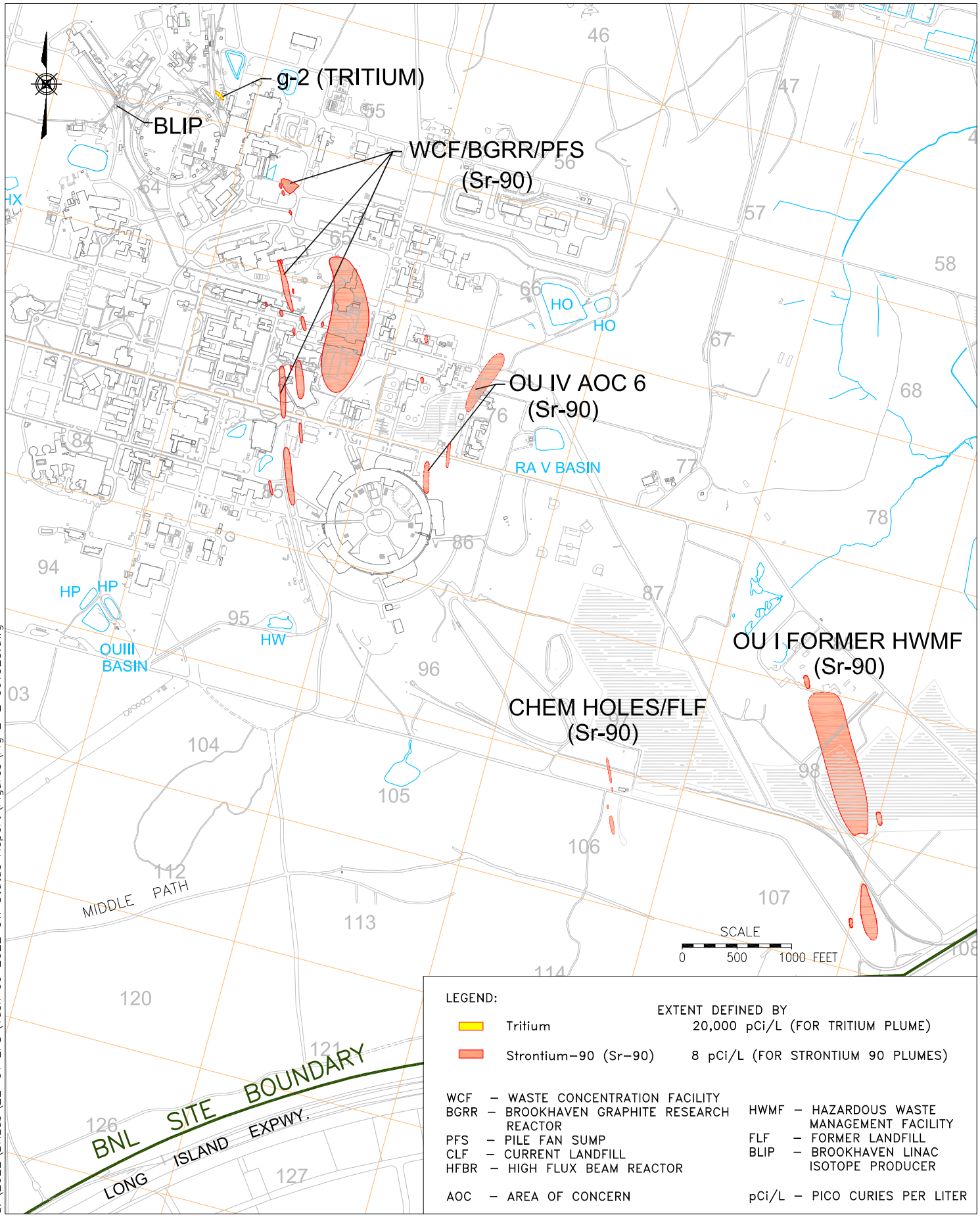
TITLE:

# 2022 EXTENT OF PRIMARY BNL VOC PLUMES

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: E–1

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

# 2022 EXTENT OF PRIMARY BNL RADIONUCLIDE PLUMES

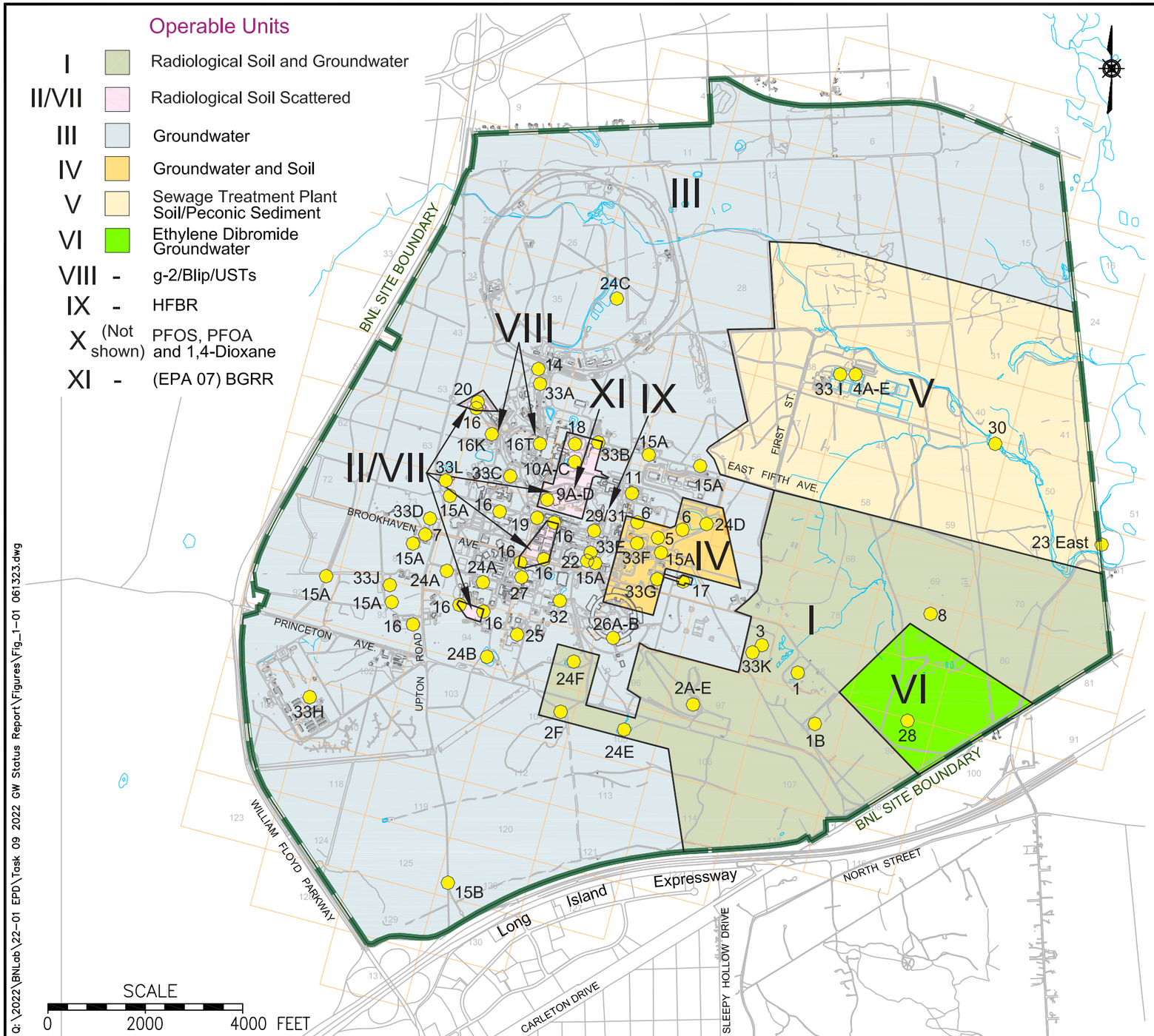
2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: E-2

## Operable Units

| | | |
|---|---|---|
| I | | Radiological Soil and Groundwater |
| II/VII | | Radiological Soil Scattered |
| III | | Groundwater |
| IV | | Groundwater and Soil |
| V | | Sewage Treatment Plant Soil/Peconic Sediment |
| VI | | Ethylene Dibromide Groundwater |
| VIII | - | g-2/Blip/USTs |
| IX | - | HFBR |
| X | (Not shown) | PFOS, PFOA and 1,4-Dioxane |
| XI | - | (EPA 07) BGRR |




## 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-L | PFOS and PFOA Groundwater and Soil Contamination |
| 34 | 1,4- Dioxane Groundwater Contamination (Not Shown) |

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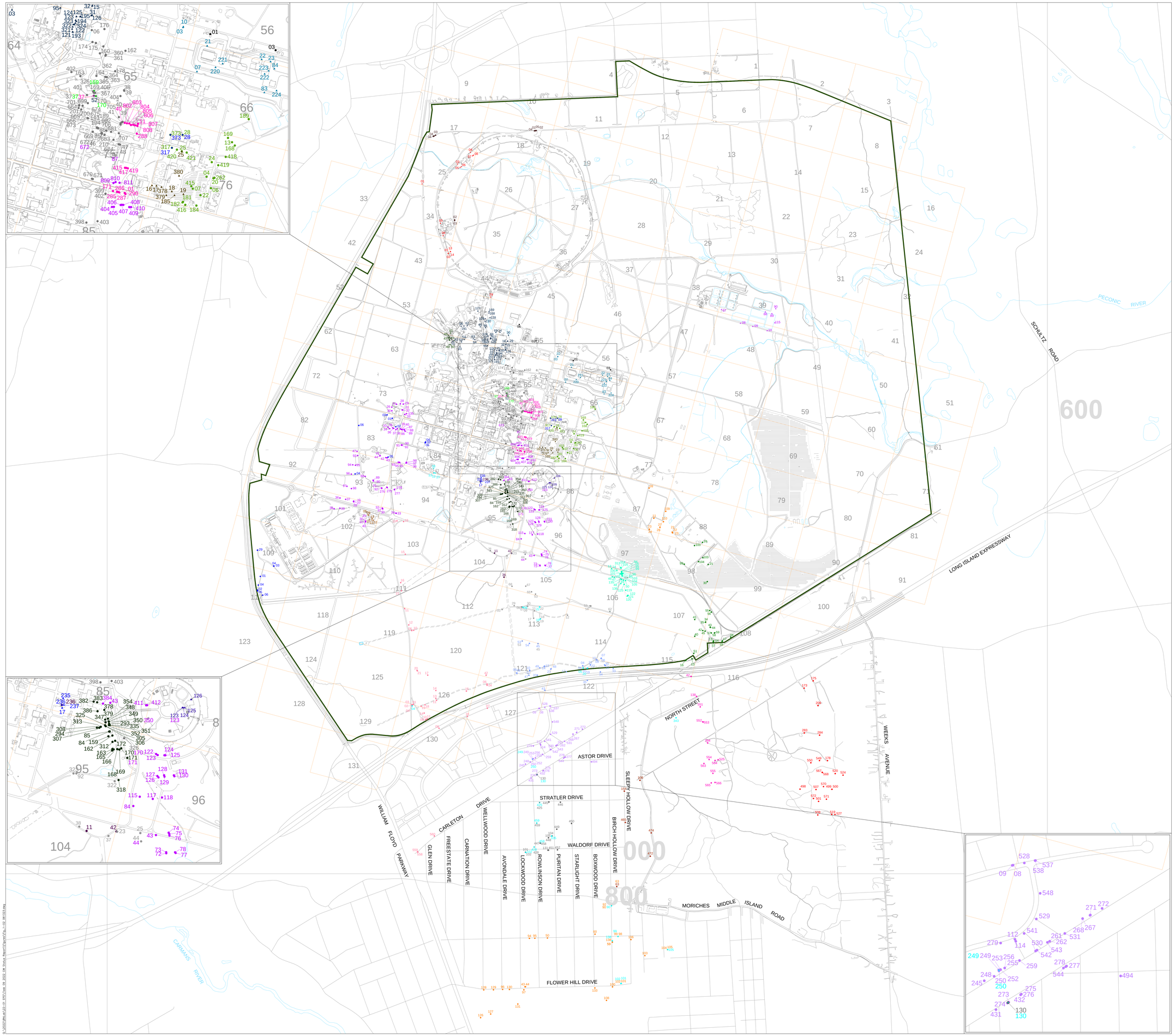
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

# OPERABLE UNITS AND AREAS OF CONCERN

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |
| FIGURE NO.: | | | |
| 1–1 | | | |




Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

# 2022 BNL GROUNDWATER STATUS REPORT

06/13/23

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
- OU X (Current Firehouse/Bldg. 170 & Former Firehouse)

**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

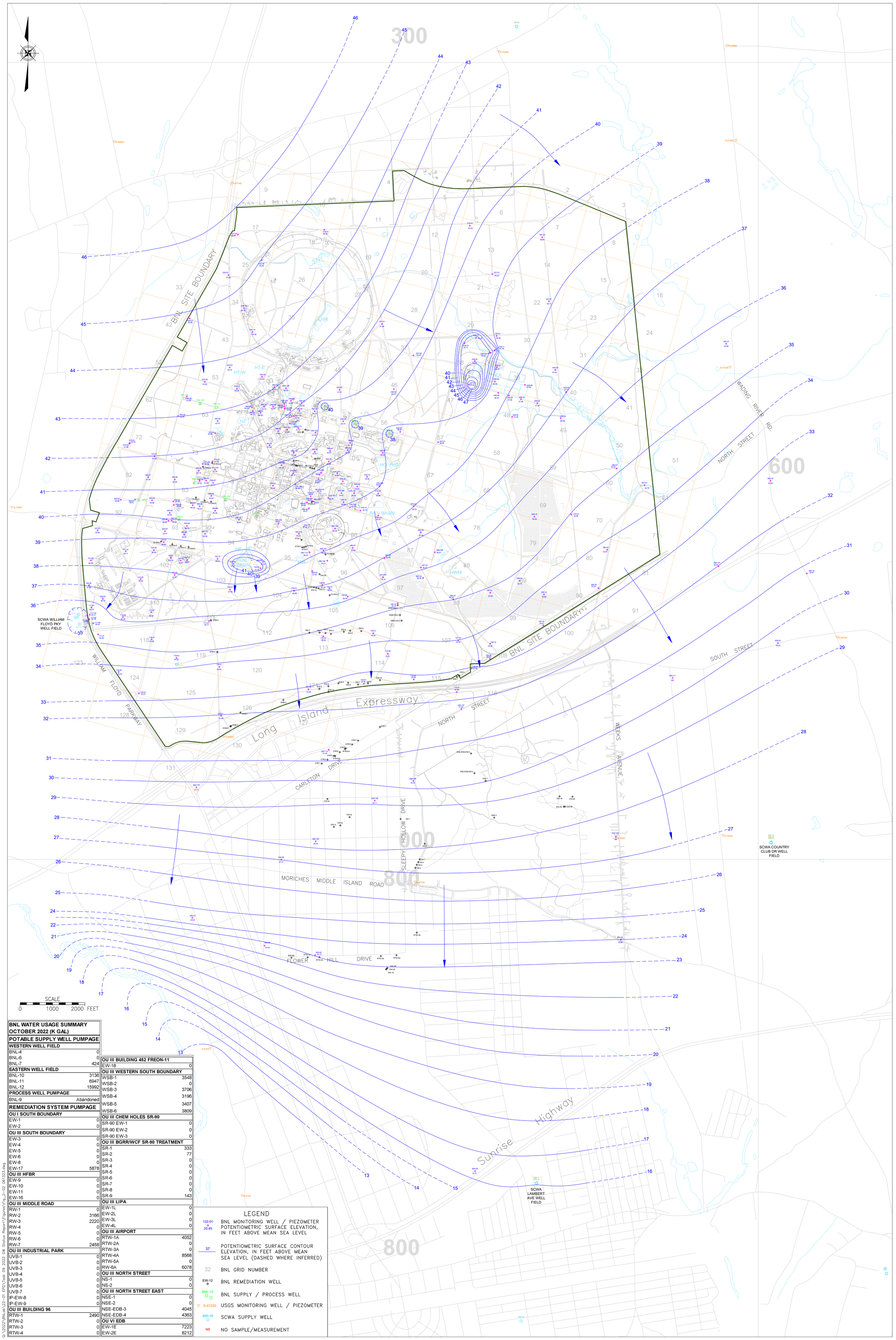
- BNL Site Boundary
- Surface Water
- Solar Farm Panels

NOTE: Wells monitored under multiple programs are duplicated on the figure for each program under which they are monitored. Latest revision 05/19/23

SCALE

0 1000 2000 FEET

* Enlarged views are not to scale




| BNL WATER USAGE SUMMARY OCTOBER 2022 (K GAL) | |
|---|---|
| **POTABLE SUPPLY WELL PUMPAGE** | |
| **WESTERN WELL FIELD** | |
| BNL-4 | 0 |
| BNL-6 | 0 |
| BNL-7 | 424 |
| **EASTERN WELL FIELD** | |
| BNL-10 | 3136 |
| BNL-11 | 6947 |
| BNL-12 | 15992 |
| **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 | 5878 |
| **OU III HFBR** | |
| EW-9 | 0 |
| EW-10 | 0 |
| EW-11 | 0 |
| EW-16 | 0 |
| **OU III MIDDLE ROAD** | |
| RW-1 | 0 |
| RW-2 | 3166 |
| RW-3 | 2220 |
| RW-4 | 0 |
| RW-5 | 0 |
| RW-6 | 0 |
| RW-7 | 2458 |
| **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 | 2490 |
| 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 | 3548 |
| WSB-2 | 0 |
| WSB-3 | 3706 |
| WSB-4 | 3196 |
| WSB-5 | 3407 |
| WSB-6 | 3809 |
| **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 | 333 |
| SR-2 | 77 |
| SR-3 | 0 |
| SR-4 | 0 |
| SR-5 | 0 |
| SR-6 | 0 |
| SR-7 | 0 |
| SR-8 | 0 |
| SR-9 | 143 |
| **OU III LIPA** | |
| EW-1L | 0 |
| EW-2L | 0 |
| EW-3L | 0 |
| EW-4L | 0 |
| **OU III AIRPORT** | |
| RTW-1A | 4052 |
| RTW-2A | 0 |
| RTW-3A | 0 |
| RTW-4A | 8568 |
| RTW-5A | 0 |
| RW-6A | 6078 |
| **OU III NORTH STREET** | |
| NS-1 | 0 |
| NS-2 | 0 |
| **OU III NORTH STREET EAST** | |
| NSE-1 | 0 |
| NSE-2 | 0 |
| NSE-EDB-3 | 4045 |
| NSE-EDB-4 | 4363 |
| **OU VI EDB** | |
| EW-1E | 7223 |
| EW-2E | 8212 |

## 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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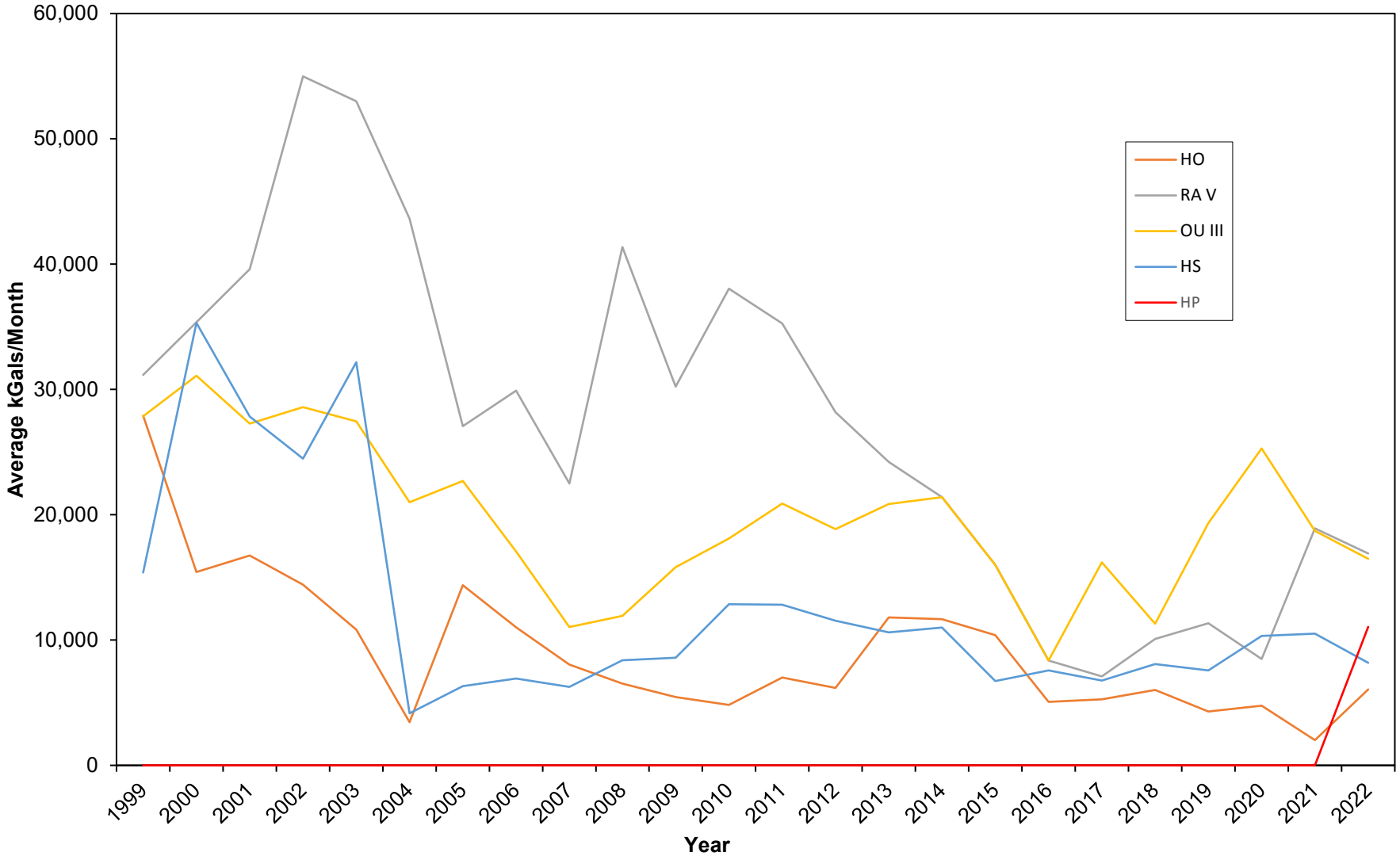
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
# WATER-TABLE CONTOURS OF THE SHALLOW GLACIAL ZONE OCTOBER 25 – OCTOBER 28, 2022
2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VS:HS.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| DEP | WRD | 06/13/23 | – |
| FIGURE NO.: | 2-2 | | |

**Figure 2-5**
**Select Recharge Basin Flow Trends**

2022 BNL Groundwater Status Report



BGRR
WCF
Sr-90

Current
Firehouse
and Bldg 170
(PFAS)

Bldg 452
Freon-11

Carbon
Tetrachloride

Bldg
96
HFBR
Tritium

OU IV
AOC 6

Former
Firehouse
(PFAS)

Chem
Holes
Sr-90

Waste
Management
Area - AOC 1

Middle Road

OU I South
Boundary

OU III South Boundary

Western South
Boundary

Industrial
Park
East

Industrial Park

North
Street
East EDB

North
Street
East

OU VI
EDB

LIPA

North
Street

OU V

Brookhaven Airport

SCALE
0 500 1000 FEET

## LEGEND

- OPERATING REMEDIATION SYSTEMS
- REMEDIATION SYSTEM PLACED IN SHUTDOWN MODE
- DECOMMISSIONED REMEDIATION SYSTEM
- FORMER FIREHOUSE PFAS SYSTEM SCHEDULED FOR OPERATION IN JANUARY 2023

32 — BNL GRID NUMBER

EW-12 — BNL REMEDIATION WELL

BNL-12 — BNL SUPPLY / PROCESS WELL

REMEDIATION WELL STATUS

- RTW-4A — ON-FULL TIME
- SR-9 — PULSED PUMPING
- RTW-5A — STAND BY-OFF

- 2022 TVOC PLUME UNLESS SPECIFIED. CONCENTRATION AS INDICATED. (DASHED WHERE INFERRED)
- 2022 TRITIUM PLUME. OUTLINE IS 20,000 pCi/L.
- 2022 STRONTIUM 90 PLUME. OUTLINE IS 8 pCi/L.
- 2022 NORTH STREET EAST AND OU VI EDB PLUMES. OUTLINE IS 0.05 µg/L.
- EXTENT OF PFOS PLUME OUTLINES BASED UPON 2022 MONITORING RESULTS. OUTLINE IS 10 ng/L.

06/13/23 FIGURE: 3.0 -1
GROUNDWATER REMEDIATION SYSTEMS

Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

2022 BNL GROUNDWATER STATUS REPORT

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RA V BASIN

A

A'

CURRENT LANDFILL

FORMER LANDFILL

FORMER HWMF

09 <1.0

109 20.1

110 6.6

11 4.7

10

5

23 2.7

24 ND

27 3.0

26 2.9

22 ND

23 ND

21 ND

10

5

99 ND

41 ND

40 1.6

51 ND

EW-1

EW-2

16 3.5

13 1.7

PRINCETON AVE.

BROOKHAVEN AVE.

BNL SITE BOUNDARY

I 495 (L.I.E.)

NORTH STREET

LIPA R.O.W.

138 NS

551 2.3

552 5.2

553 5.3

394 4.8

NSE-EDB-EW-4

554 2.1

563 4.6

564 <1.0

NSE-EDB-EW-3

555 ND

565 4.2

566 2.3

NSE-1

NSE-2

MORICHES MIDDLE ISLAND ROAD

77 78 79 80 86 87 88 89 90 96 97 98 99 100 106 107 108 114 115 116 122 000 800

SCALE

0 500 1000 FEET

## LEGEND

- 99 1.2 — 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
- 116 — BNL GRID NUMBER
- NSE-1 — BNL REMEDIATION WELL
- RA V — BNL RECHARGE BASIN
- SOLAR FARM PANELS
- TVOC– TOTAL VOLATILE ORGANIC COMPOUND
- µg/L– MICROGRAMS PER LITER

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 2022 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.

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Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

TITLE:

# OU I SOUTH BOUNDARY/ NORTH STREET EAST TVOC PLUME DISTRIBUTION

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| VJR | WRD | 06/13/23 | – |

FIGURE NO.: 3.1–1

## 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

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

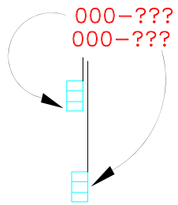
µg/L– Micrograms Per Liter

Water Table As Of Oct 25 – Oct 28, 2022

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.

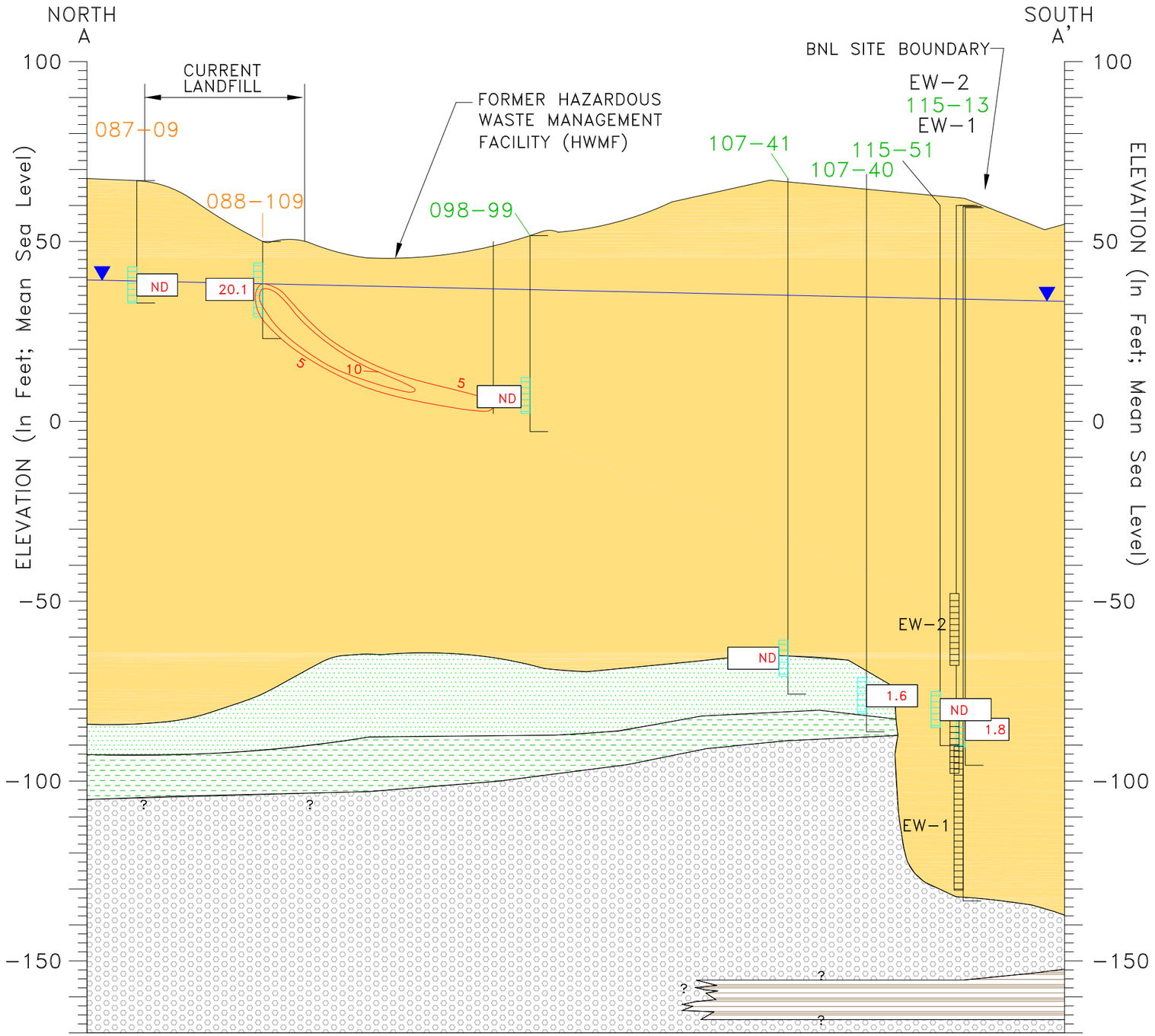
2) PLUME DISTRIBUTION BASED ON FOURTH QUARTER 2022 SOUTH BOUNDARY / NORTH STREET EAST SAMPLING EVENT.

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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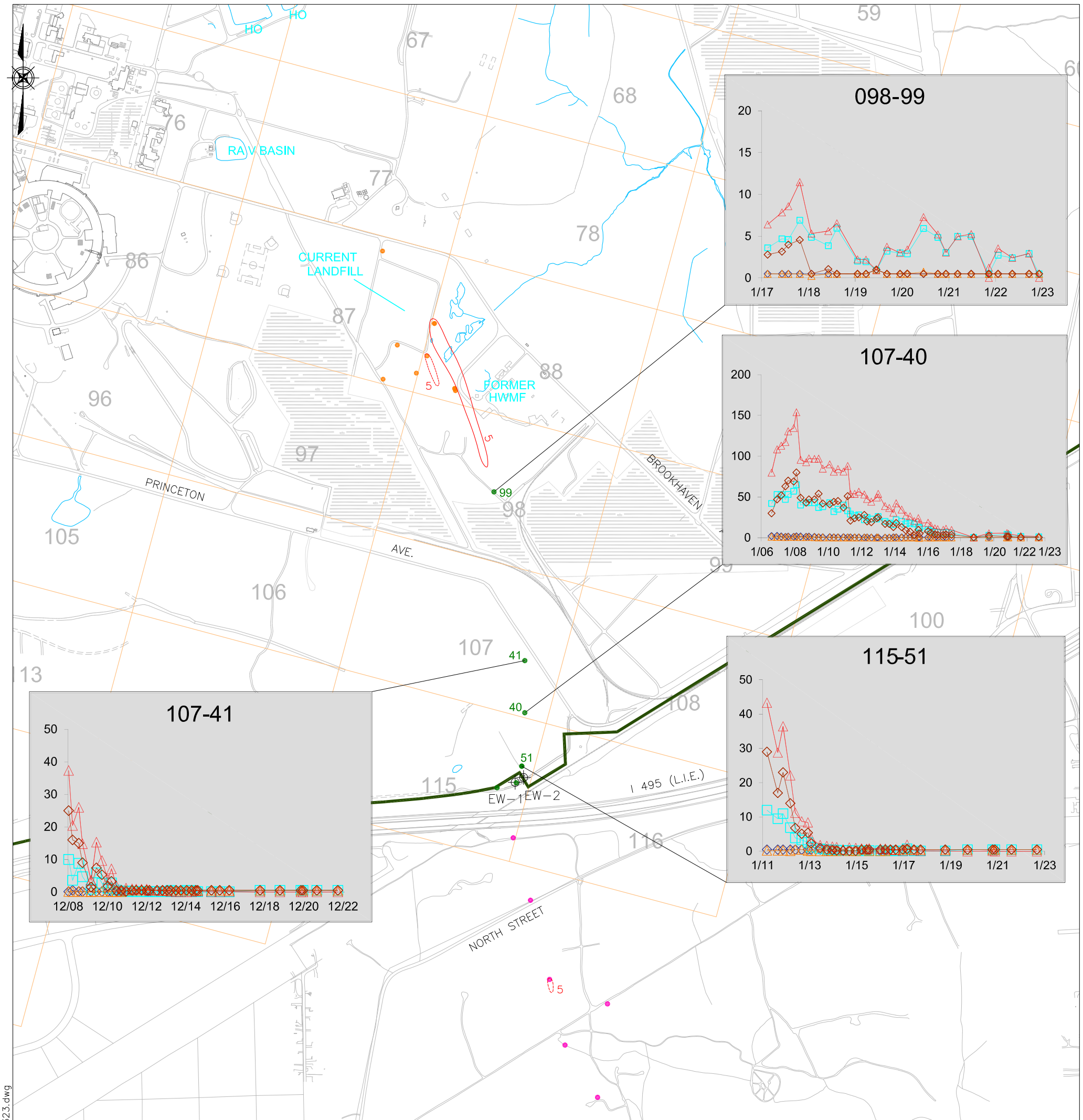
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

# OU I SOUTH BOUNDARY
# TVOC HYDROGEOLOGIC CROSS SECTION (A–A')

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | 20:1 | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |
| FIGURE NO.: | | | |
| 3.1–2 | | | |

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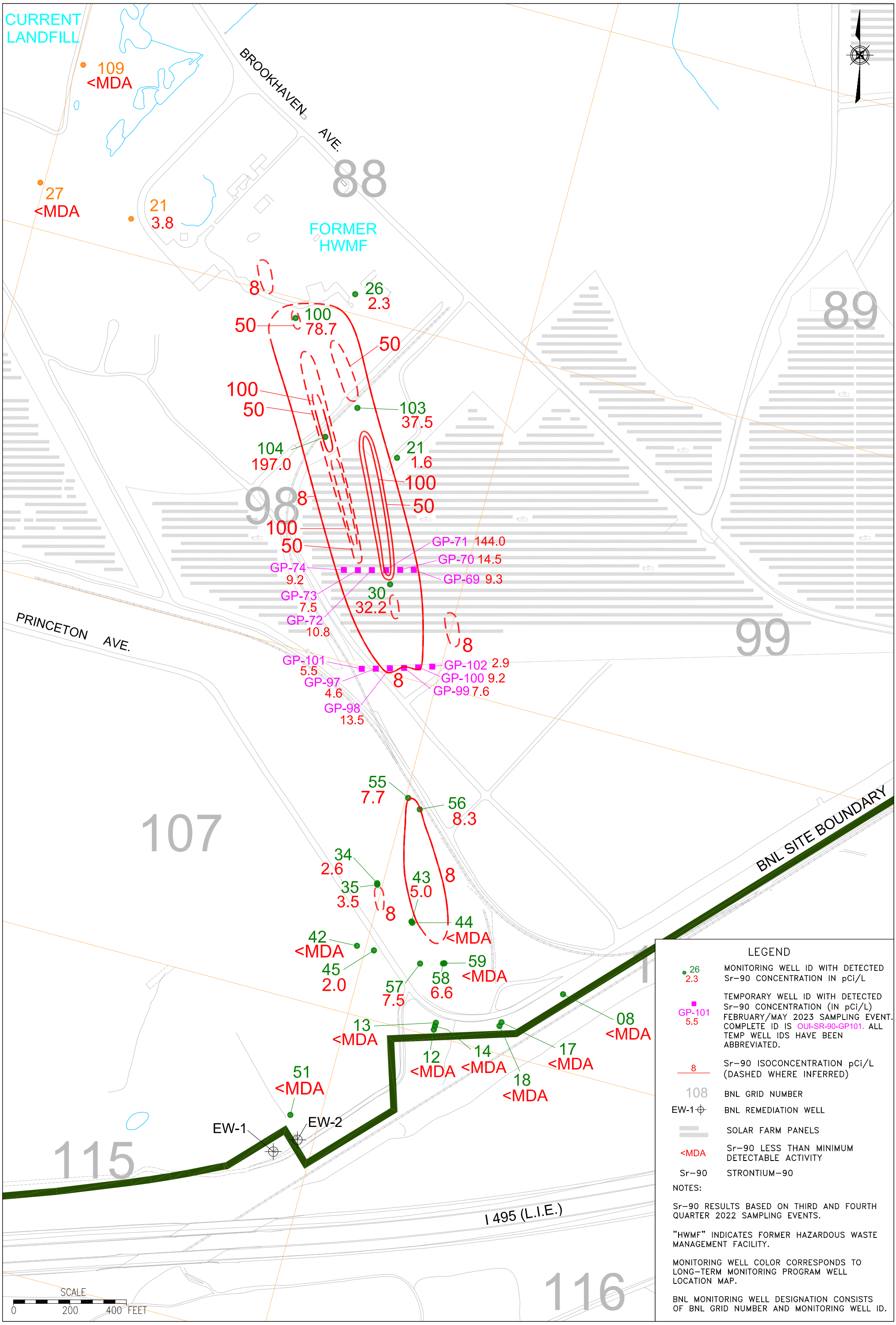
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
# OU I /CURRENT LANDFILL/ SOUTH BOUNDARY/ NORTH STREET EAST HISTORICAL VOC TRENDS
2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.1-3




## LEGEND

| | |
|---|---|
| 26 2.3 | MONITORING WELL ID WITH DETECTED Sr–90 CONCENTRATION IN pCi/L |
| GP-101 5.5 | TEMPORARY WELL ID WITH DETECTED Sr–90 CONCENTRATION (IN pCi/L) FEBRUARY/MAY 2023 SAMPLING EVENT. COMPLETE ID IS OUI-SR-90-GP101. 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 2022 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

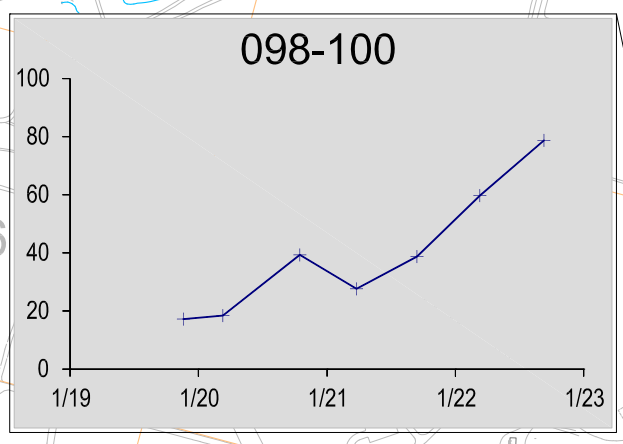
TITLE:

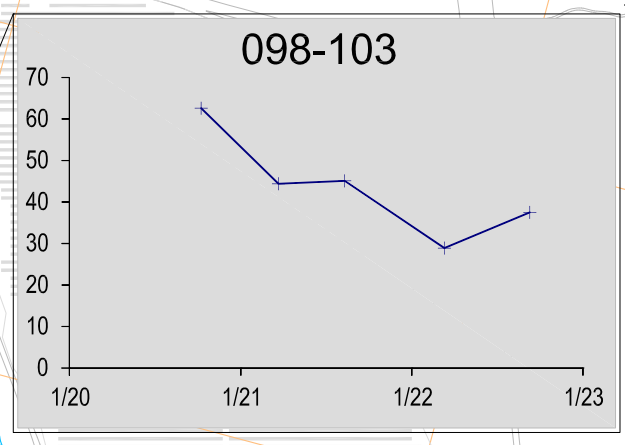
# OU I SOUTH BOUNDARY Sr–90 PLUME DISTRIBUTION

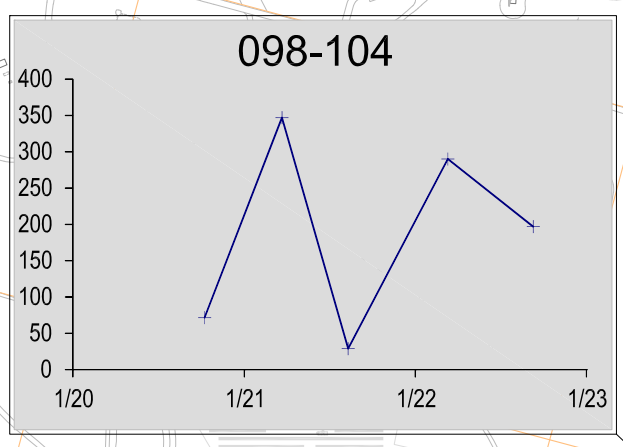
2022 BNL GROUNDWATER STATUS REPORT

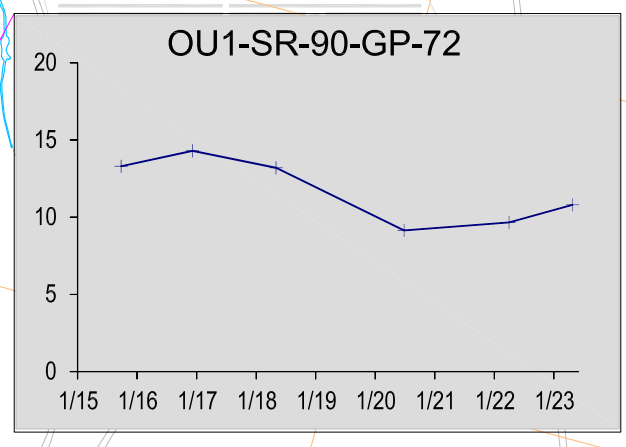
| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

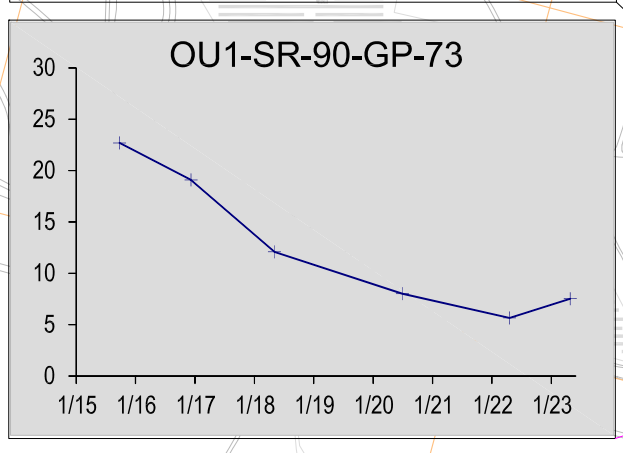
FIGURE NO.: 3.1–4

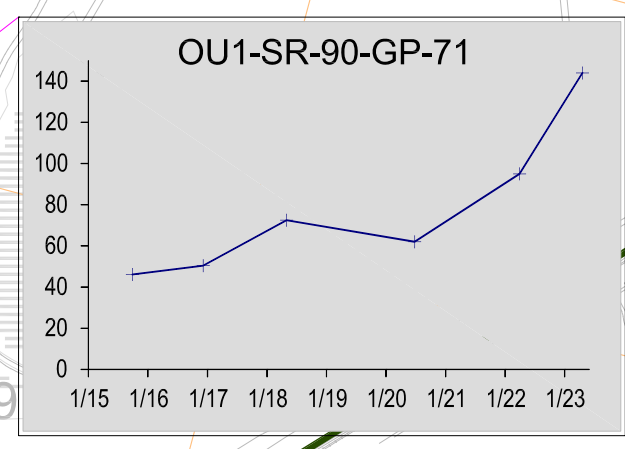


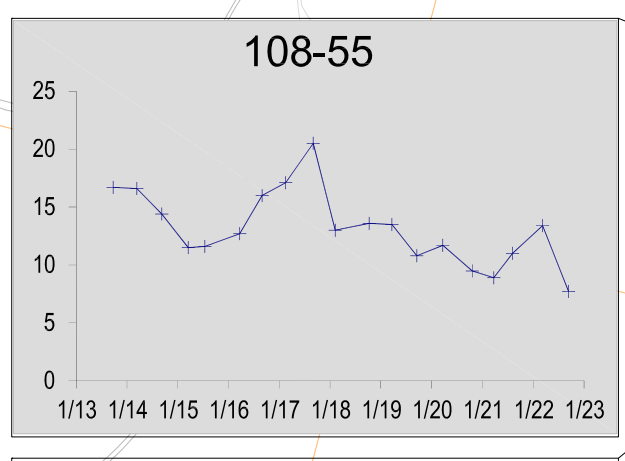



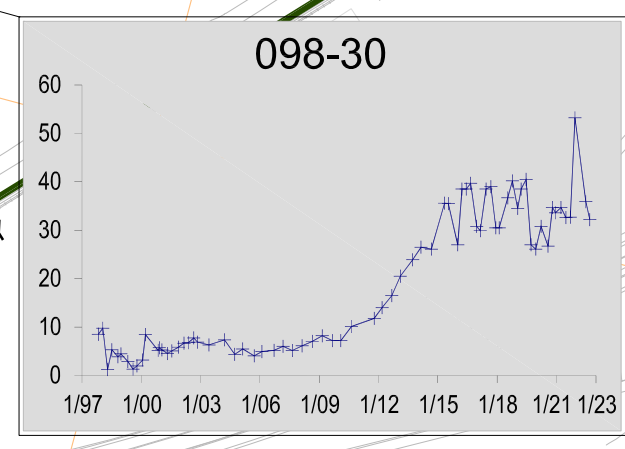



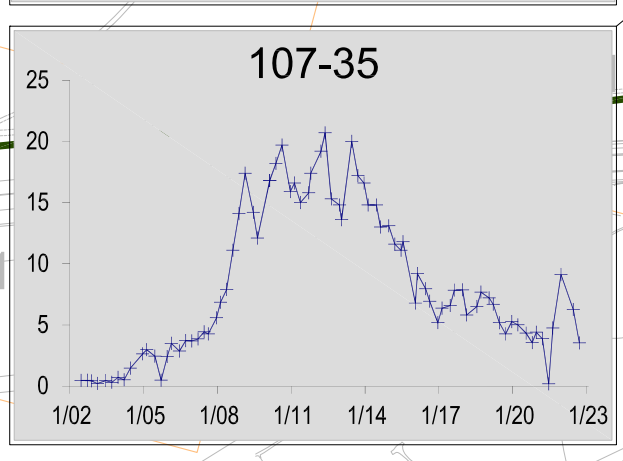



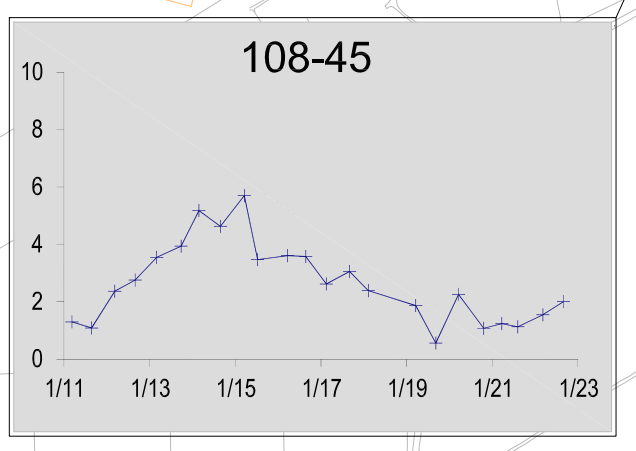



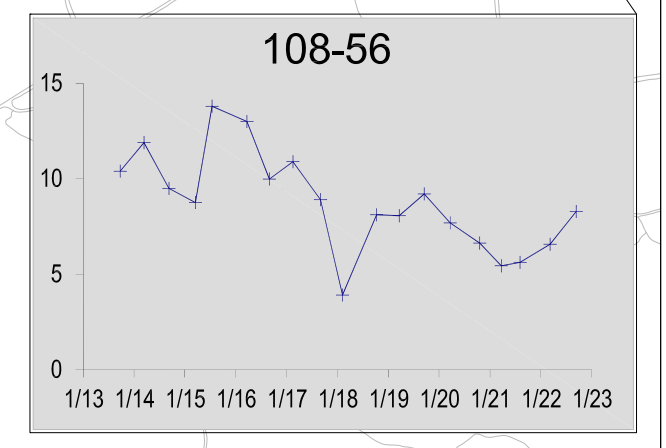






LEGEND

- 45 — MONITORING WELL ID
- 108 — BNL GRID NUMBER
- EW-1 — EXTRACTION WELL LOCATION
- RA V — BNL RECHARGE BASIN
- SOLAR FARM PANELS
- Sr-90 (pCi/L)
- EXTENT OF Sr-90 PLUME BASED ON 8 pCi/L (DASHED WHERE INFERRED)
- Sr-90 — STRONTIUM-90

CONCENTRATION (IN pCi/L) / DATE (MONTH/YEAR)

NOTES:

"HWMF" INDICATES FORMER HAZARDOUS WASTE MANAGEMENT FACILITY.

SCALE
0 500 1000 FEET

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

# OU I SOUTH BOUNDARY HISTORICAL Sr-90 TRENDS

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

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**

2022 BNL Groundwater Status Report

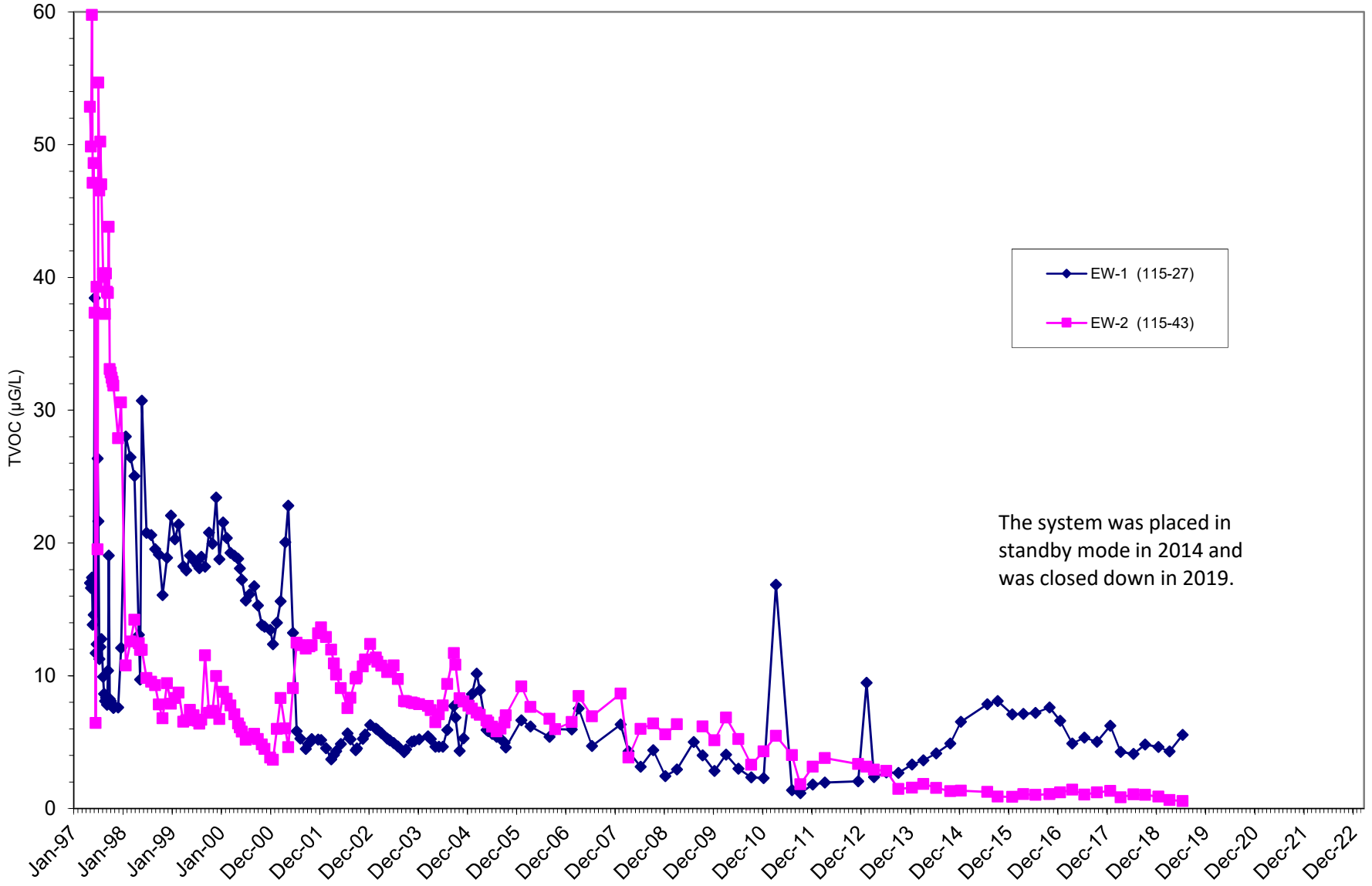
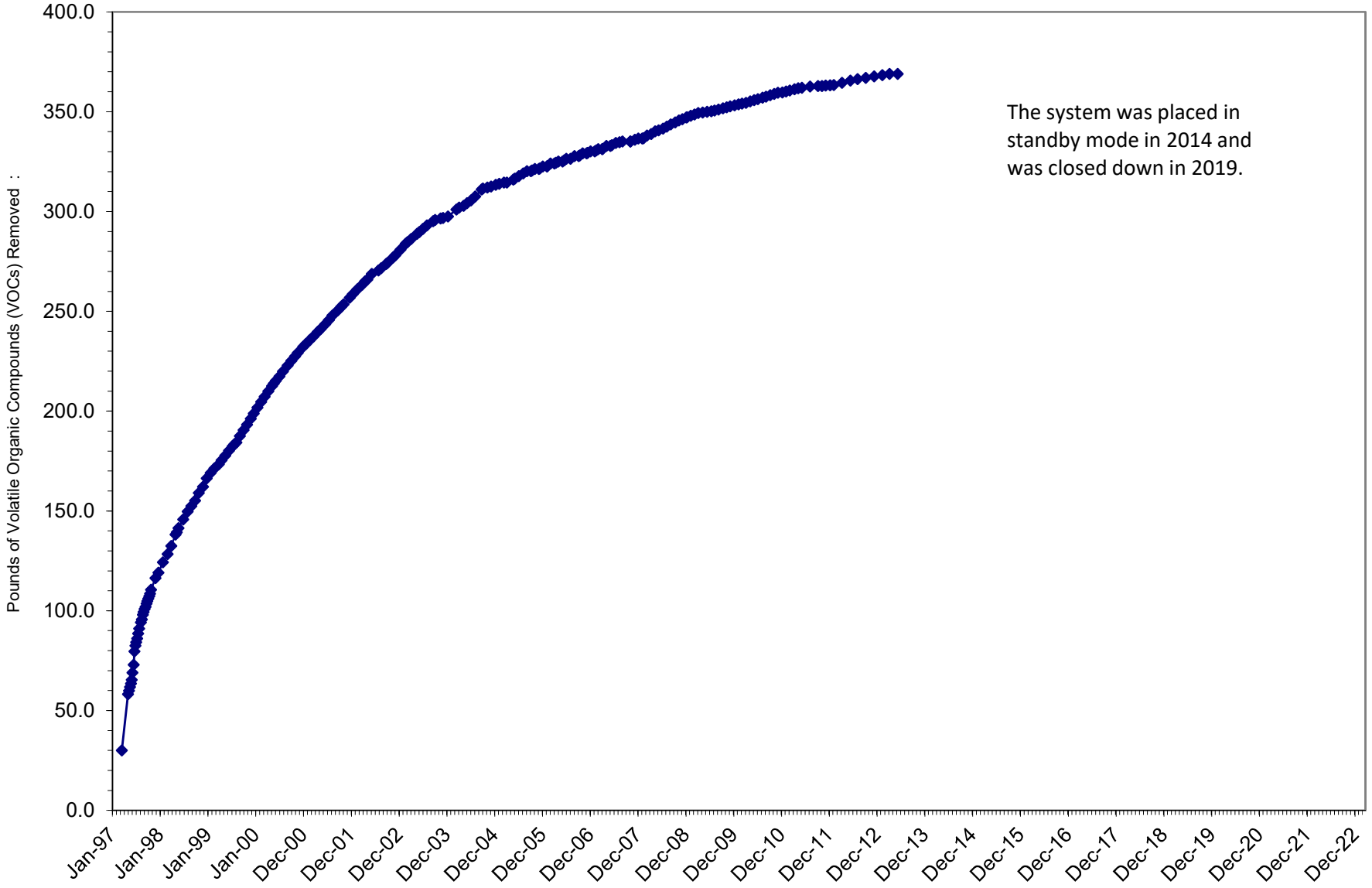


**Figure 3.1-7**
**OU I South Boundary Groundwater Remediation System**
**Cumulative VOC Mass Removed**

2022 BNL Groundwater Status Report

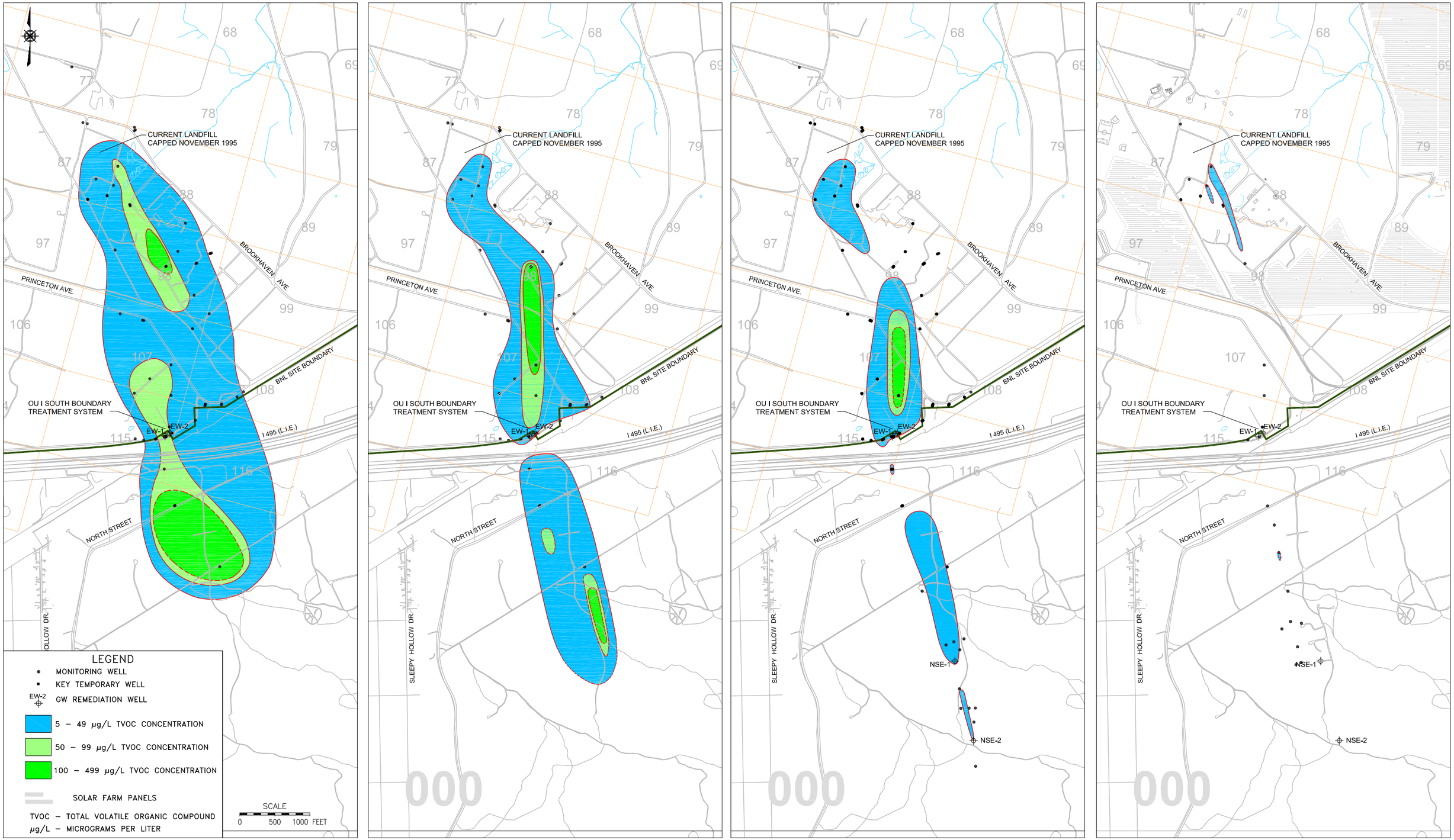


1997

2002

2007

2022

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Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

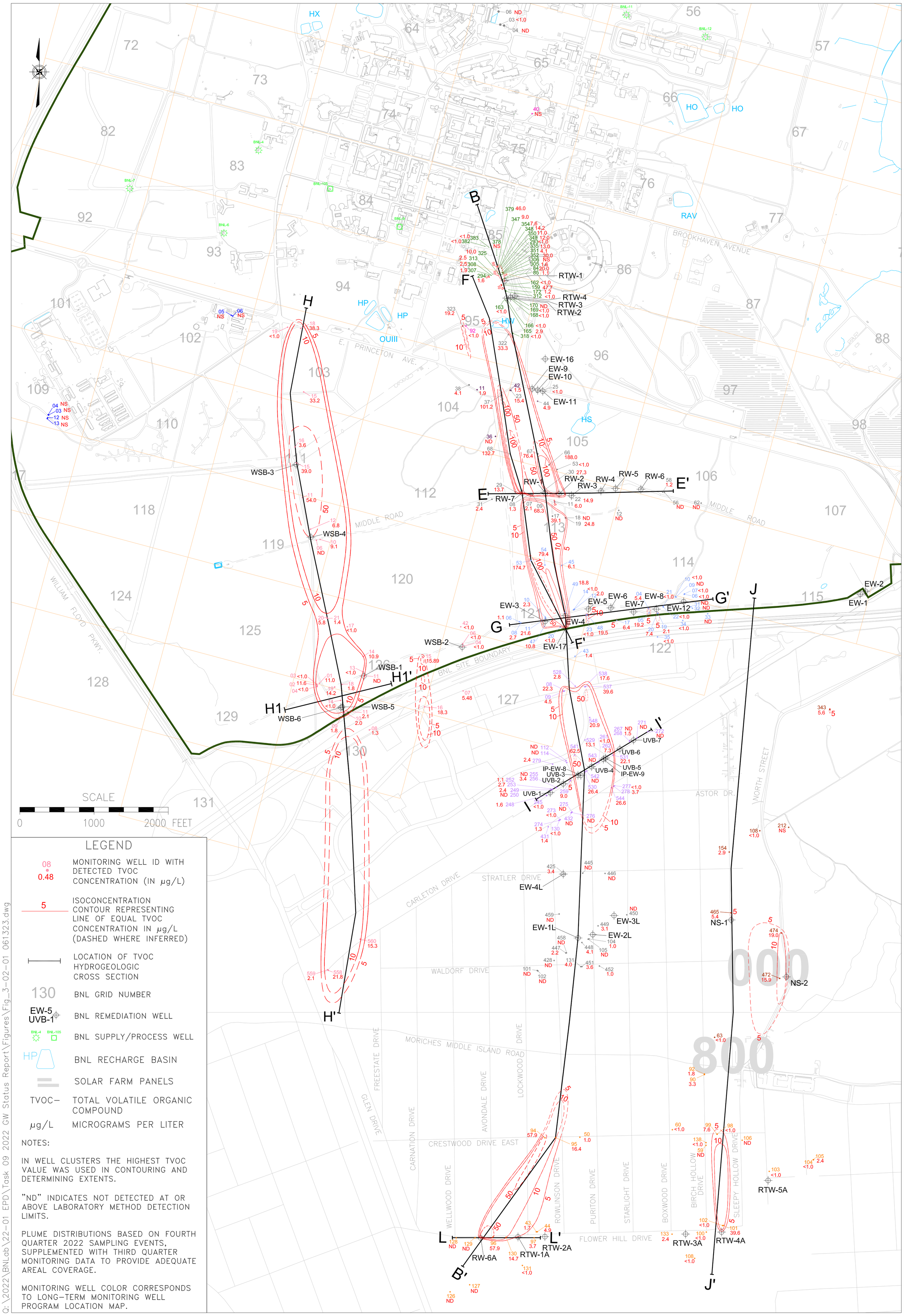
TITLE:

# OU I SOUTH BOUNDARY/NORTH STREET EAST TVOC PLUME COMPARISON 1997 – 2022

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.1–8




## LEGEND

- 08 / 0.48 — 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
- 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 2022 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

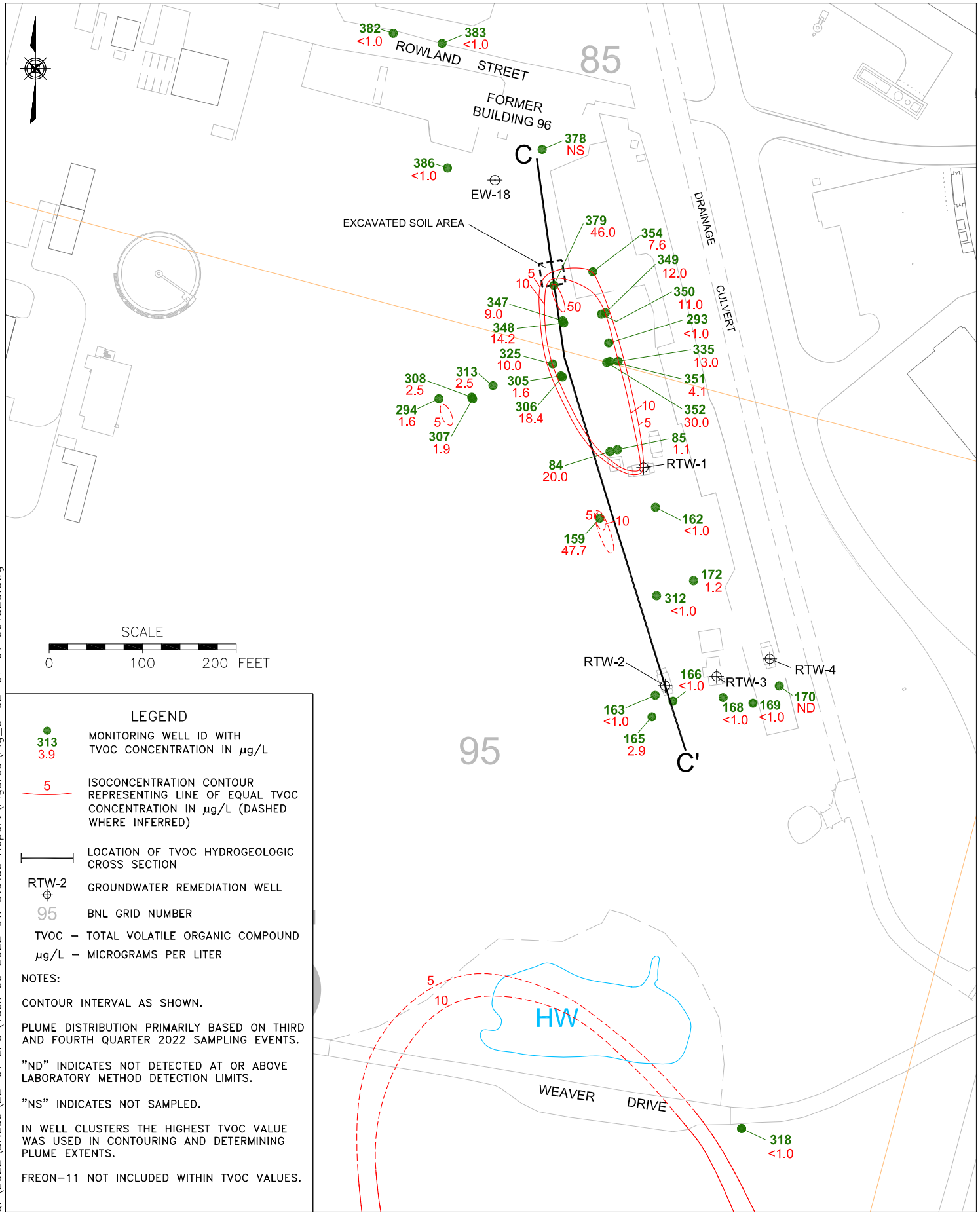
TITLE:

# OU III/ OU IV/ NORTH STREET TVOC PLUME DISTRIBUTIONS

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | |

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 2022 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

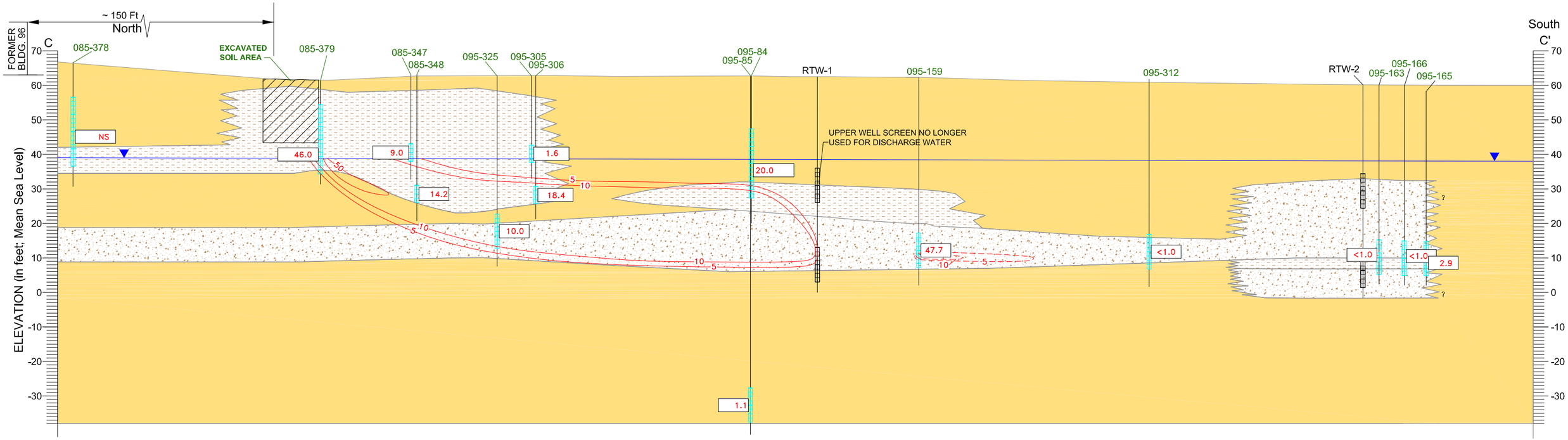
TITLE:

# OU III BUILDING 96 AREA TVOC PLUME DISTRIBUTION

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

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 25 – Oct 28, 2022

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 2022 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

Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

# OU III BUILDING 96 AREA
# TVOC HYDROGEOLOGIC CROSS SECTION (C–C')

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | 1.5:1 | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.1–2

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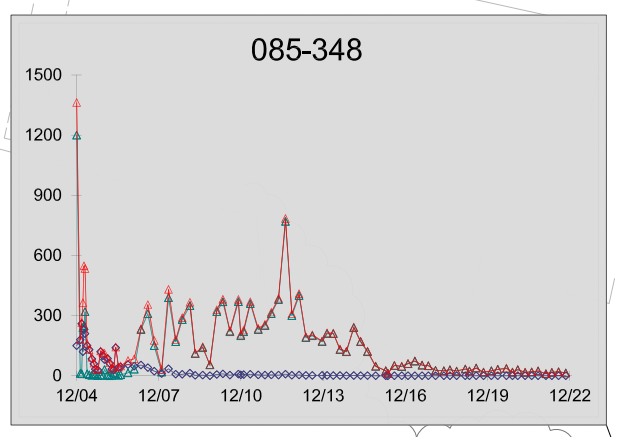


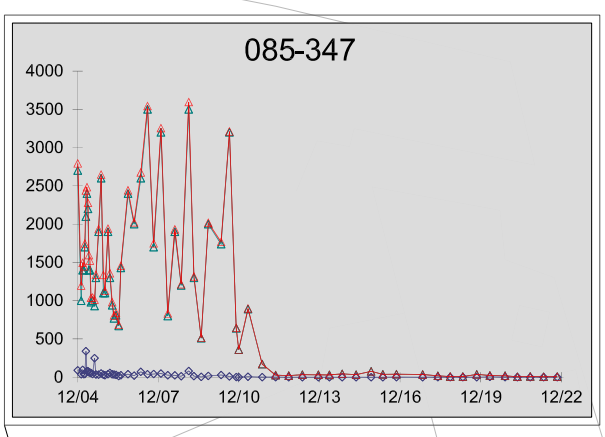


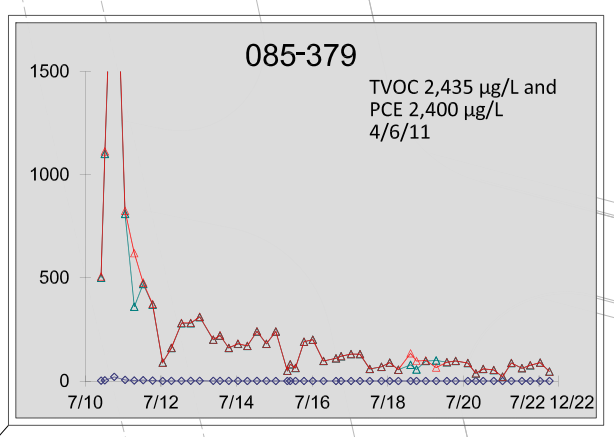


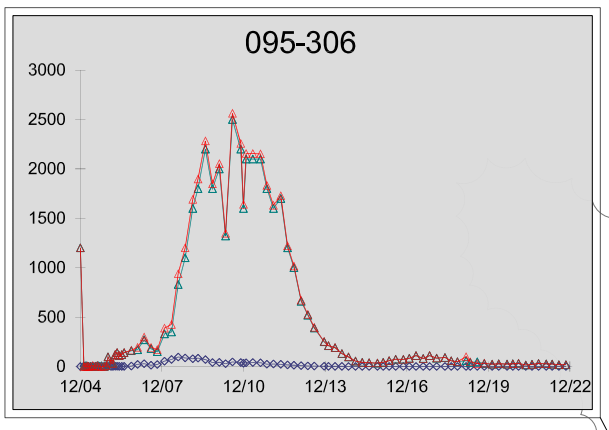


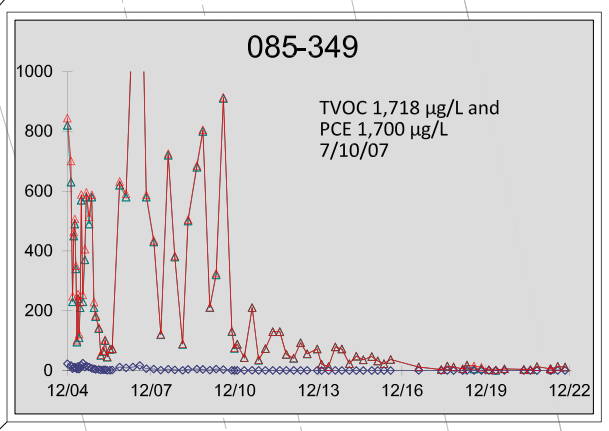


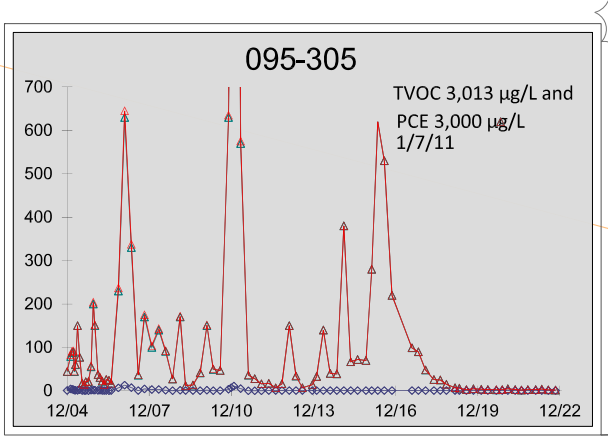


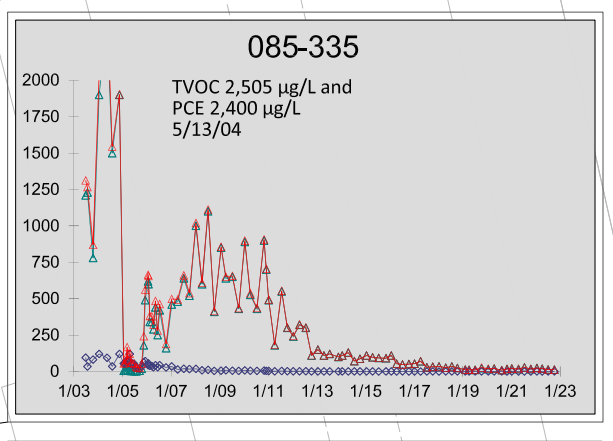





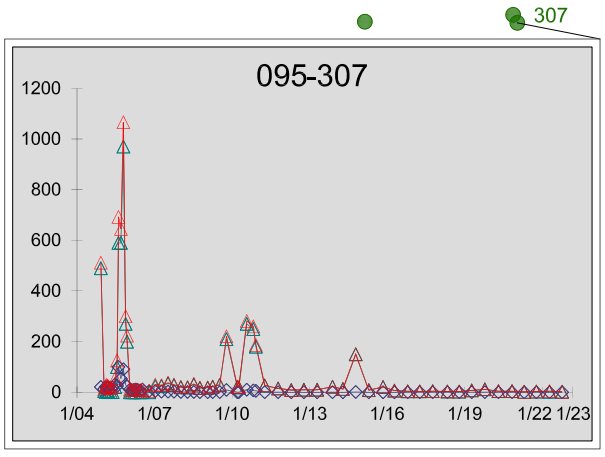


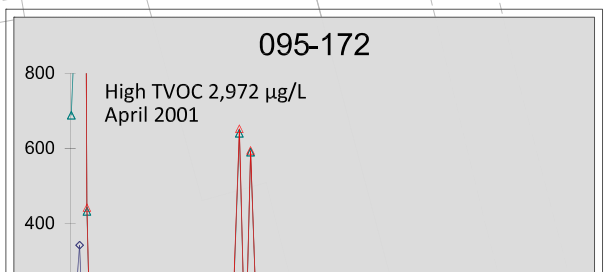


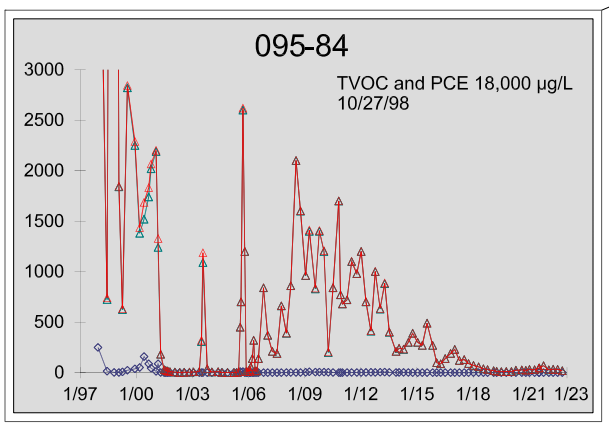


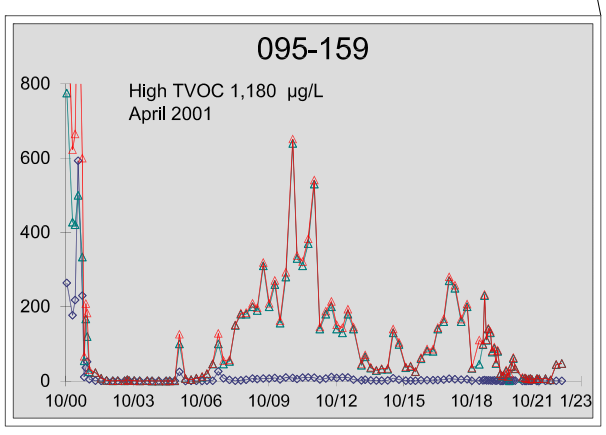


WOODED AREA

EXCAVATED SOIL AREA

WOODED AREA

85

95

379

50

347

348

349

335

352

306

305

307

84

159

172

RTW-1
TREATMENT BUILDING FOR RTW-1

RTW-2

RTW-3

RTW-4

SCALE IN FEET
0 30 60

## LEGEND

84 MONITORING WELL ID

50 EXTENT OF TVOC PLUME BASED ON 50 µg/L (DASHED WHERE INFERRED)

95 BNL GRID NUMBER

TVOC – TOTAL VOLATILE ORGANIC COMPOUND

µg/L – MICROGRAMS PER LITER

TVOC

TETRACHLOROETHYLENE (PCE)

1,1,1–TRICHLOROETHANE

CONCENTRATION (IN µg/L)

DATE (MONTH/YEAR)

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

# OU III BUILDING 96 AREA HISTORICAL VOC TRENDS

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VS: HS.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.1–3

**Figure 3.2.1-4**
**OU III Building 96 Area**
**Extraction Well TVOC Concentrations**

2022 BNL Groundwater Status Report

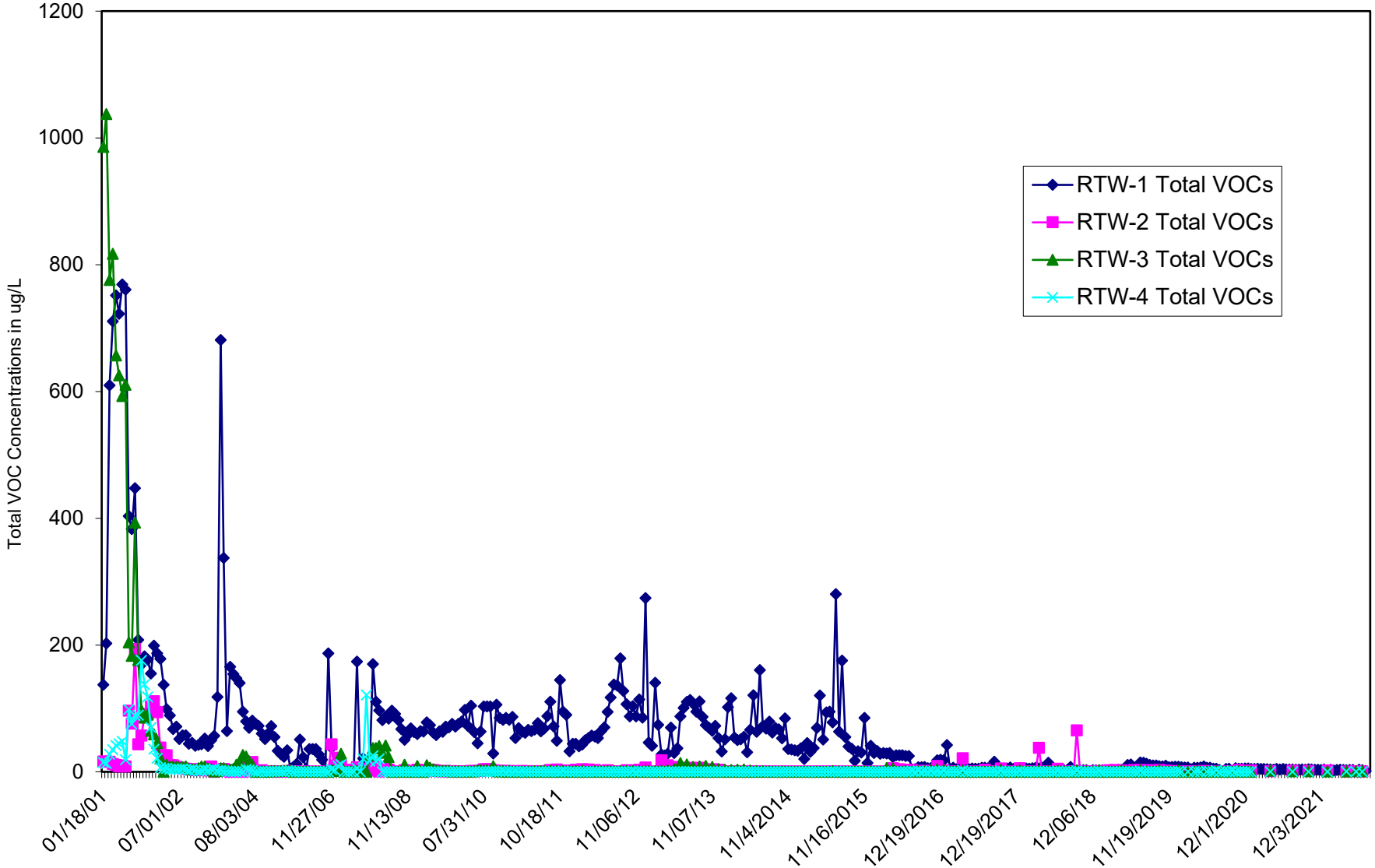


**Figure 3.2.1-4**
**OU III Building 96 Area**
**Extraction Well TVOC Concentrations**

2022 BNL Groundwater Status Report

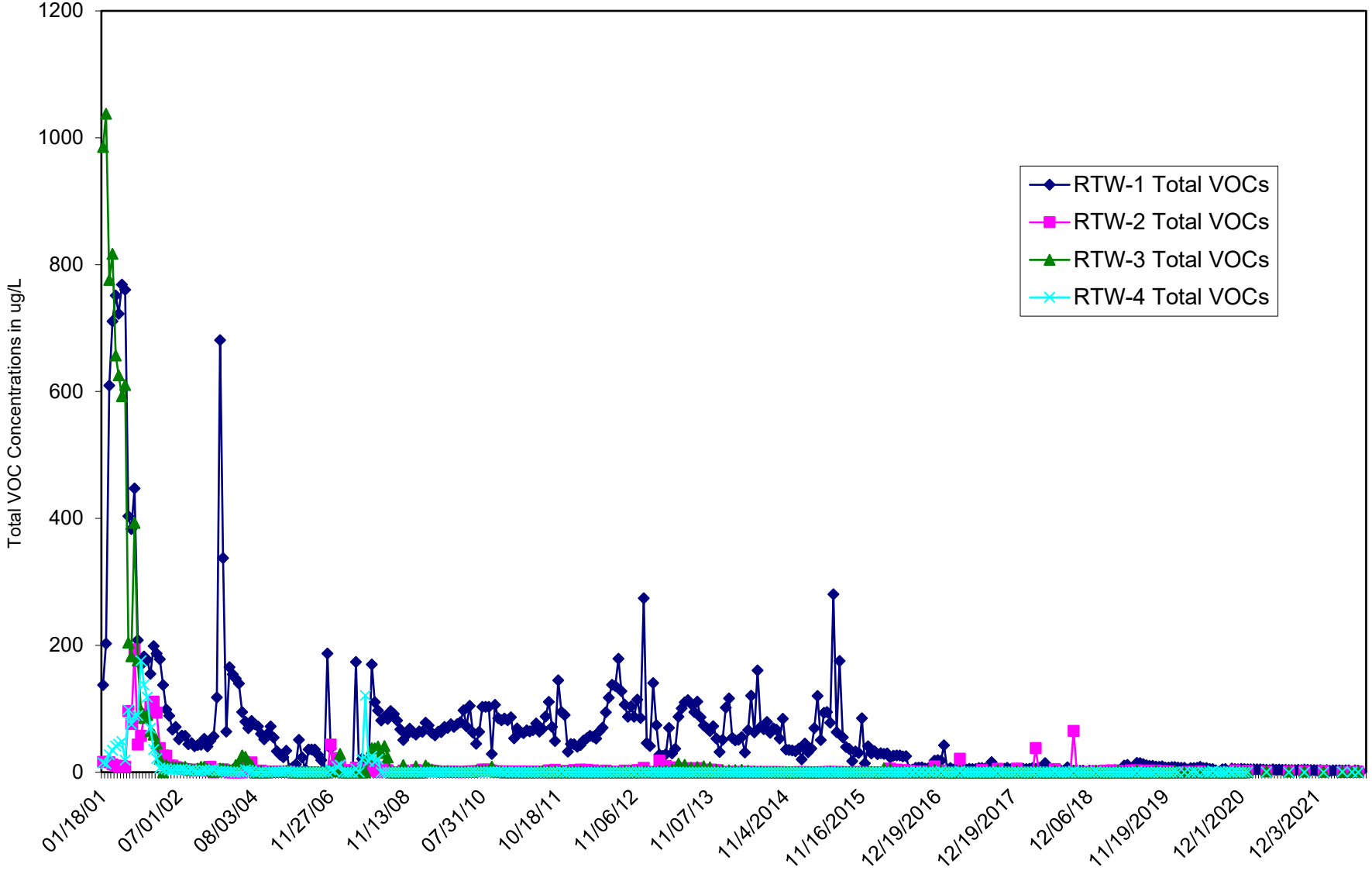


**Figure 3.2.1-5**
**OU III Building 96 Area**
**Extraction Well TVOC Concentrations From January 1, 2005**

2022 BNL Groundwater Status Report

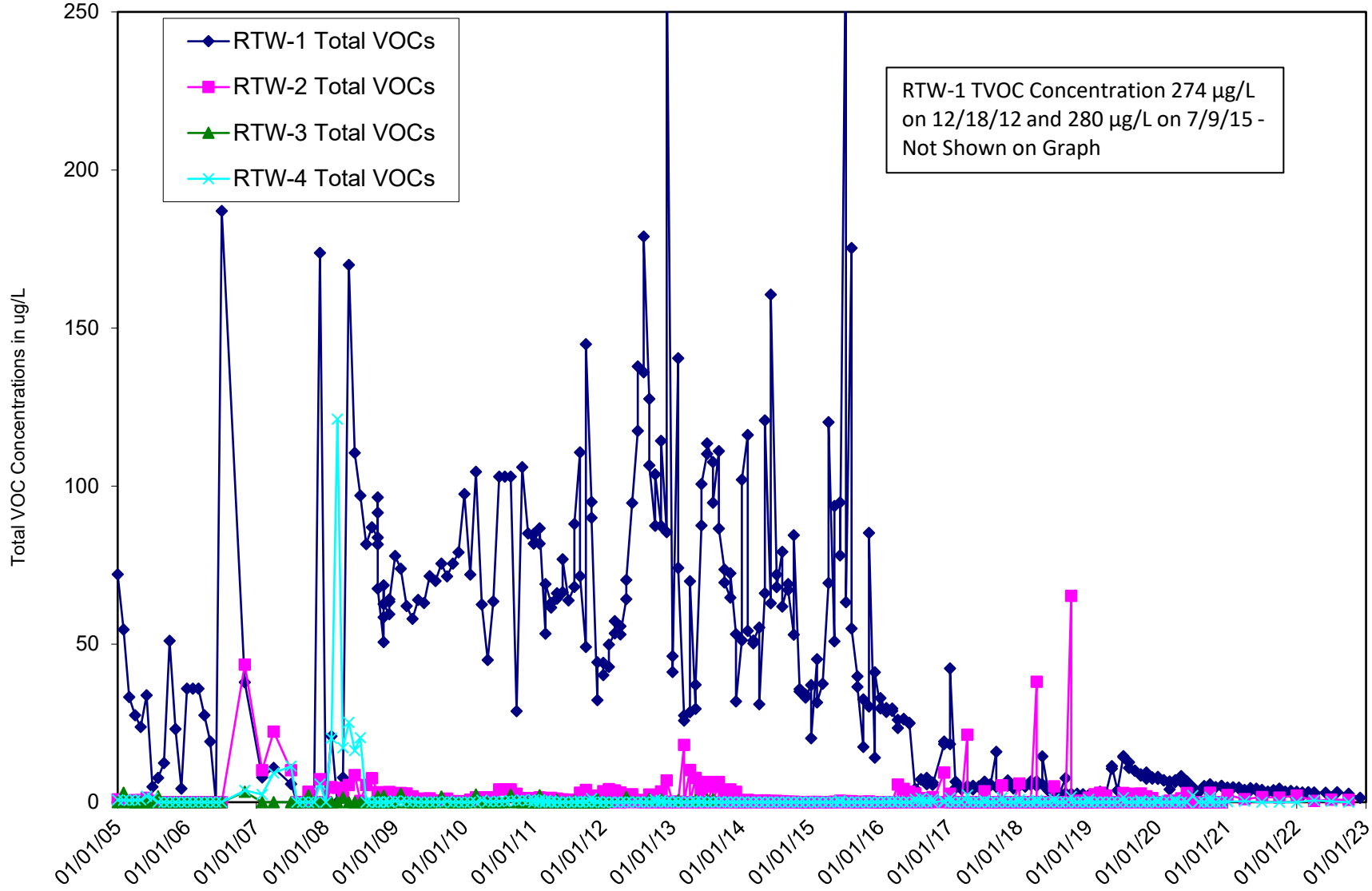
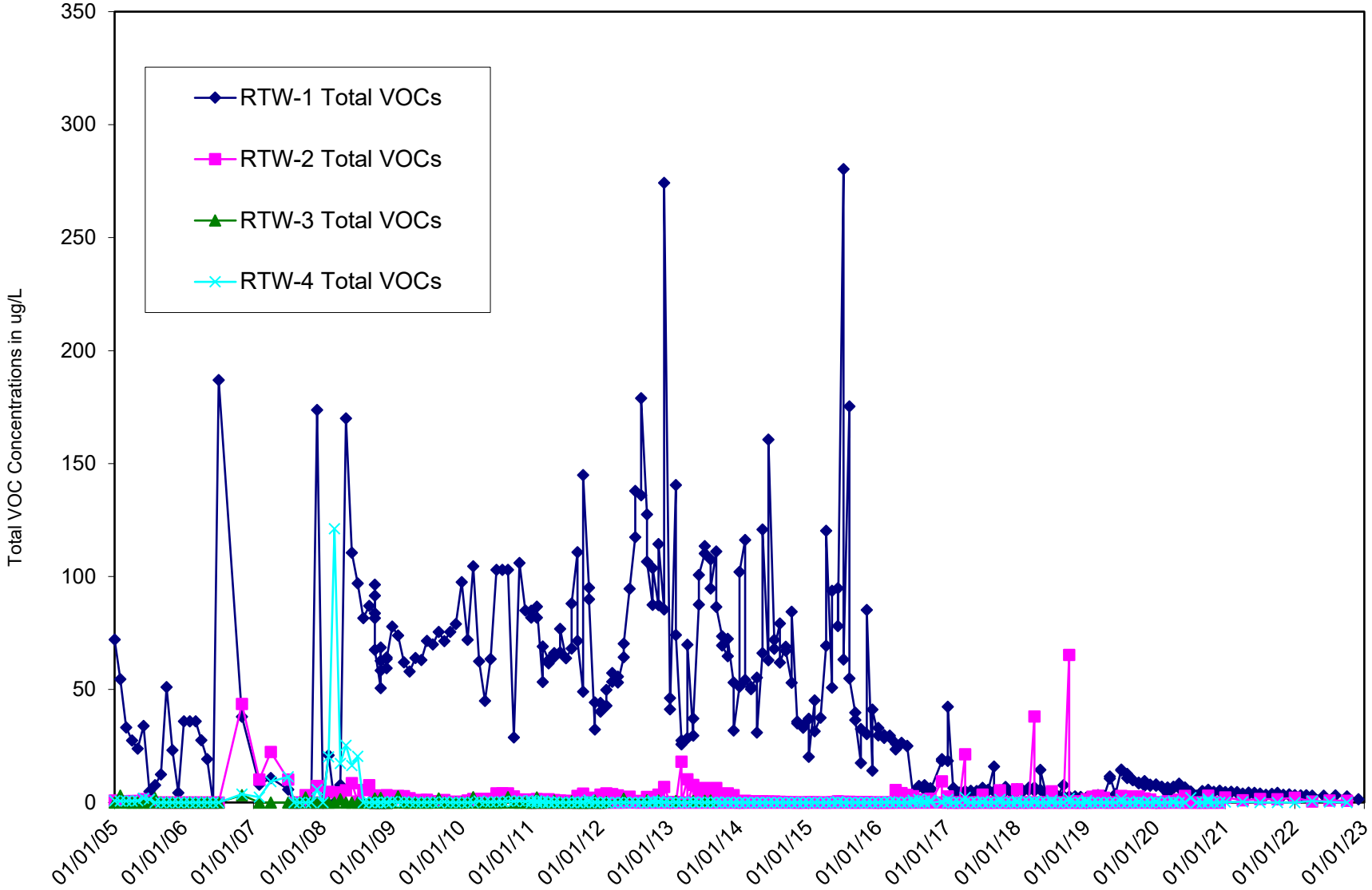


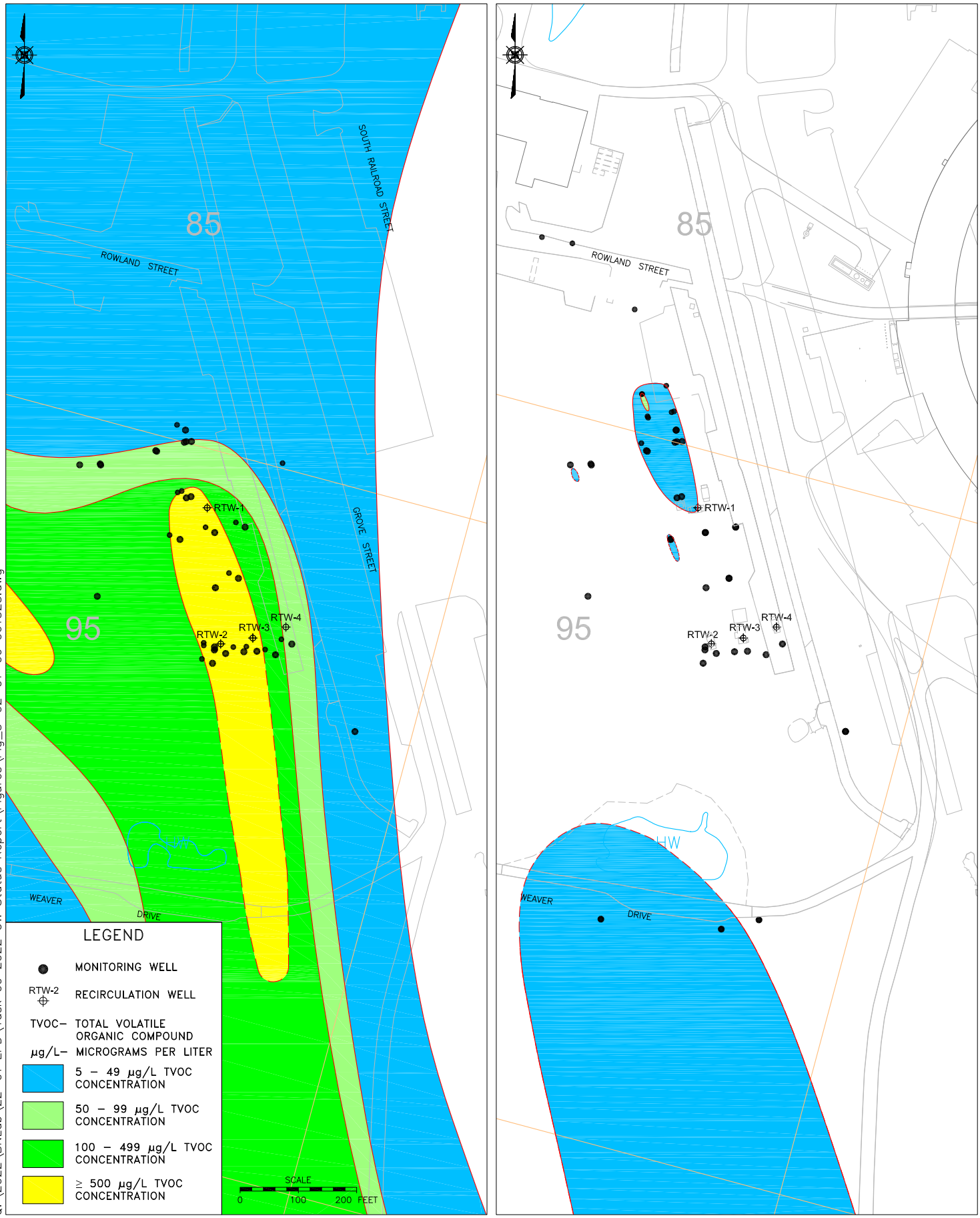
**Figure 3.2.1-5**
**OU III Building 96 Area**
**Extraction Well TVOC Concentrations From January 1, 2005**

2022 BNL Groundwater Status Report



2000 TVOC PLUME DISTRICTION

2022 TVOC PLUME DISTRICTION

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Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

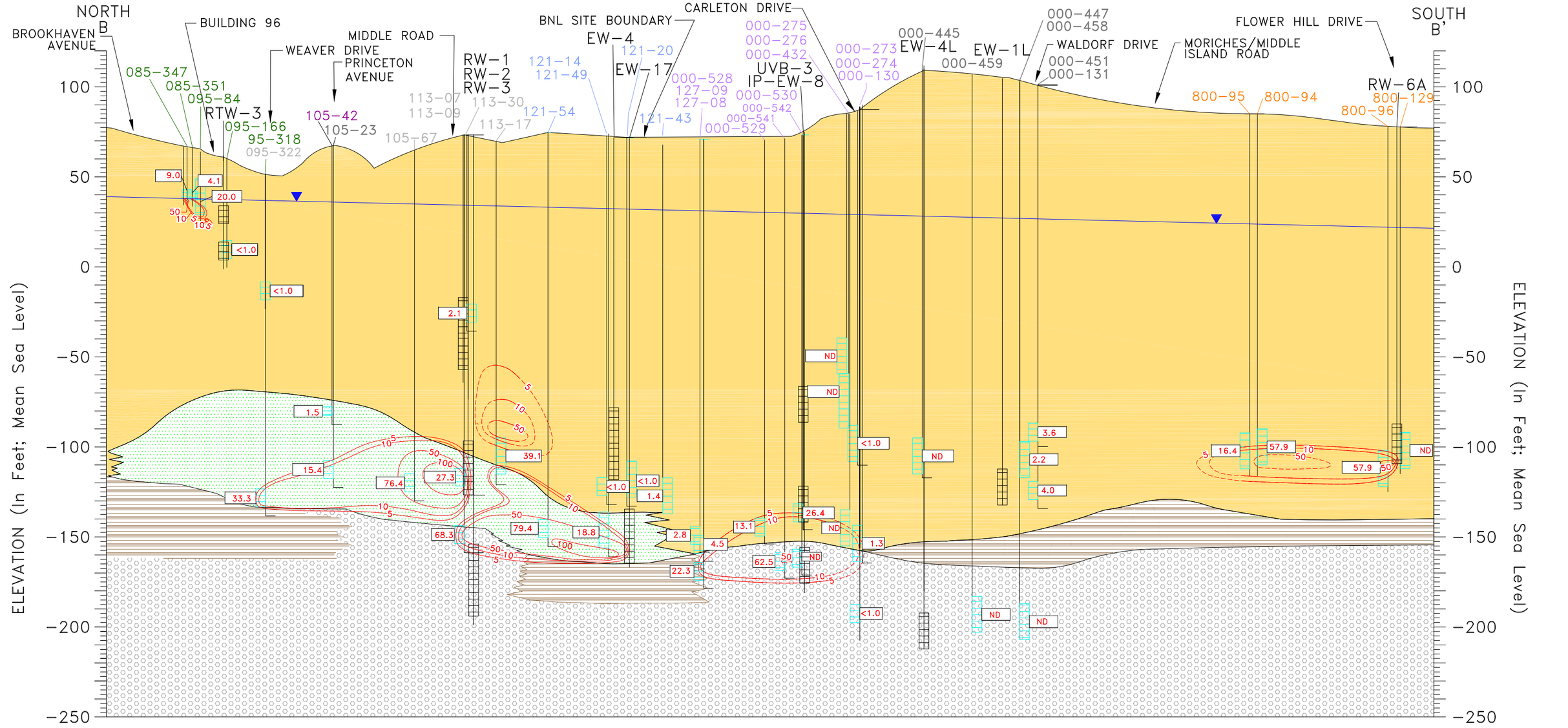
TITLE:

# OU III BUILDING 96 AREA TVOC PLUME COMPARISON 2000–2022

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

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 25 – Oct 28, 2022

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

121-13
121-14
121-49

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 2022 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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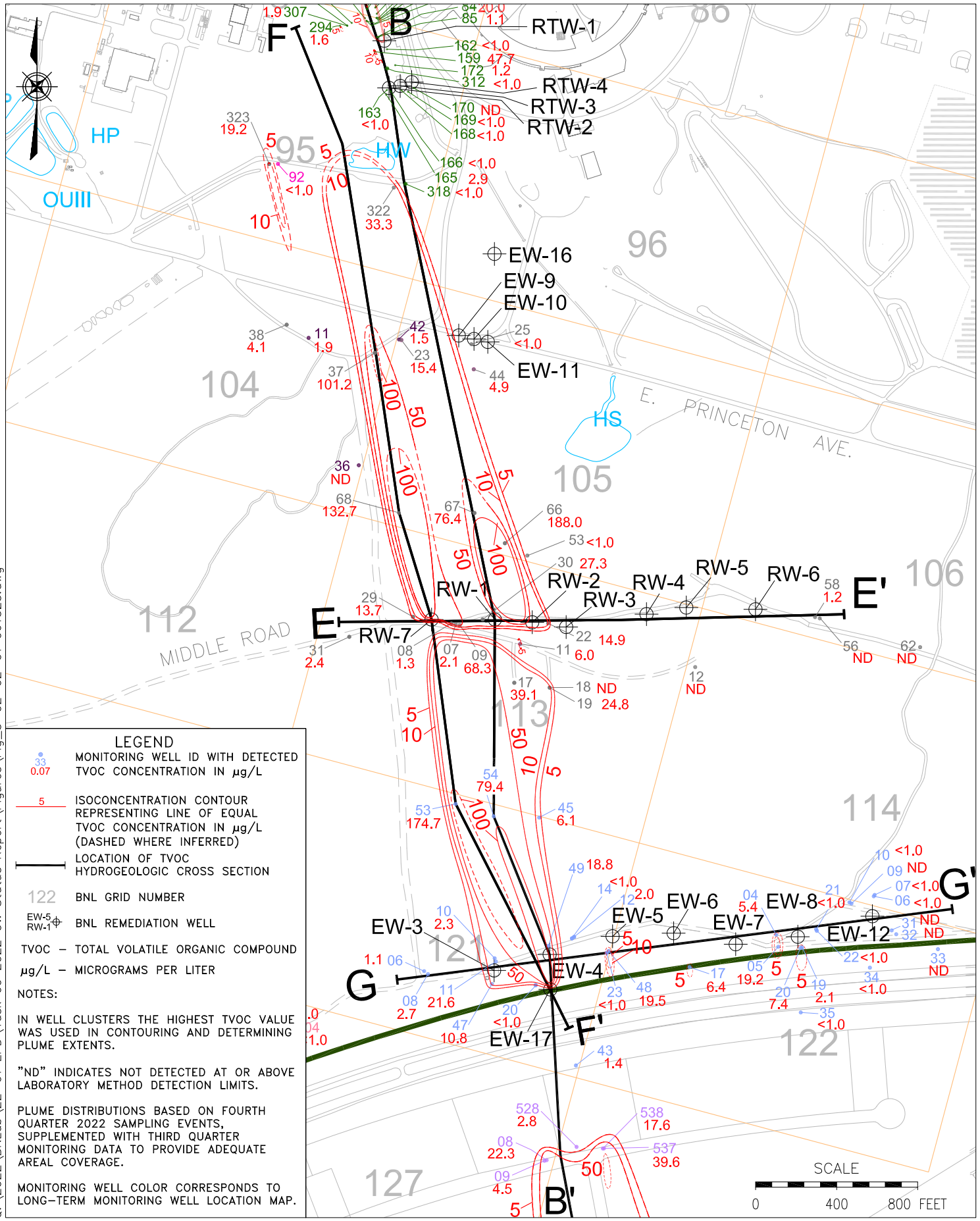
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

# OU III
# TVOC HYDROGEOLOGIC CROSS SECTION (B-B')
## 2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | 20:1 | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2-2




## LEGEND

- 33 / 0.07 — 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
- 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 2022 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

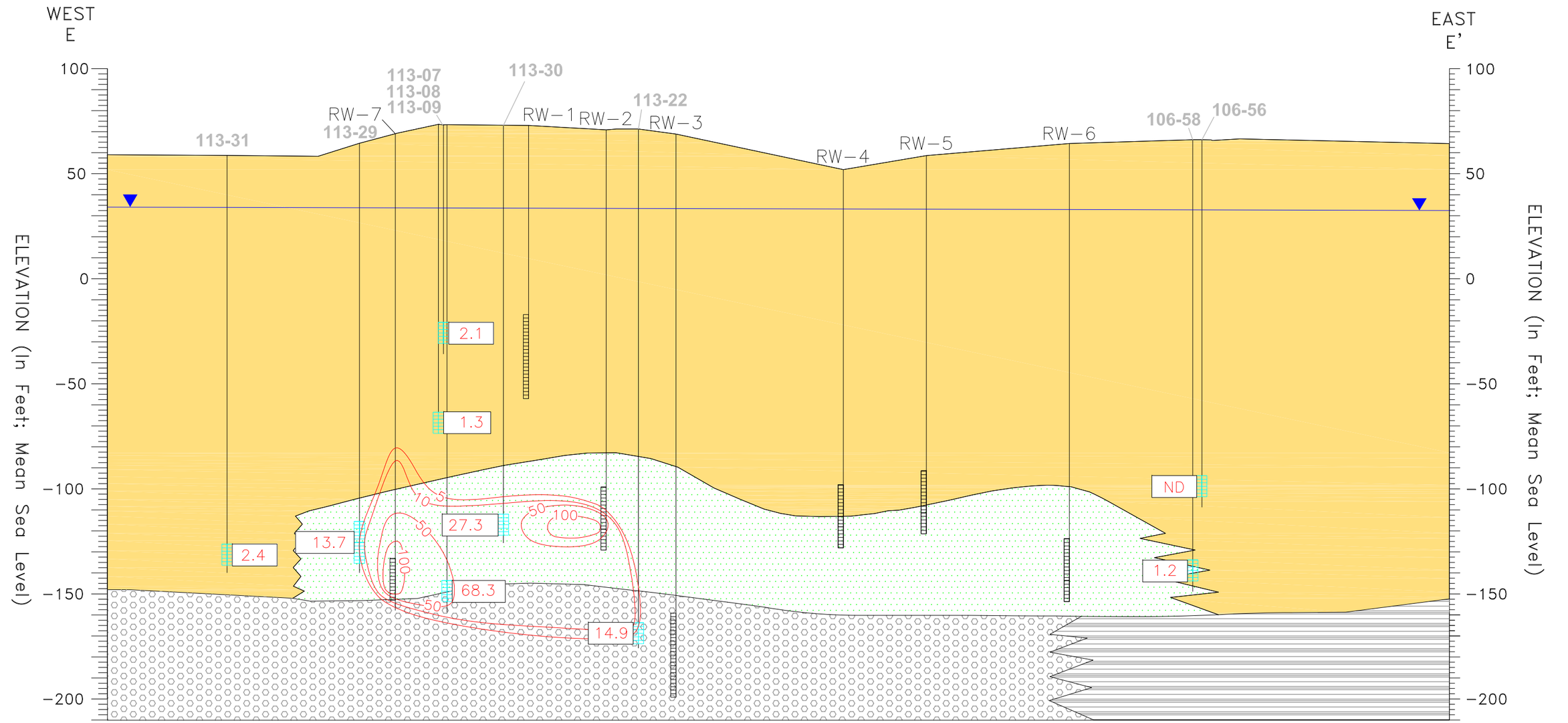
TITLE:

# OU III MIDDLE ROAD AREA, TVOC PLUME DISTRIBUTION

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

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

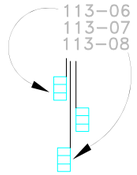
| | |
|---|---|
| RW−1 | Extraction Well |
| 113−06 | BNL Well ID |
| ND | Indicates not detected at or above laboratory method detection limits |
| NS | not sampled |
| 1.84 | TVOC Concentration (µg/L) |
| — 5 — | TVOC Contour (µg/L) (Dashed Where Inferred) |

Water Table As Of Oct 25 – Oct 28, 2022

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 2022 OU III SAMPLING EVENTS.

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 MIDDLE ROAD AREA
# TVOC HYDROGEOLOGIC CROSS SECTION (E−E')

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | 5:1 | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |
| FIGURE NO.: | | | |
| 3.2.2−2 | | | |

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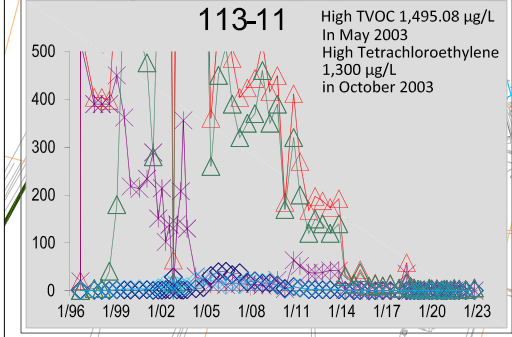
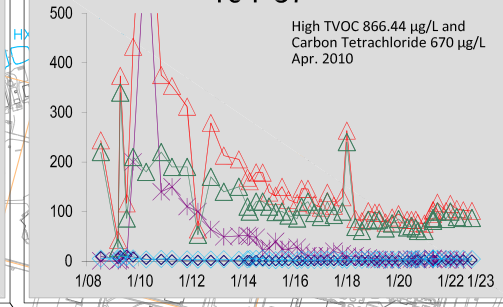
## 113-11

High TVOC 1,495.08 µg/L
In May 2003
High Tetrachloroethylene
1,300 µg/L
in October 2003

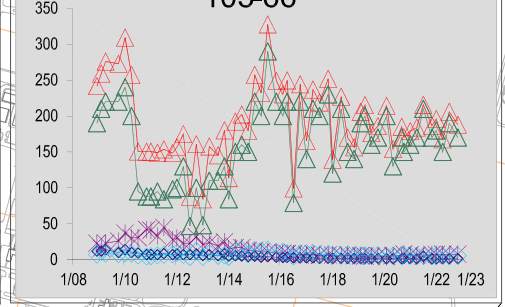



## 104-37

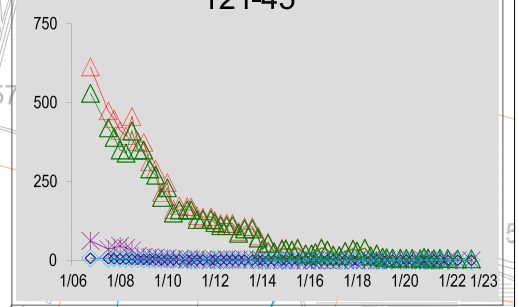
High TVOC 866.44 µg/L and
Carbon Tetrachloride 670 µg/L
Apr. 2010




## 105-66




## 121-45

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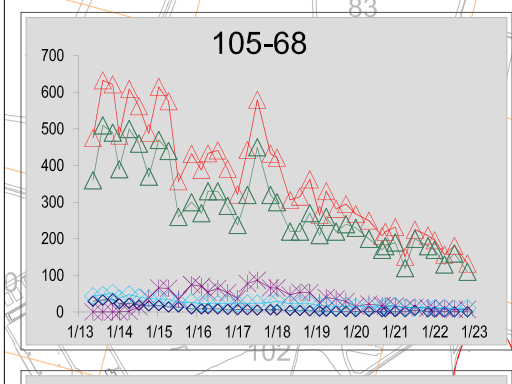
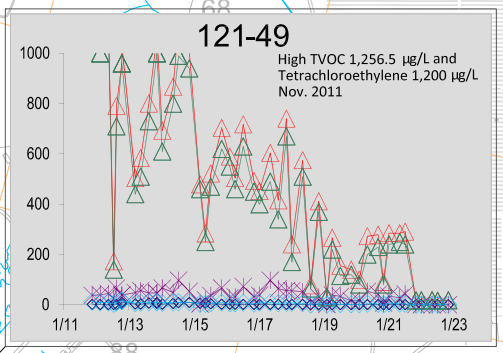
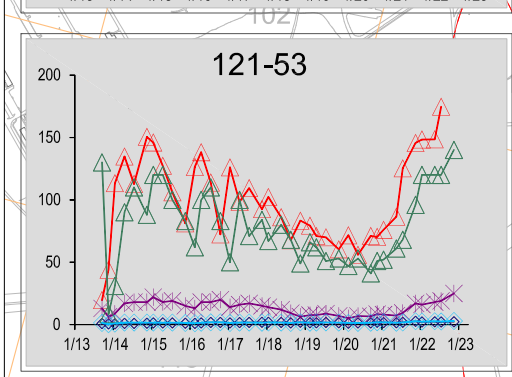



## 121-49

High TVOC 1,256.5 µg/L and
Tetrachloroethylene 1,200 µg/L
Nov. 2011



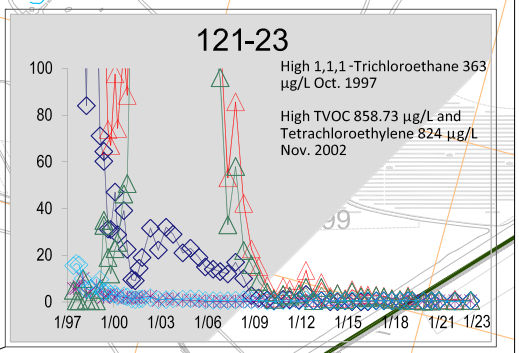

## 121-53



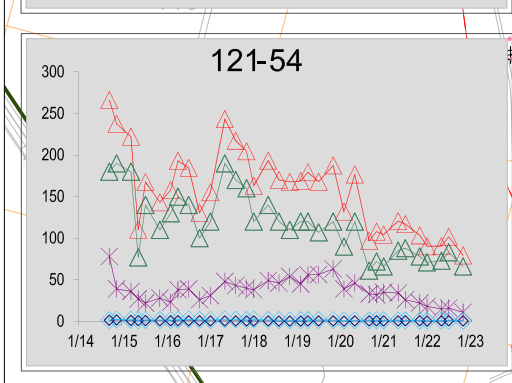

## 121-23

High 1,1,1-Trichloroethane 363
µg/L Oct. 1997

High TVOC 858.73 µg/L and
Tetrachloroethylene 824 µg/L
Nov. 2002

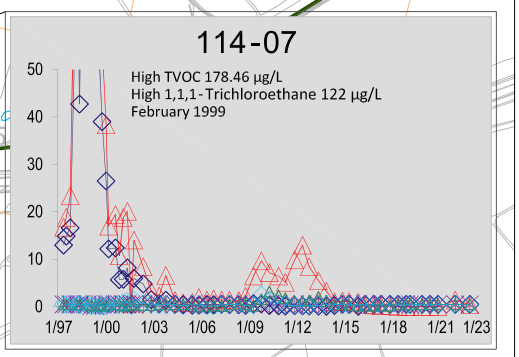



## 121-54




## 114-07

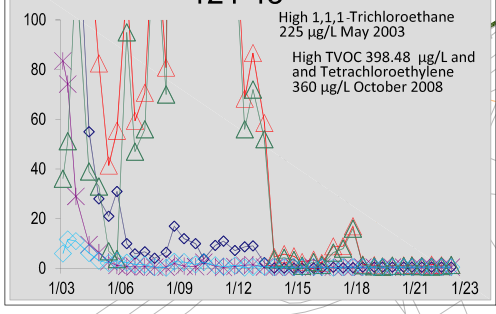
High TVOC 178.46 µg/L
High 1,1,1-Trichloroethane 122 µg/L
February 1999



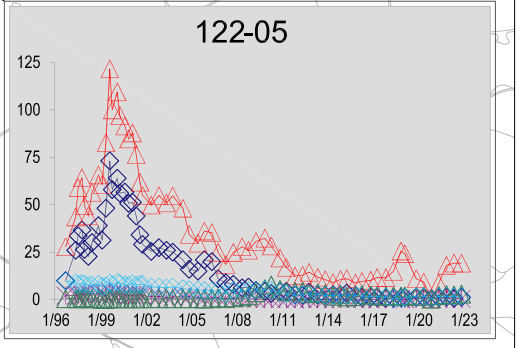

## 121-43

High 1,1,1-Trichloroethane
225 µg/L May 2003

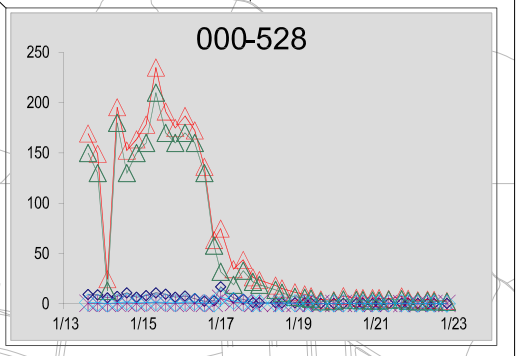
High TVOC 398.48 µg/L and
and Tetrachloroethylene
360 µg/L October 2008



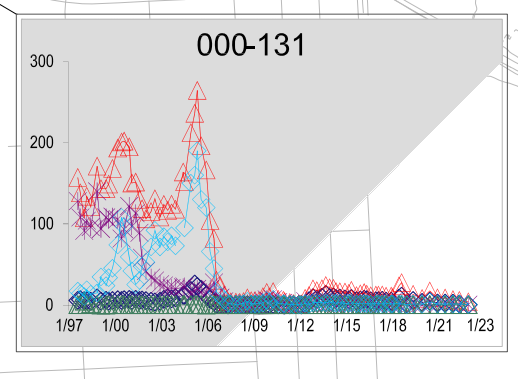

## 122-05



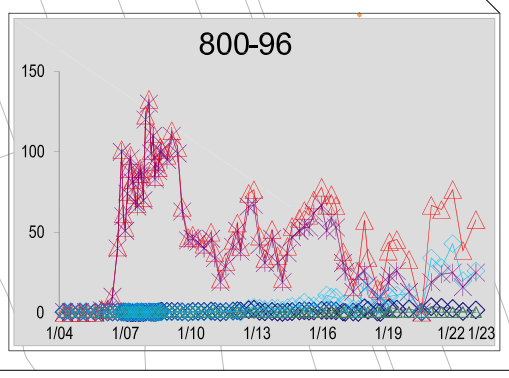

## 000-528



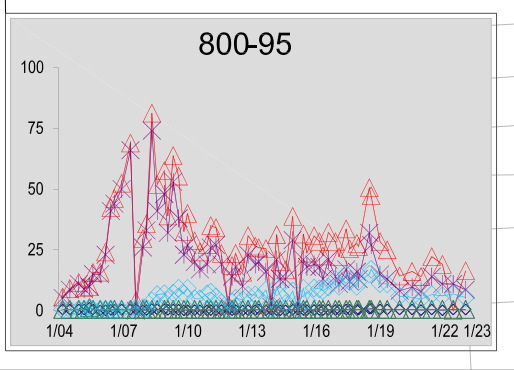

## 000-131




## 800-96




## 800-95

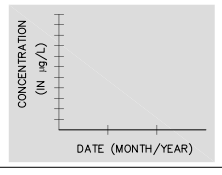



EW-18
RTW-1
RTW-4
RTW-3
RTW-2
EW-16
EW-9
EW-10
EW-11
RW-7
RW-2
RW-1
RW-3
RW-4
RW-5
RW-6
EW-4
EW-5
EW-6
EW-7
EW-8
EW-12
EW-3
EW-17
WSB-1
WSB-2
WSB-4
WSB-5
WSB-6
UVB-7
UVB-6
UVB-5
UVB-4
UVB-3
UVB-2
UVB-1
IP-EW-9
IP-EW-8
EW-4L
EW-3L
EW-2L
EW-1L
NS-1
NS-2
NSE-2
RTW-5A
RW-6A
RTW-1A
RTW-2A
RTW-3A
RTW-4A
RA V BASIN
OU III BASIN
HP
HW
BROOKHAVEN AVENUE
E. PRINCETON AVE.
CARLETON DRIVE
FLOWER HILL DRIVE
MORICHES MIDDLE ISLAND ROAD
MIDDLE ROAD
495 (L.I.E.)

SCALE
0 750 1500 FEET

## 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

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

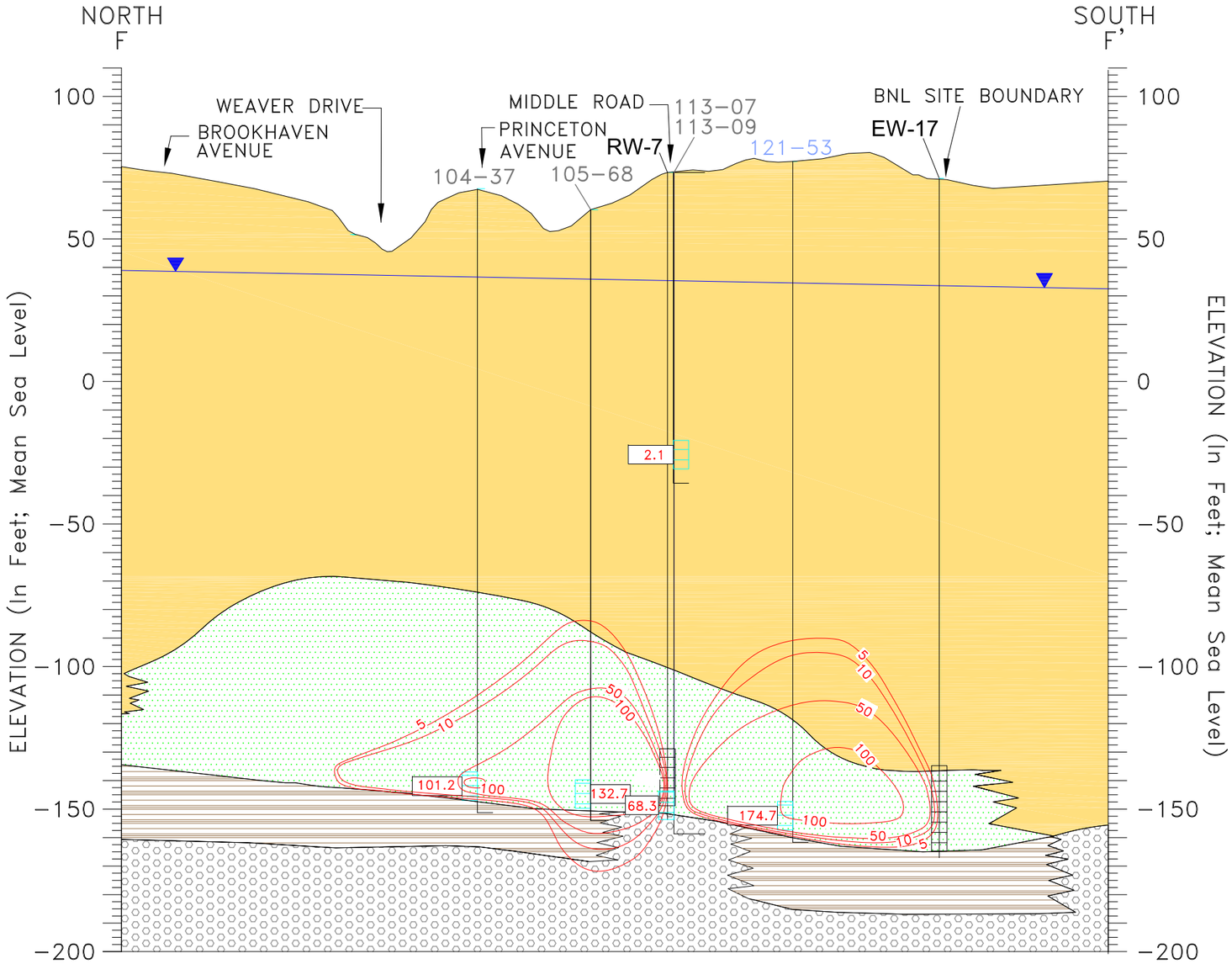
TITLE:

# OU III AND OU IV PLUME(S) HISTORICAL VOC TRENDS

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

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 25 – Oct 28, 2022
- 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 2022 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')

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | 5:1 | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.2–4

**Figure 3.2.2-5**
**OU III Middle Road Groundwater Remediation System**
**Cumulative VOC Mass Removed**

2022 BNL Groundwater Status Report

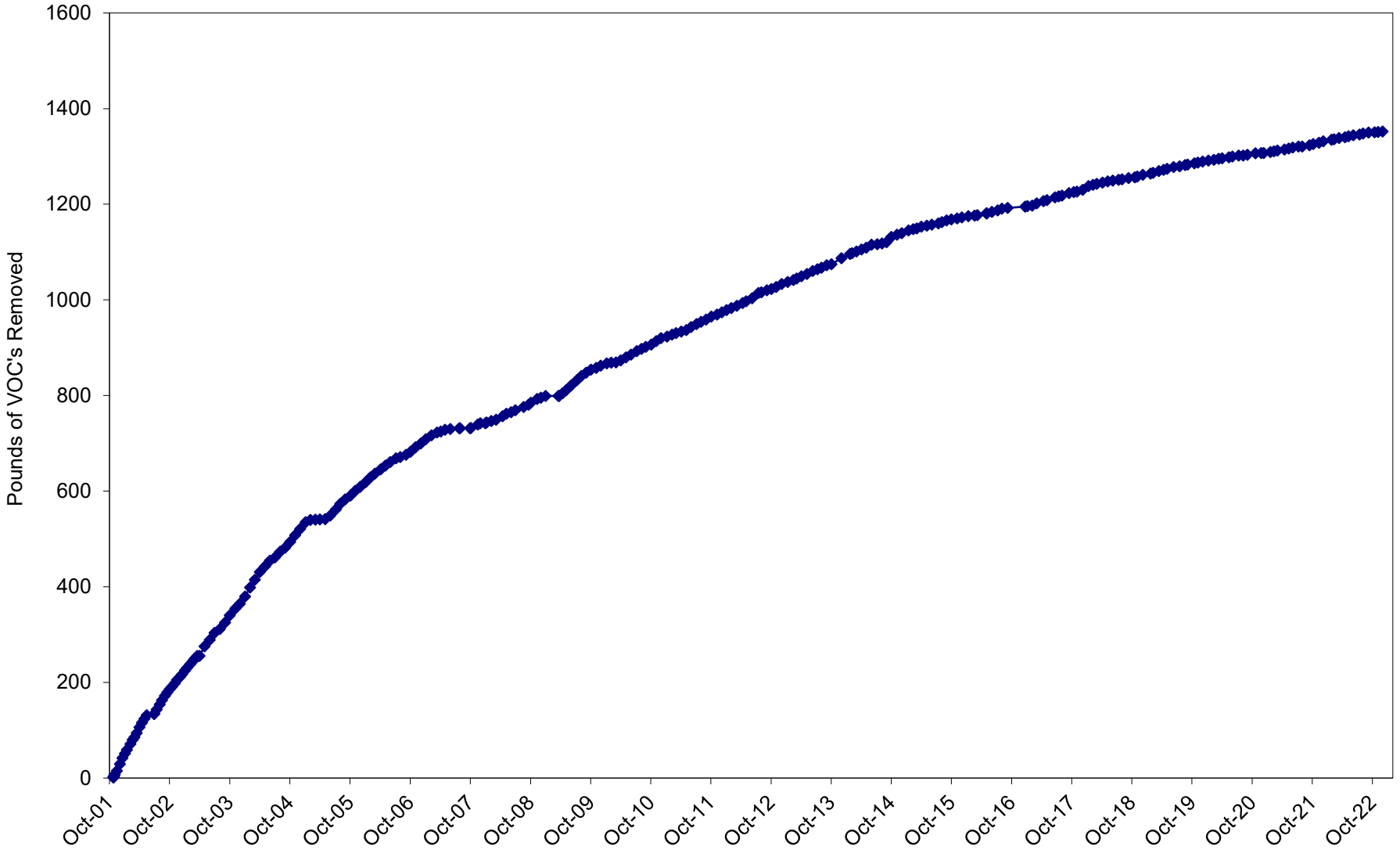
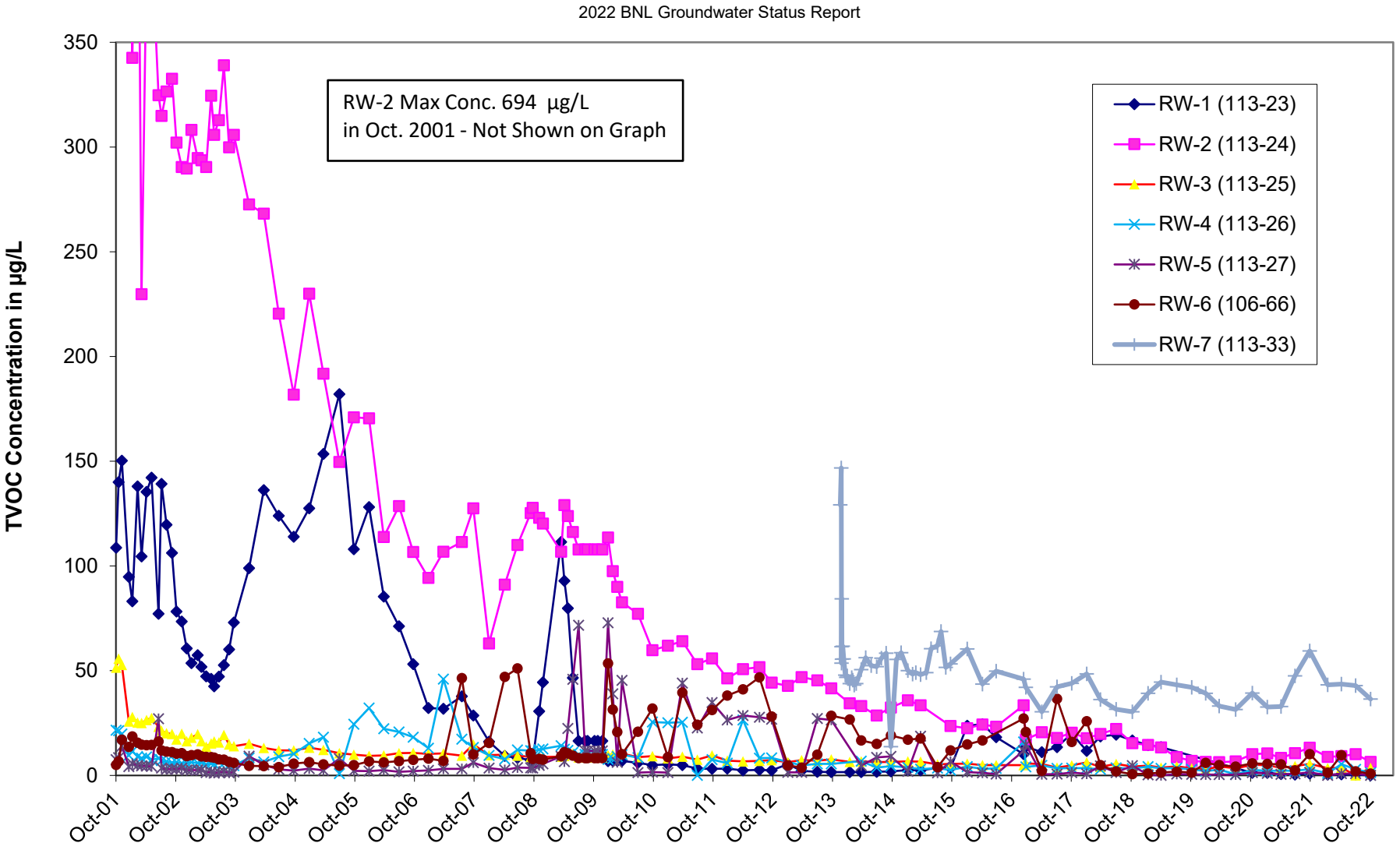
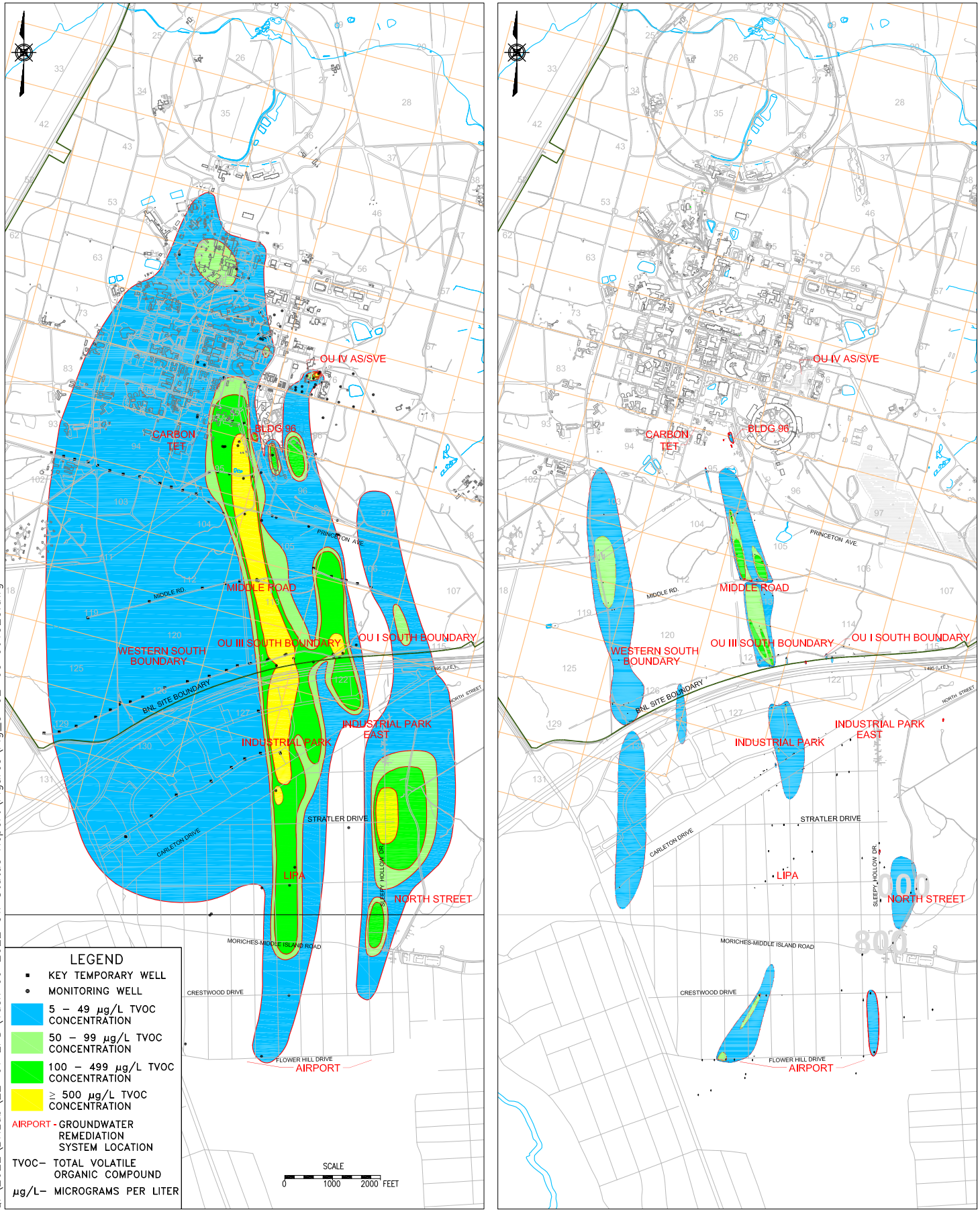


**Figure 3.2.2-6**
**OU III Middle Road Groundwater Remediation System**
**Total Volatile Organic Compounds in Recovery Wells**



1997 TVOC PLUME DISTRIBUTION

2022 TVOC PLUME DISTRIBUTION

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

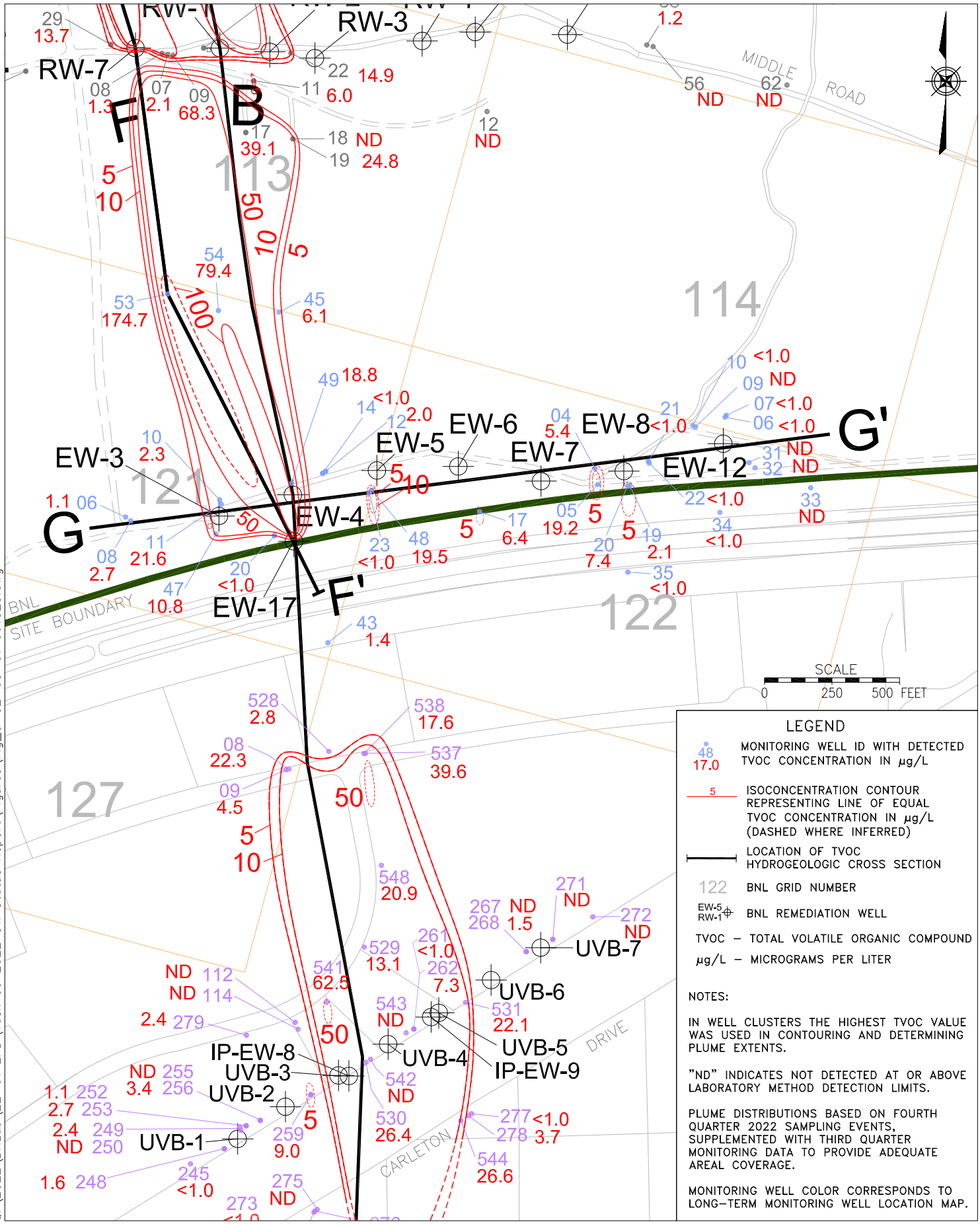
TITLE:

# OU III / OU IV / NORTH STREET TVOC PLUME COMPARISON 1997 – 2022

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2-3

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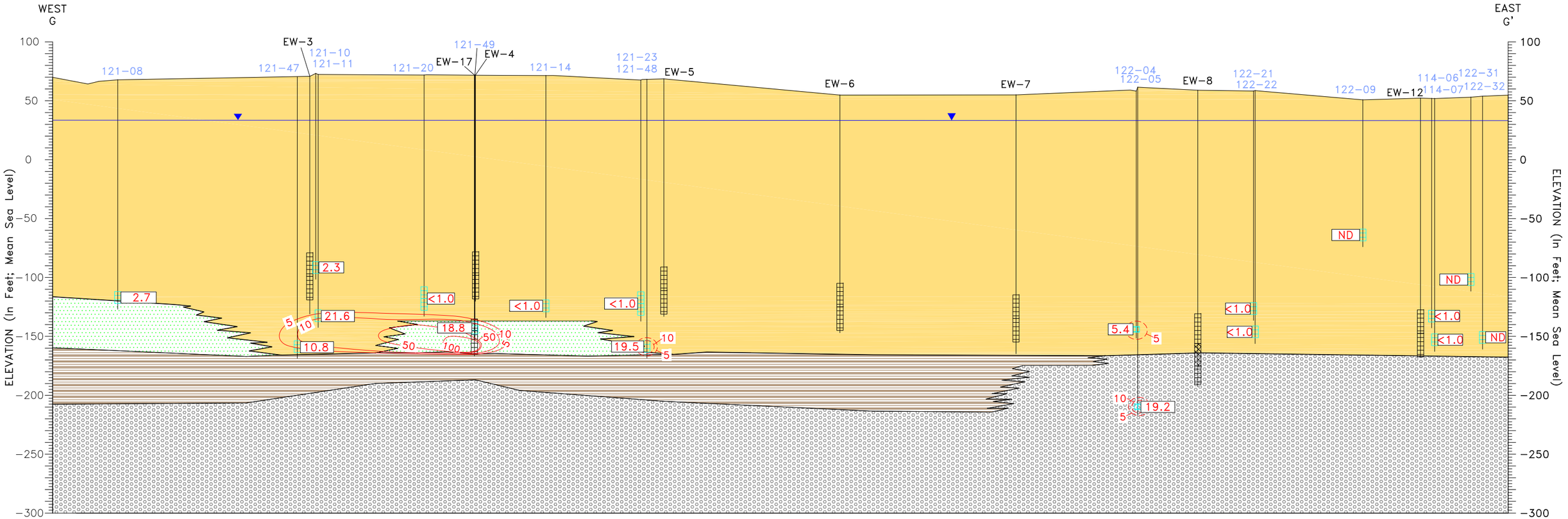
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
# OU III AND OU IV SOUTH BOUNDARY/ INDUSTRIAL PARK AREAS, TVOC PLUME DISTRIBUTION
2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.3-1




## 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 (undiff)
- MO Magothy – OTHER

121−07 — BNL Well ID

21.62 — TVOC Concentration (µg/L)

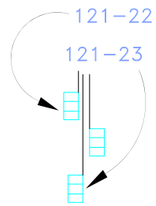
—50— TVOC Contour (µg/L) (Dashed Where Inferred)

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 25 – Oct 28, 2022

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 2022 OU III SAMPLING EVENTS.

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 SOUTH BOUNDARY AREA
# TVOC HYDROGEOLOGIC CROSS SECTION (G−G')
## 2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | 2:1 | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

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**

2022 BNL Groundwater Status Report

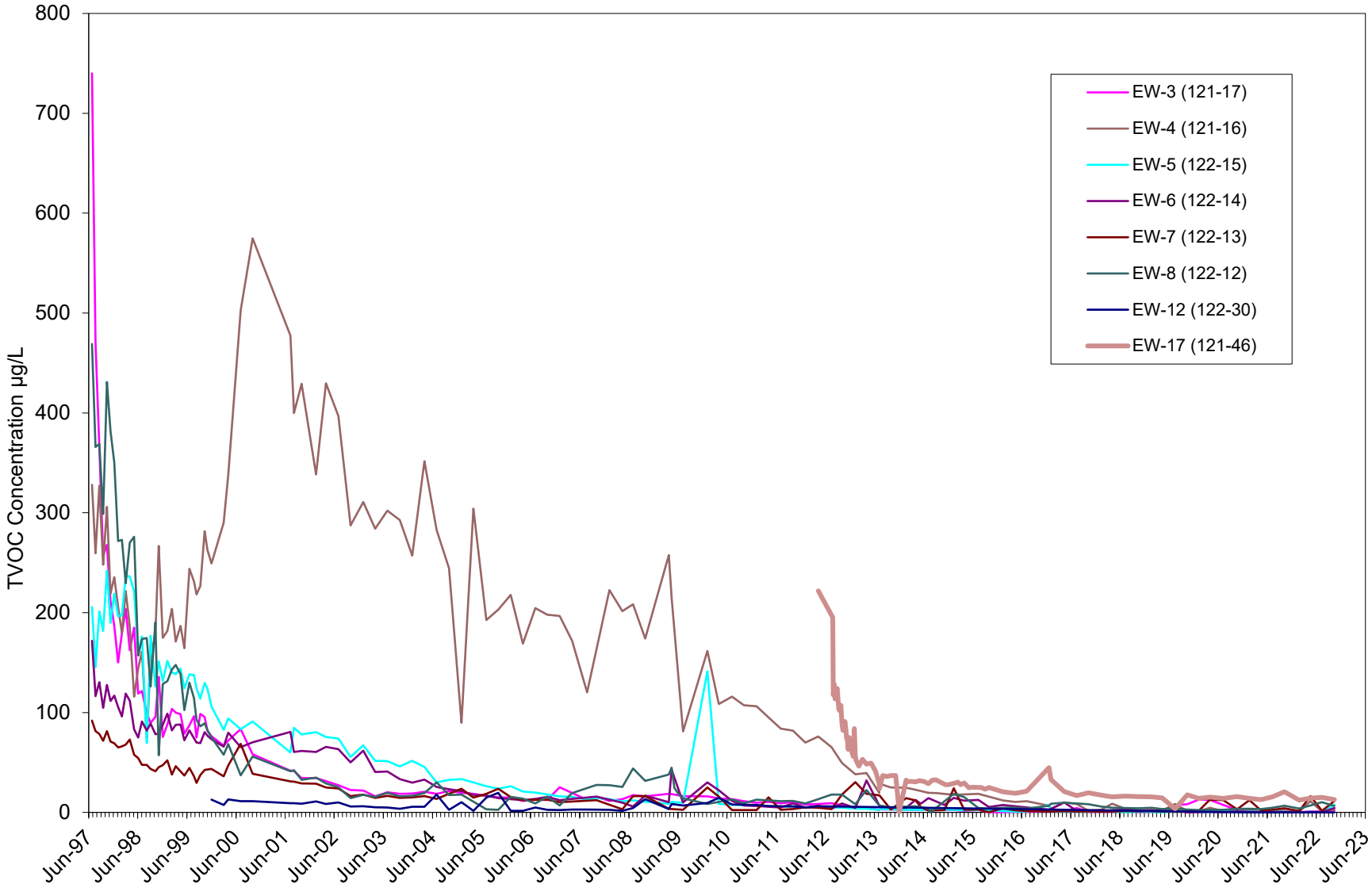


**Figure 3.2.3-4**
**OU III South Boundary Groundwater Remediation System**
**Total Volatile Organic Compounds in Extraction Wells**
**2010 through 2022**

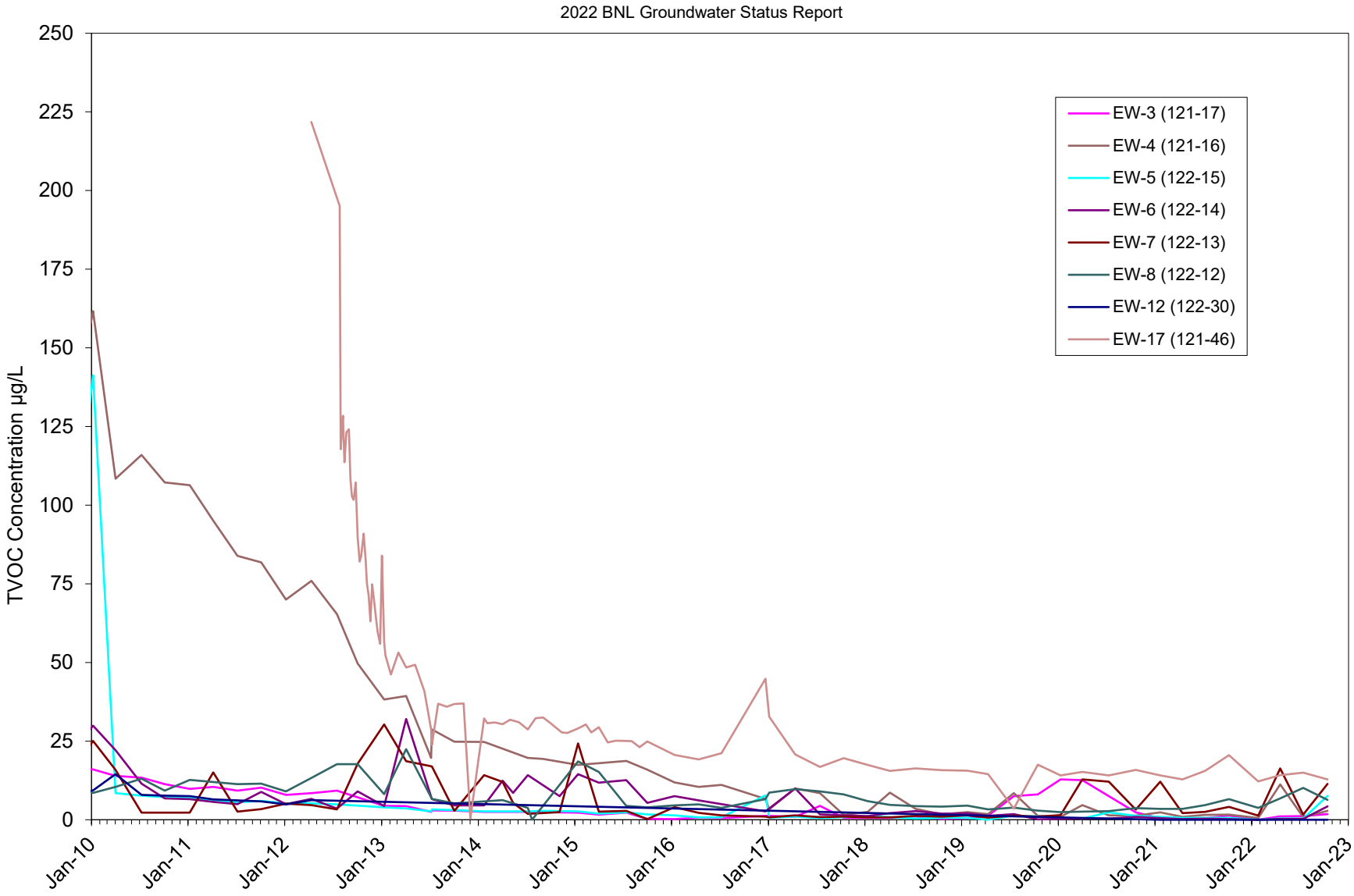
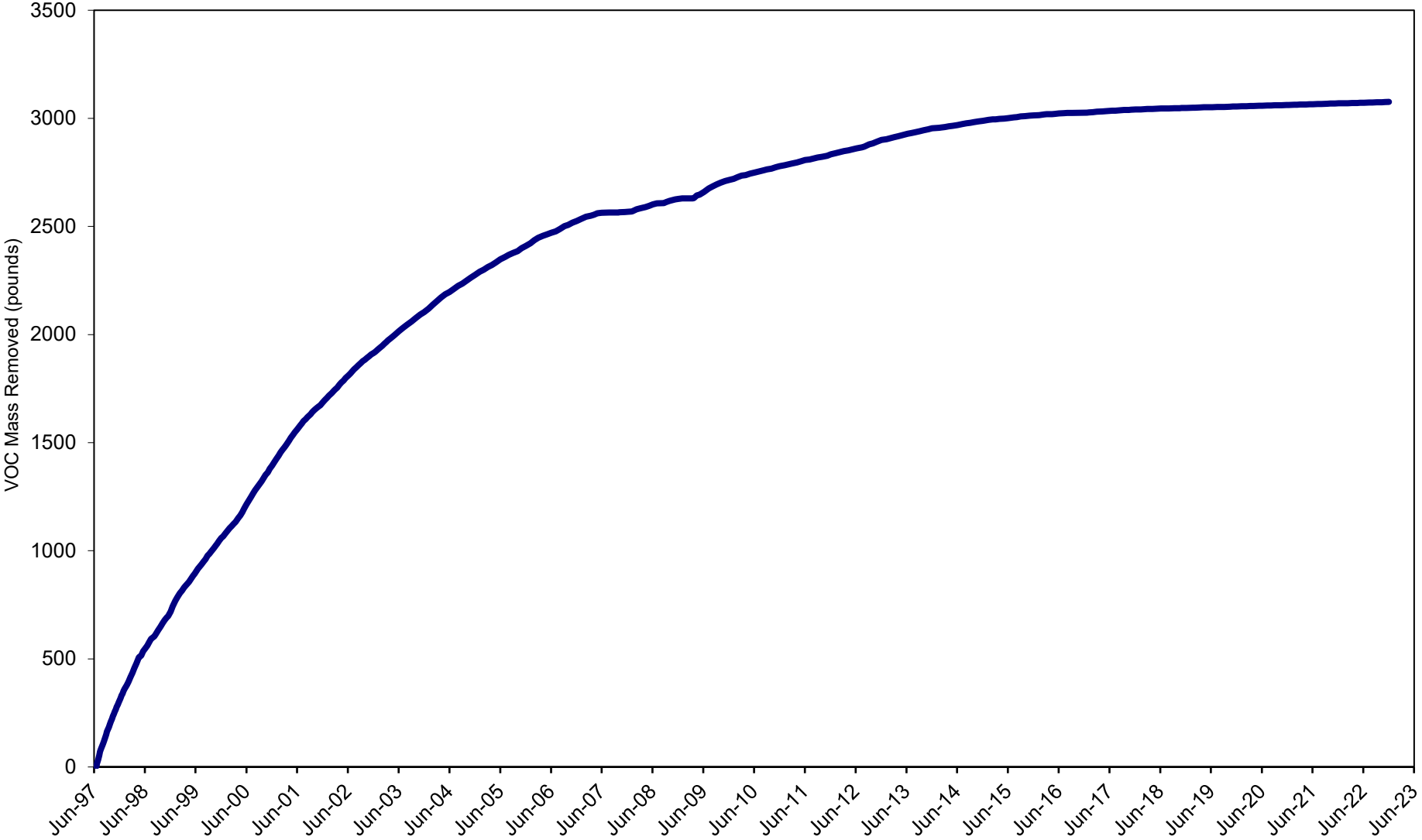
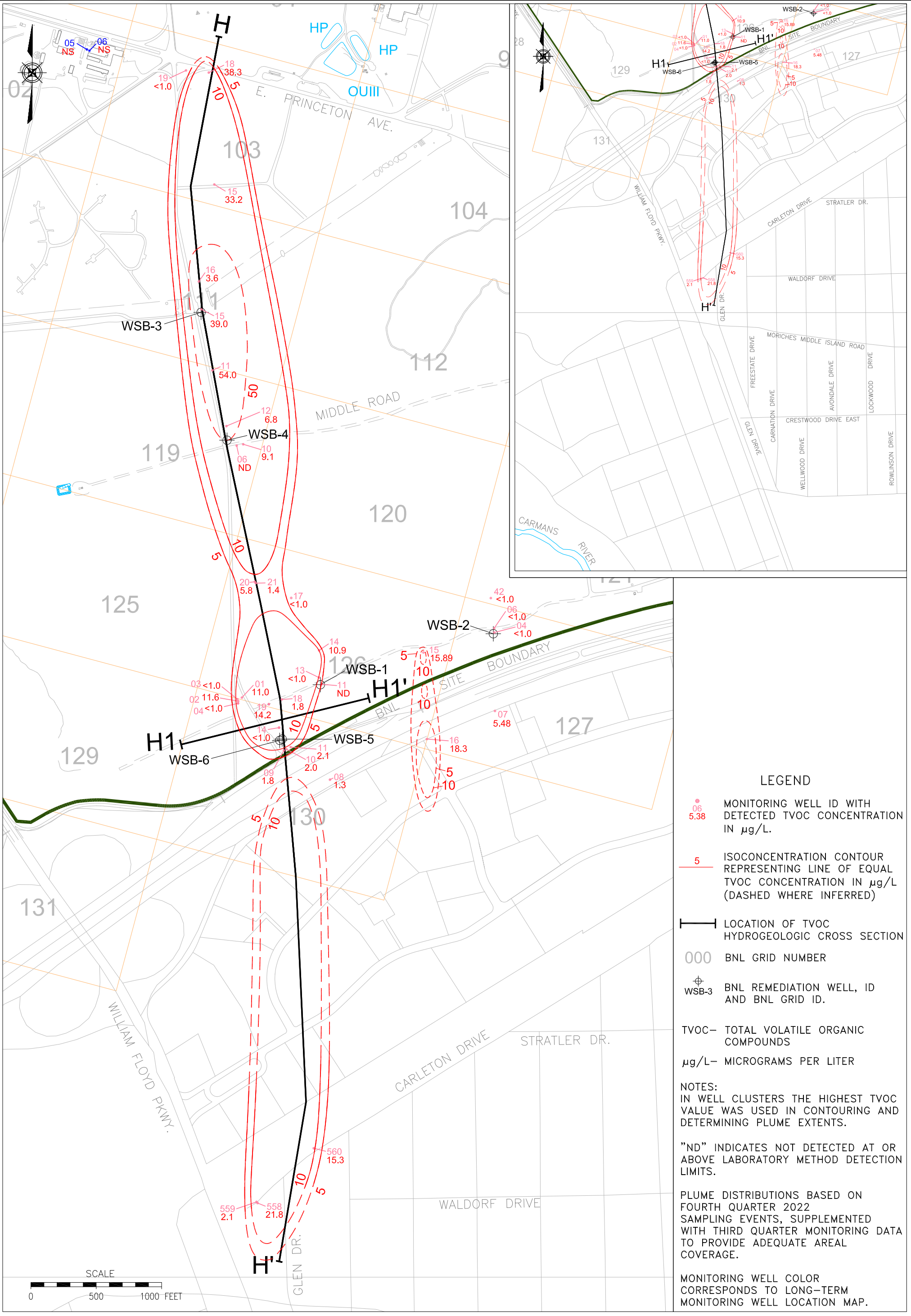


**Figure 3.2.3-5**
**OU III South Boundary Groundwater Remediation System**
**Cumulative VOC Mass Removed**

2022 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 2022 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:\2022\BNLab\22-01 EPD\Task 09 2022 GW Status Report\Figures\Fig_3-02-04-01 061323.dwg

Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

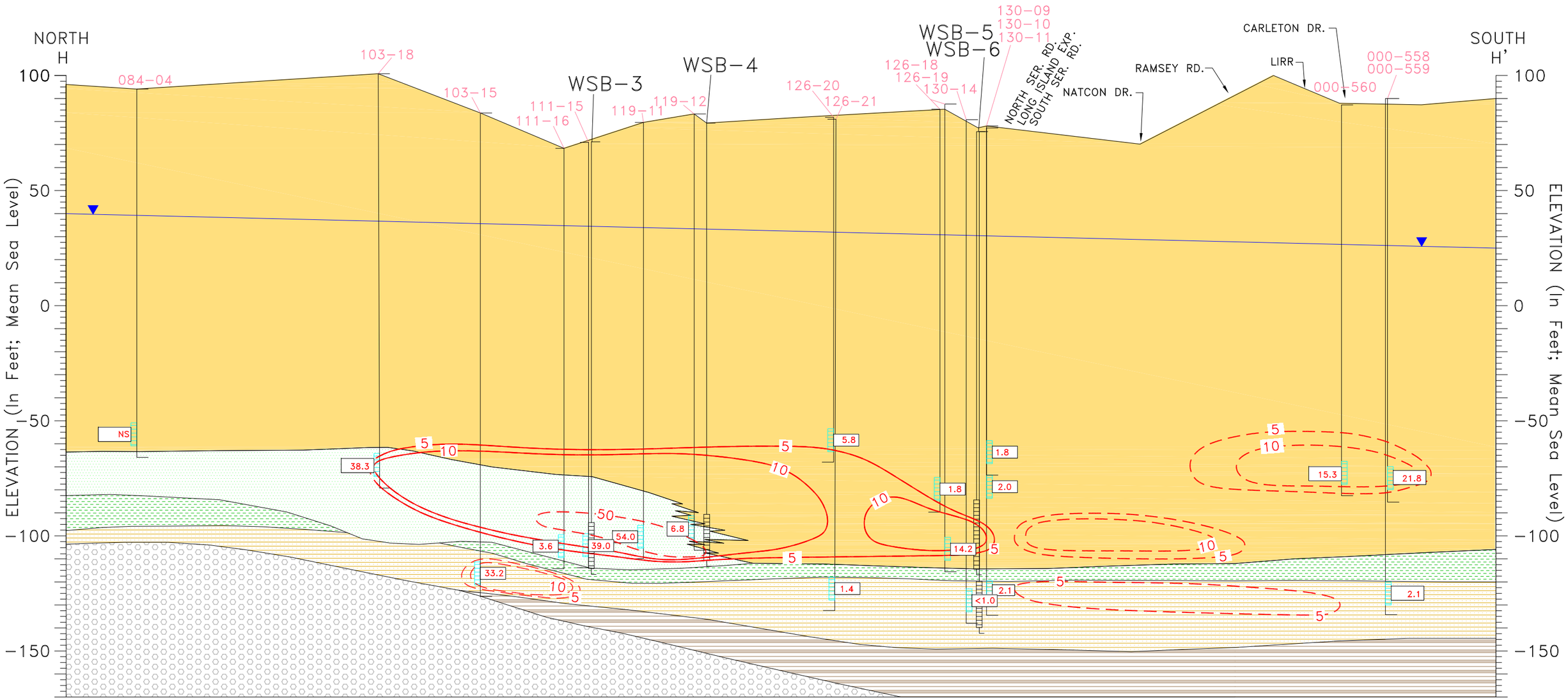
TITLE:

# OU III WESTERN SOUTH BOUNDARY TVOC PLUME DISTRIBUTION

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.4-1




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

- 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 25 – Oct 28, 2022
- 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 2022 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.

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

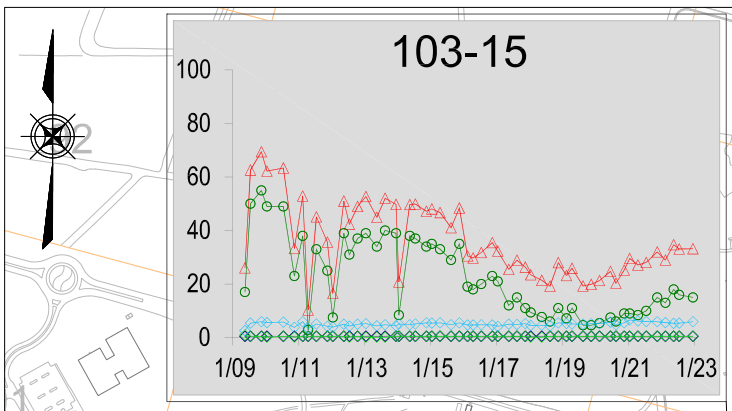
TITLE:

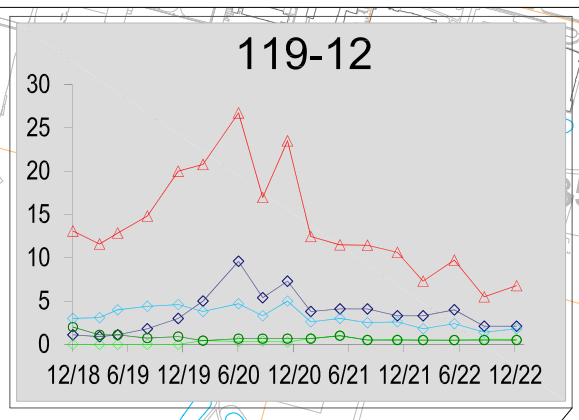
# OU III WESTERN SOUTH BOUNDARY TVOC HYDROGEOLOGIC CROSS SECTION (H-H')

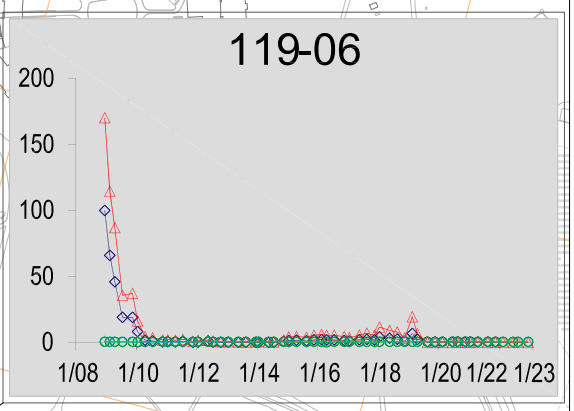
2022 BNL GROUNDWATER STATUS REPORT

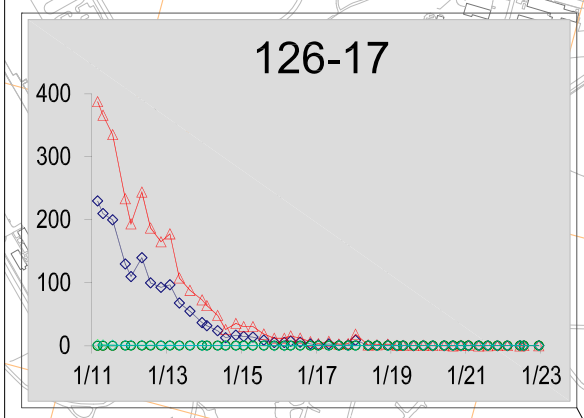
| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | 20:1 | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

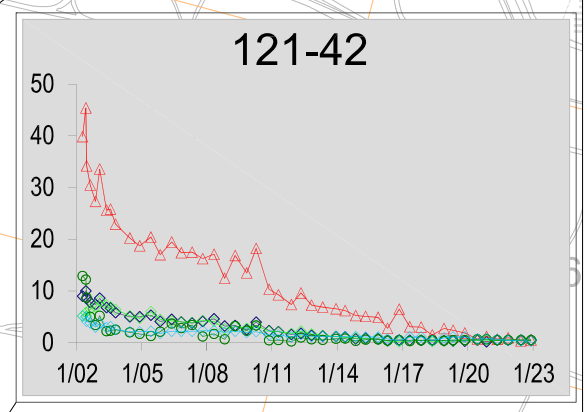
FIGURE NO.: 3.2.4-2

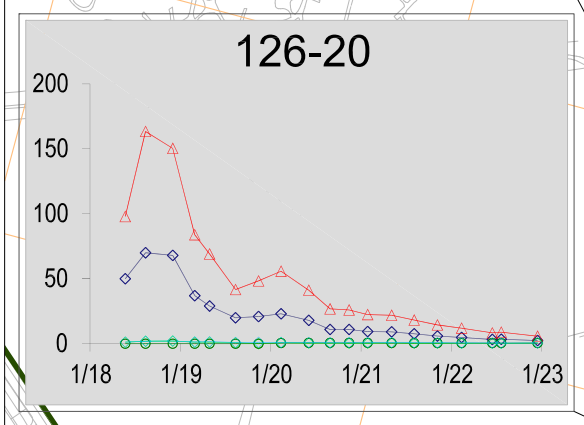


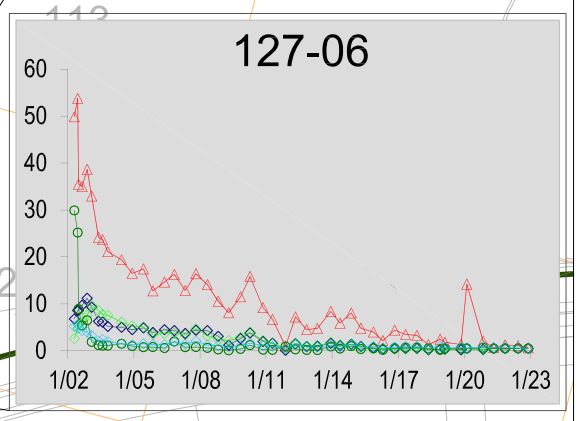



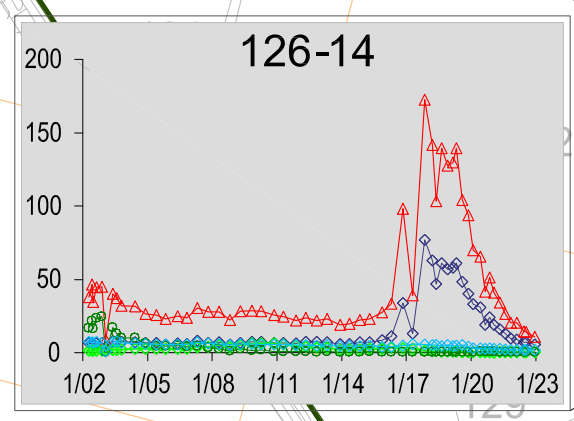



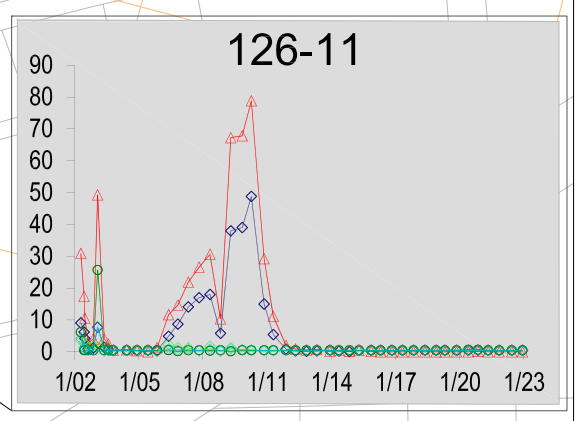



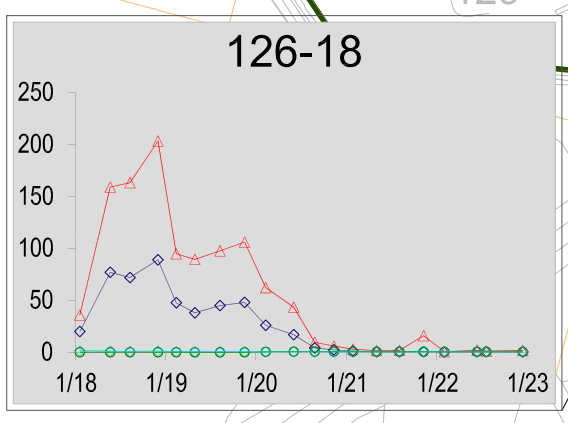









## LEGEND

- 06 MONITORING WELL ID
- EXTENT OF TVOC PLUME BASED ON 5 µg/L ISOCONTOUR
- 127 BNL GRID NUMBER
- WSB-1 BNL REMEDIATION WELL
- RA V BNL RECHARGE BASIN
- TVOC – TOTAL VOLATILE ORGANIC COMPOUND
- µg/L – MICROGRAMS PER LITER
- TVOC
- 1,1,1–TRICHLOROETHANE (TCA)
- CHLOROFORM
- DICHLORODIFLUOROMETHANE
- TRICHLOROETHYLENE (TCE)

CONCENTRATION (IN µg/L)
DATE (MONTH/YEAR)

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

# OU III WESTERN SOUTH BOUNDARY HISTORICAL VOC TRENDS

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

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**

2022 BNL Groundwater Status Report

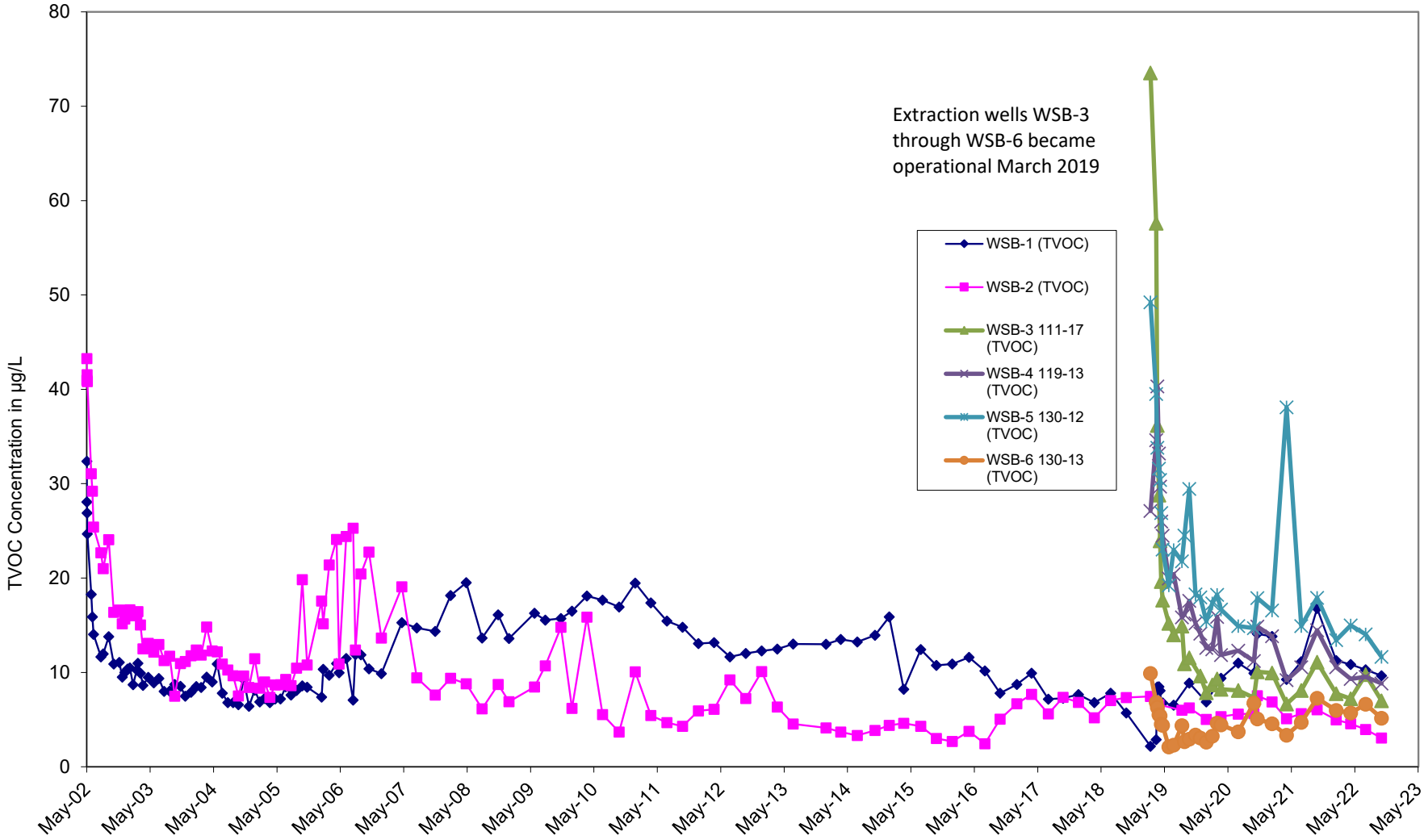
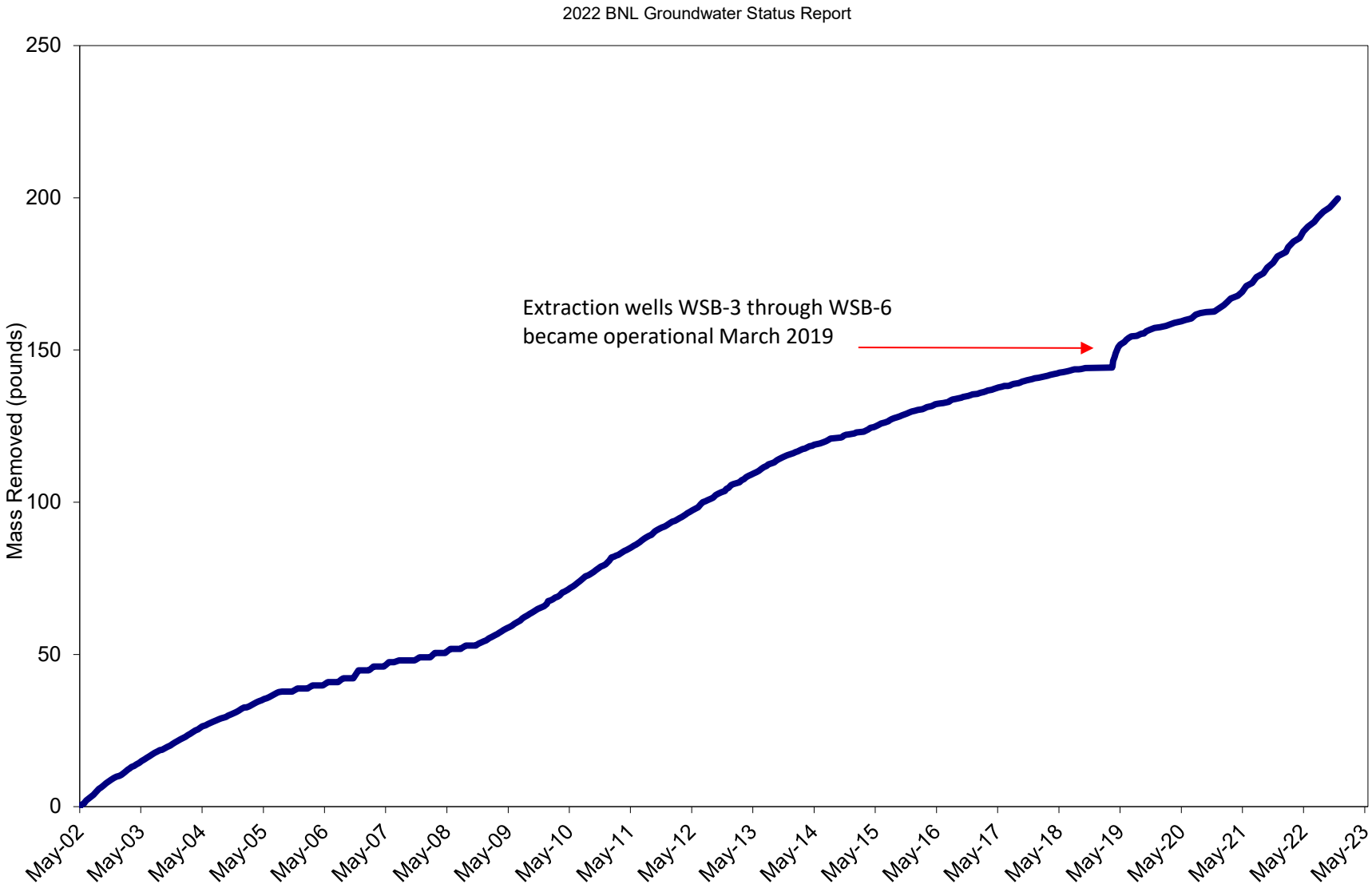


**Figure 3.2.4-5**
**OU III Western South Boundary Groundwater Remediation System**
**Cumulative VOC Mass Removed**



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 25 – Oct 28, 2022

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.

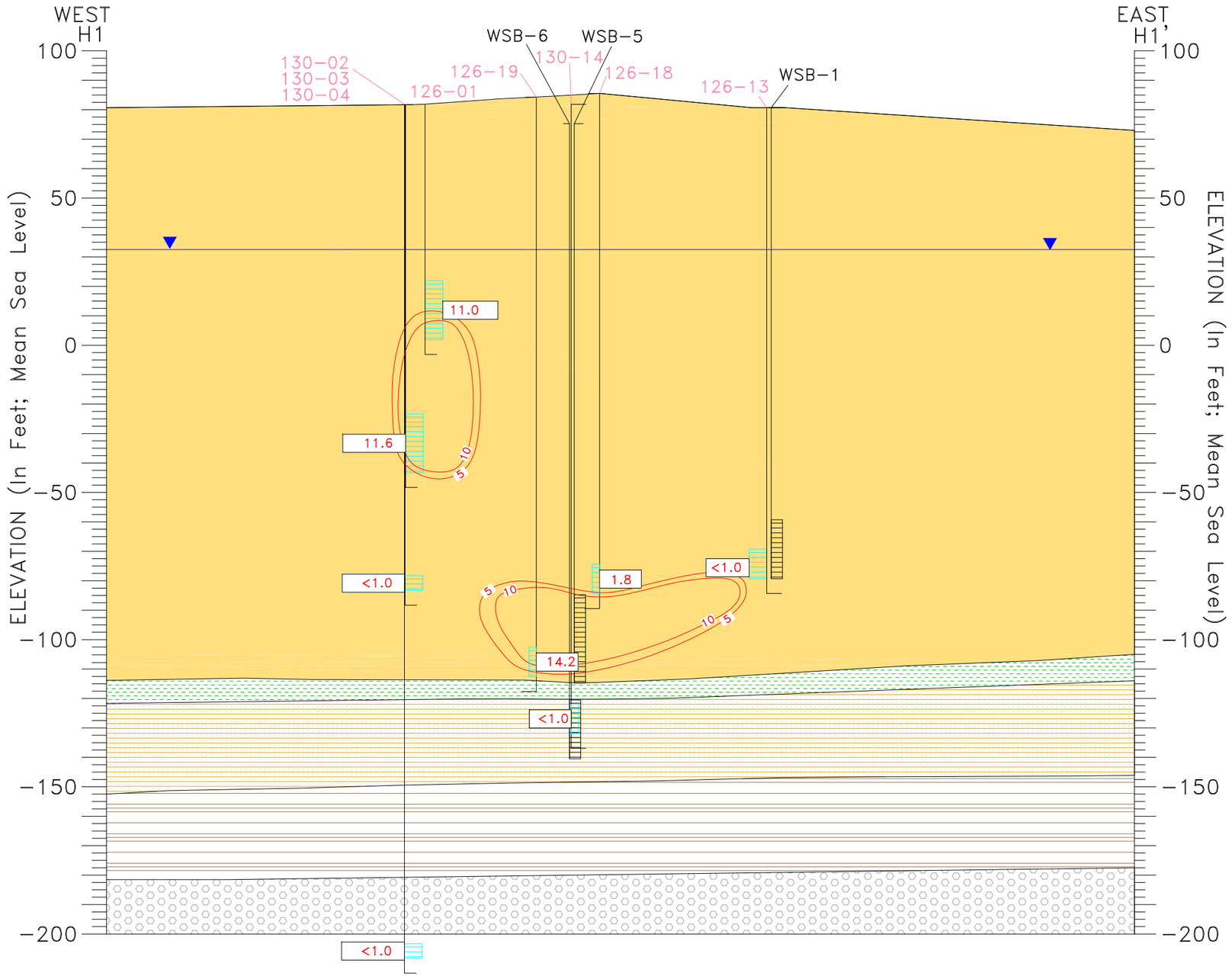
2) PLUME DISTRIBUTIONS BASED ON FOURTH QUARTER 2022 SAMPLING EVENTS, SUPPLEMENTED WITH THIRD QUARTER MONITORING DATA TO PROVIDE ADEQUATE AREAL COVERAGE.

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

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Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

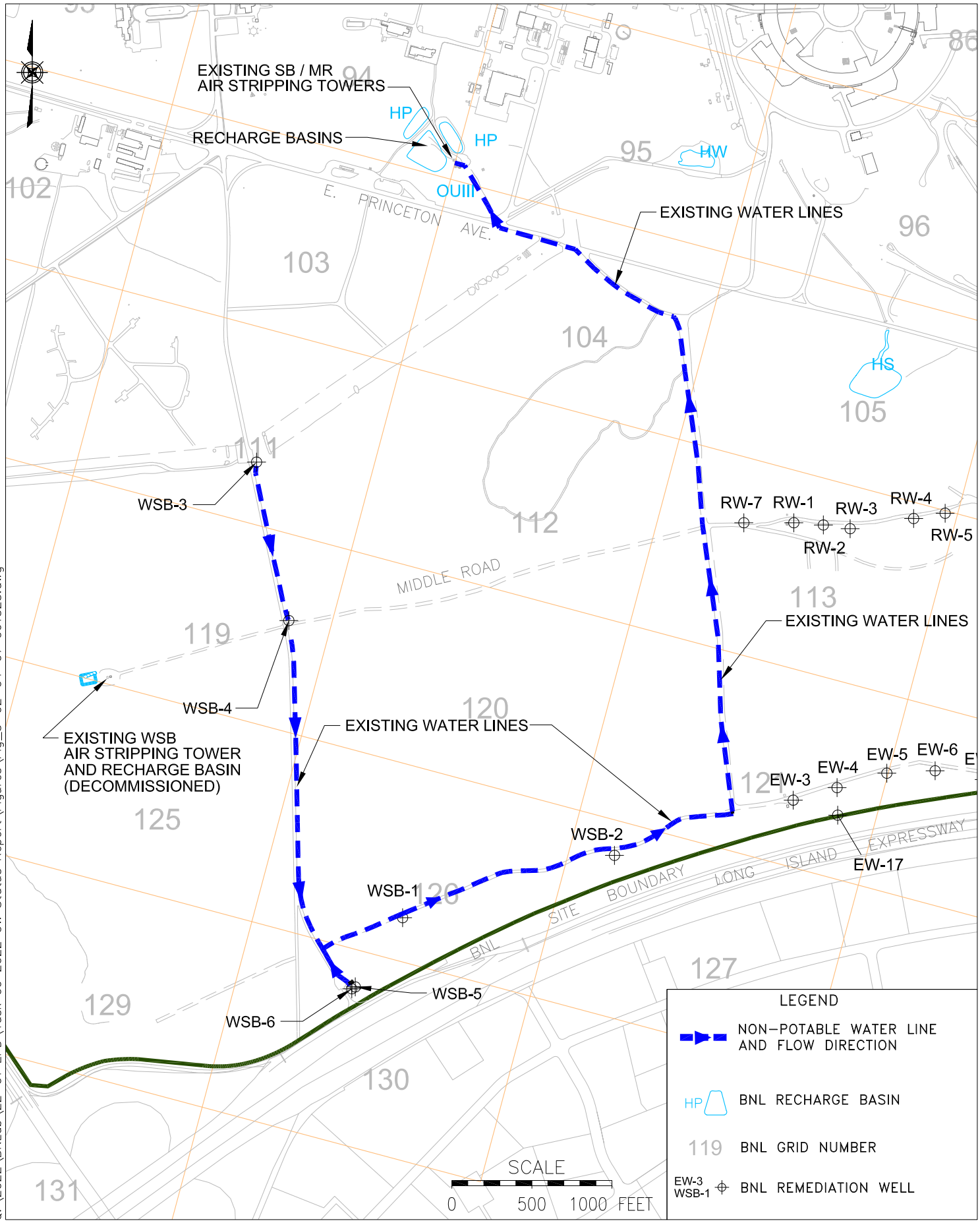
TITLE:

# OU III WESTERN SOUTH BOUNDARY TVOC HYDROGEOLOGIC CROSS SECTION (H1-H1')

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | 20:1 | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.4-6

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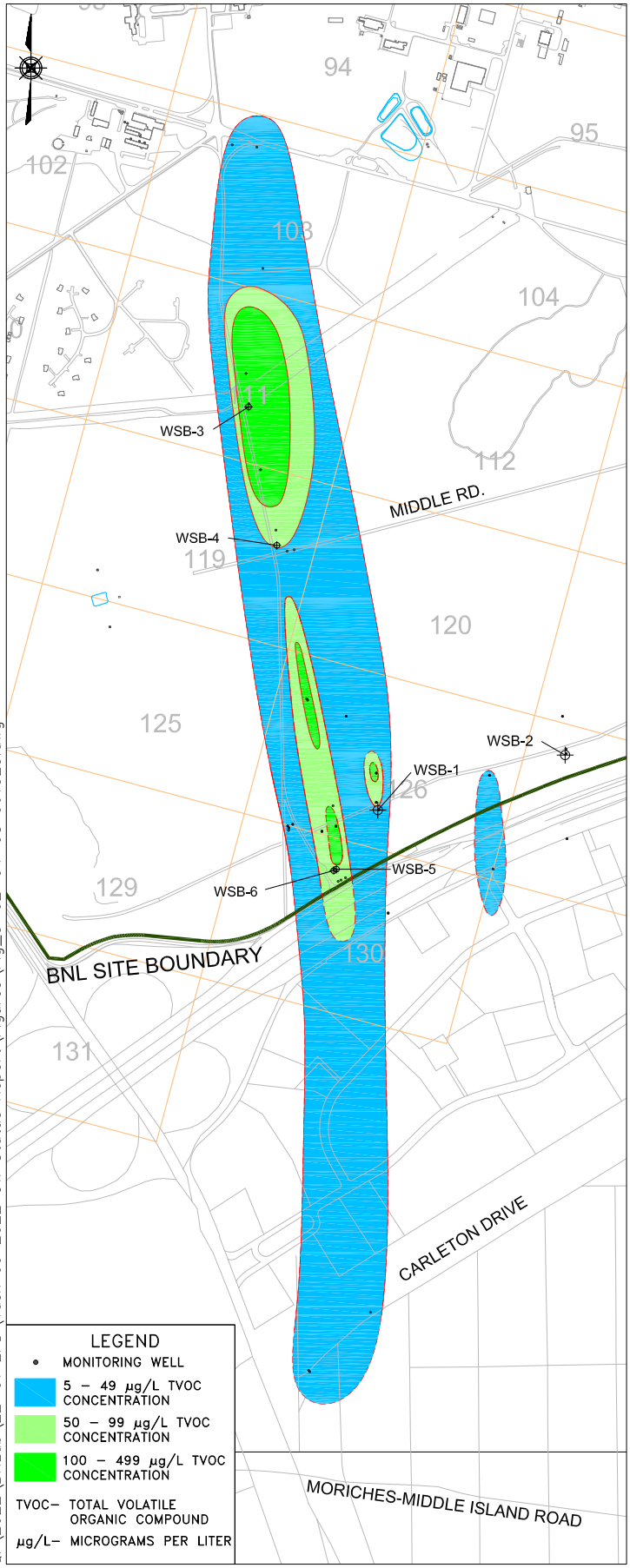
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
# OU III WESTERN SOUTH BOUNDARY EXTRACTION WELLS AND PIPING LAYOUT
2022 BNL GROUNDWATER STATUS REPORT

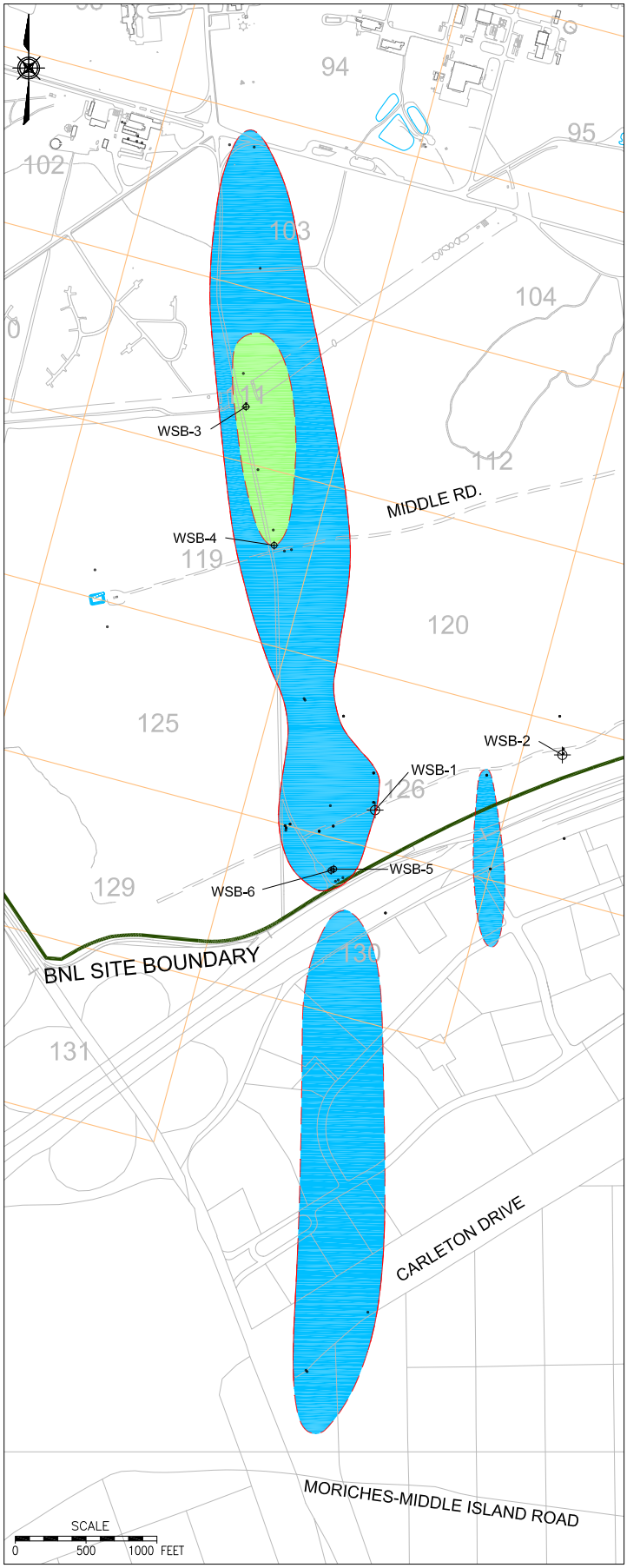
| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| VJR | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.4-7

## 2018 WSB TVOC PLUME DISTRIBUTION




## 2022 WSB TVOC PLUME DISTRIBUTION

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

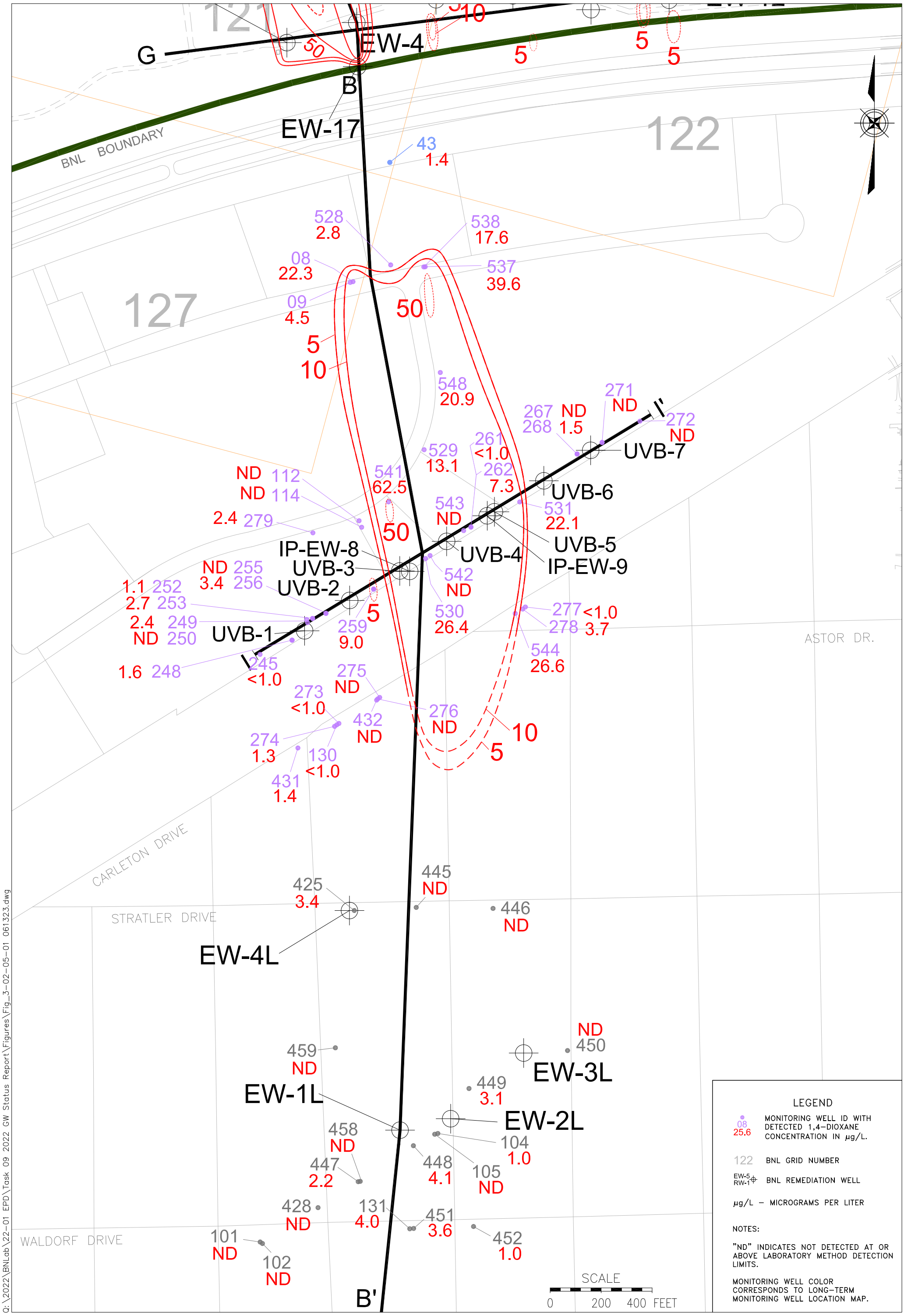
TITLE:

# OU III WESTERN SOUTH BOUNDARY TVOC PLUME COMPARISON 2018 – 2022

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.4-8




LEGEND

08 / 25.6 — 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

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |
| FIGURE NO.: | | 3.2.5–1 | |

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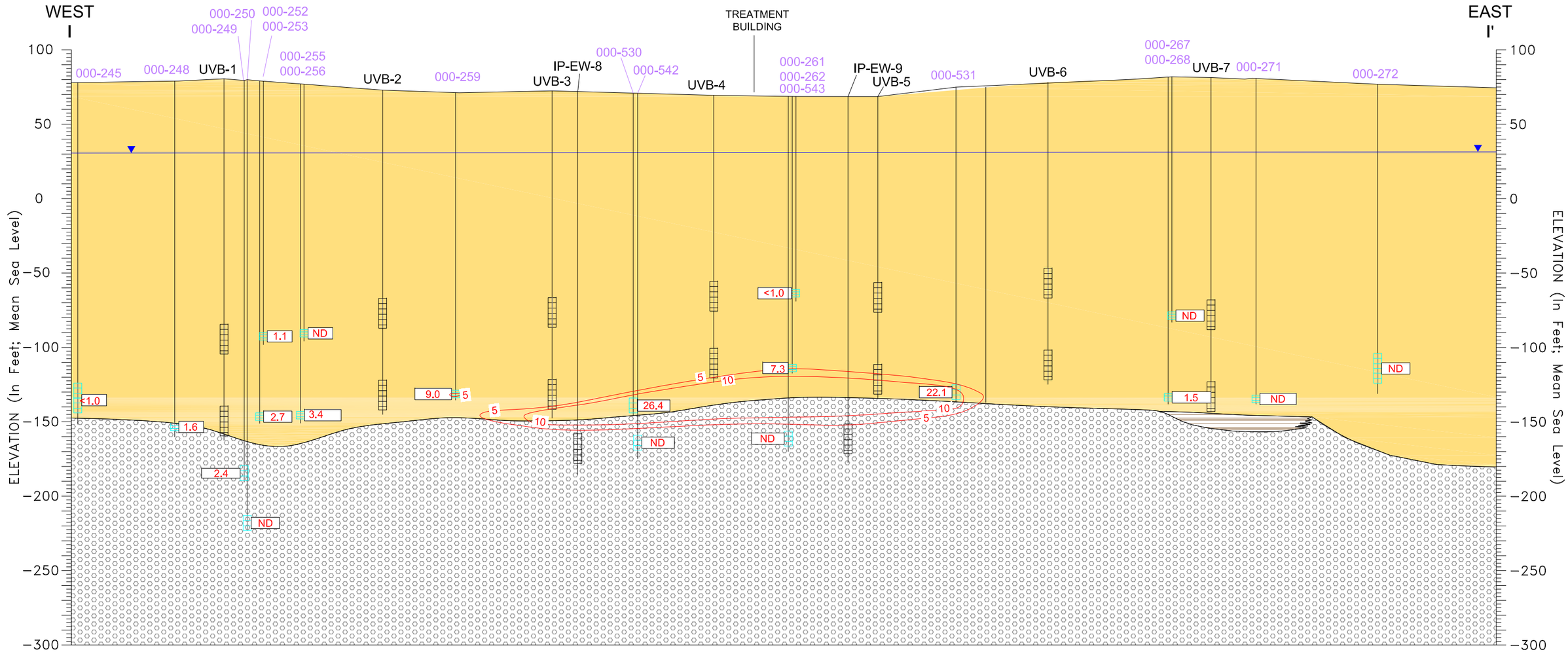



## LEGEND

**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

000–530 BNL Well ID

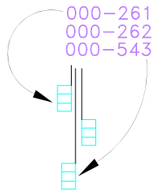
1.14 TVOC Concentration (µg/L)

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 25 – Oct 28, 2022

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 2022 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

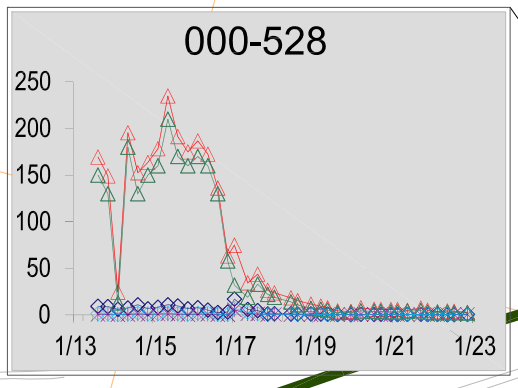
TITLE:

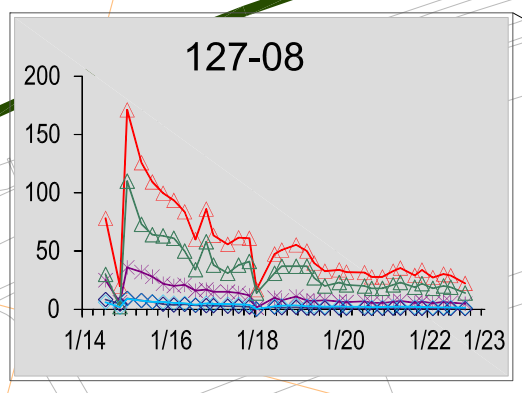
# OU III INDUSTRIAL PARK AND INDUSTRIAL PARK EAST TVOC HYDROGEOLOGIC CROSS SECTION (I–I')

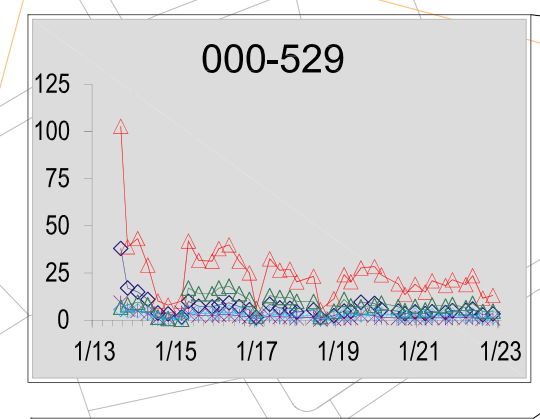
2022 BNL GROUNDWATER STATUS REPORT

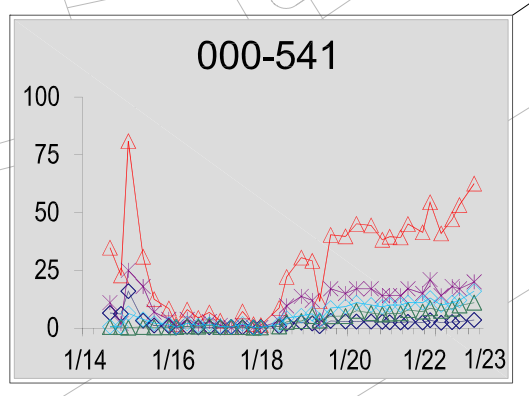
| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | 2:1 | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

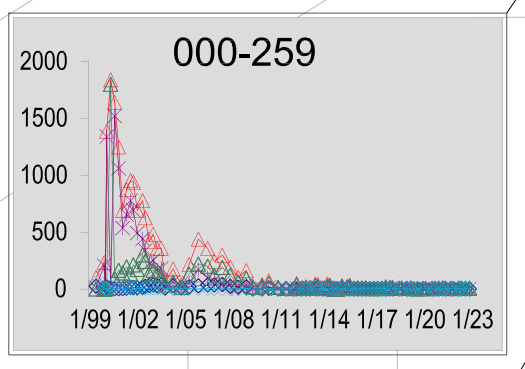
FIGURE NO.: 3.2.5–2

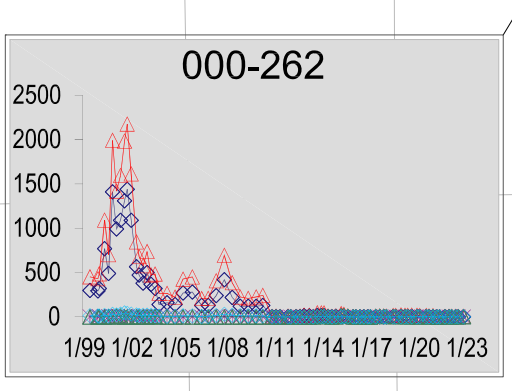


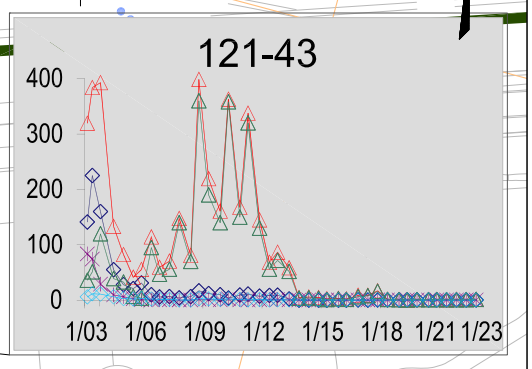



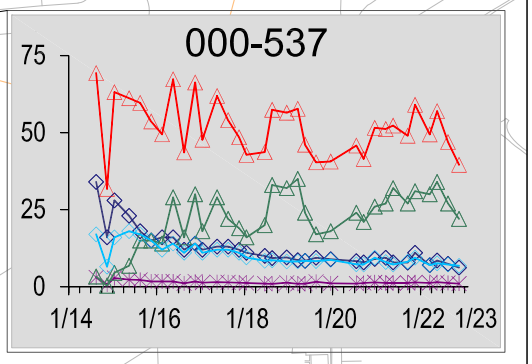



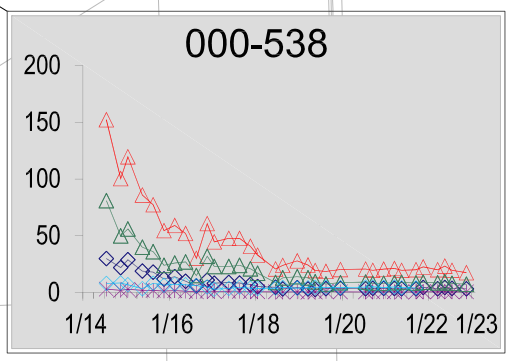



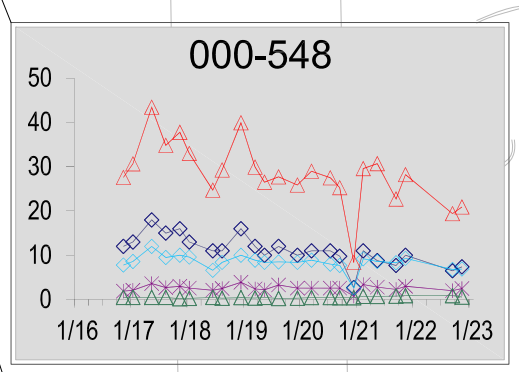



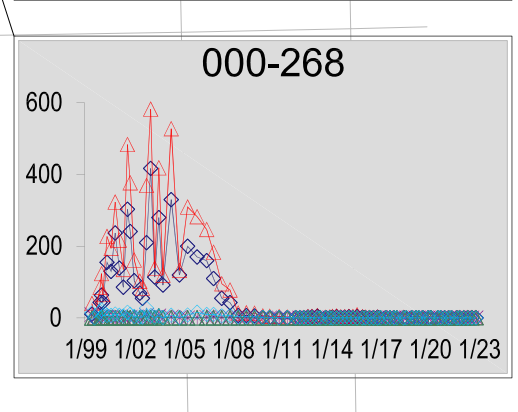




EW-3
EW-4
EW-5
EW-6
EW-8
EW-12
EW-7
EW-17
UVB-1
UVB-2
UVB-3
UVB-4
UVB-5
UVB-6
UVB-7
IP-EW-8
IP-EW-9
5
43
122
127
08
528
537
538
548
529
541
268
262
259
000
PRECISION DRIVE
RAMSAY DRIVE
LONG ISLAND RAILROAD
CARLETON DRIVE
MORICHES MIDDLE ISLAND ROAD

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)

CONCENTRATION (IN µg/L)
DATE (MONTH/YEAR)

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
# OU III INDUSTRIAL PARK HISTORICAL VOC TRENDS
2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.5-3

**Figure 3.2.5-4**
**OU III Industrial Park Groundwater Remediation System**
**TVOC Influent Concentration**

2022 BNL Groundwater Status Report

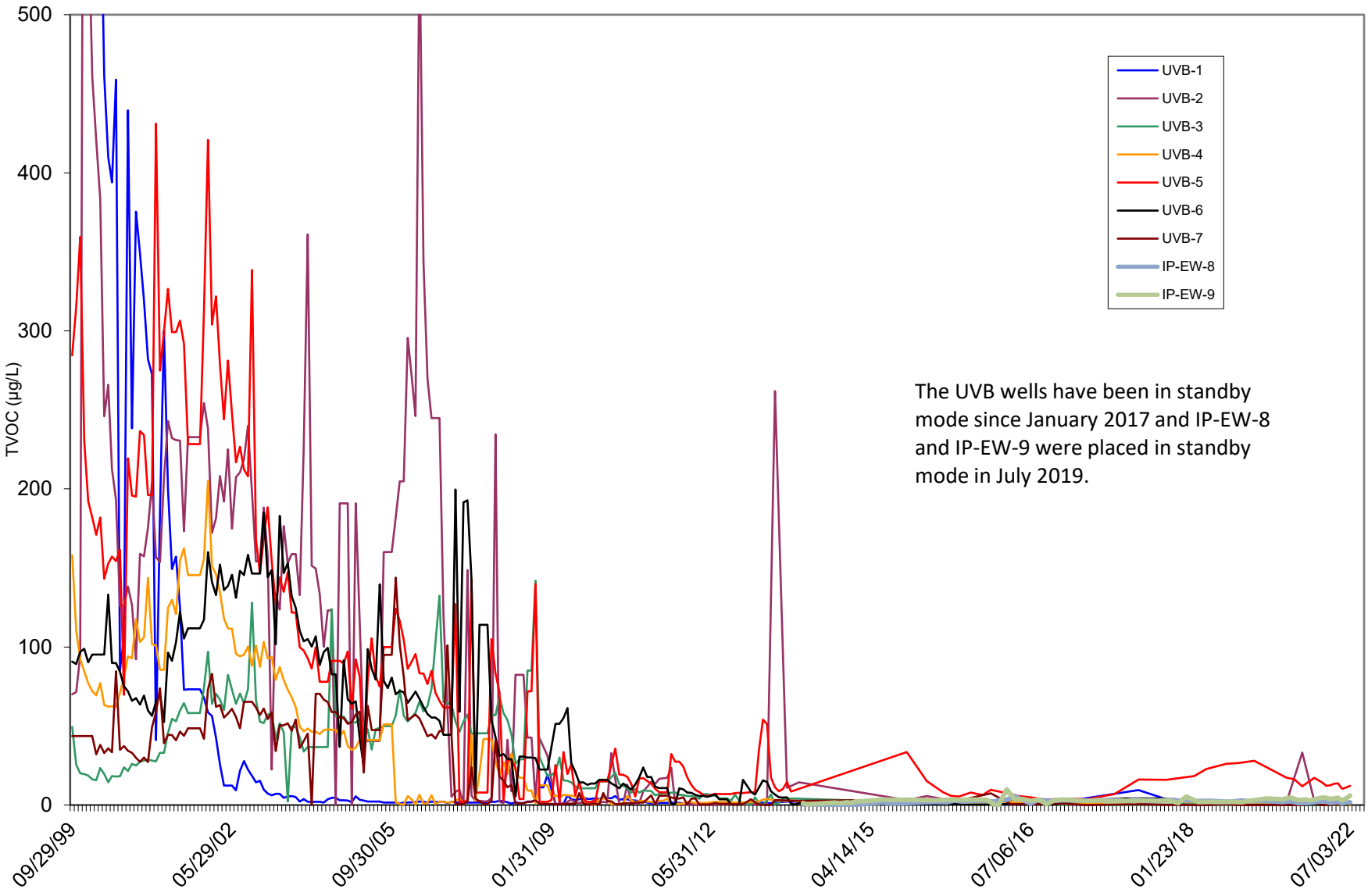


**Figure 3.2.5-5**
**OU III Industrial Park Groundwater Remediation System**
**TVOC Effluent Concentration**

2022 BNL Groundwater Status Report

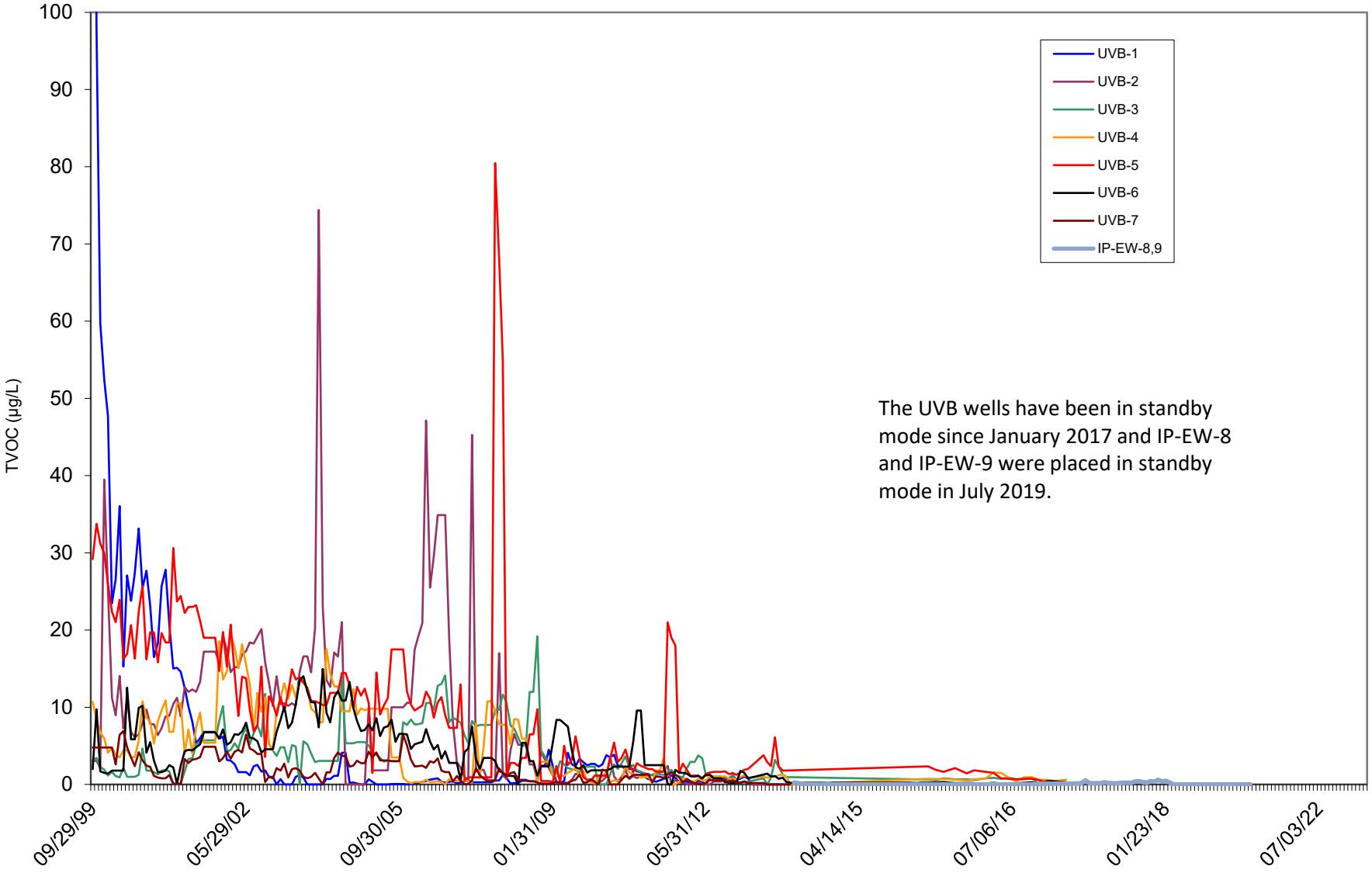
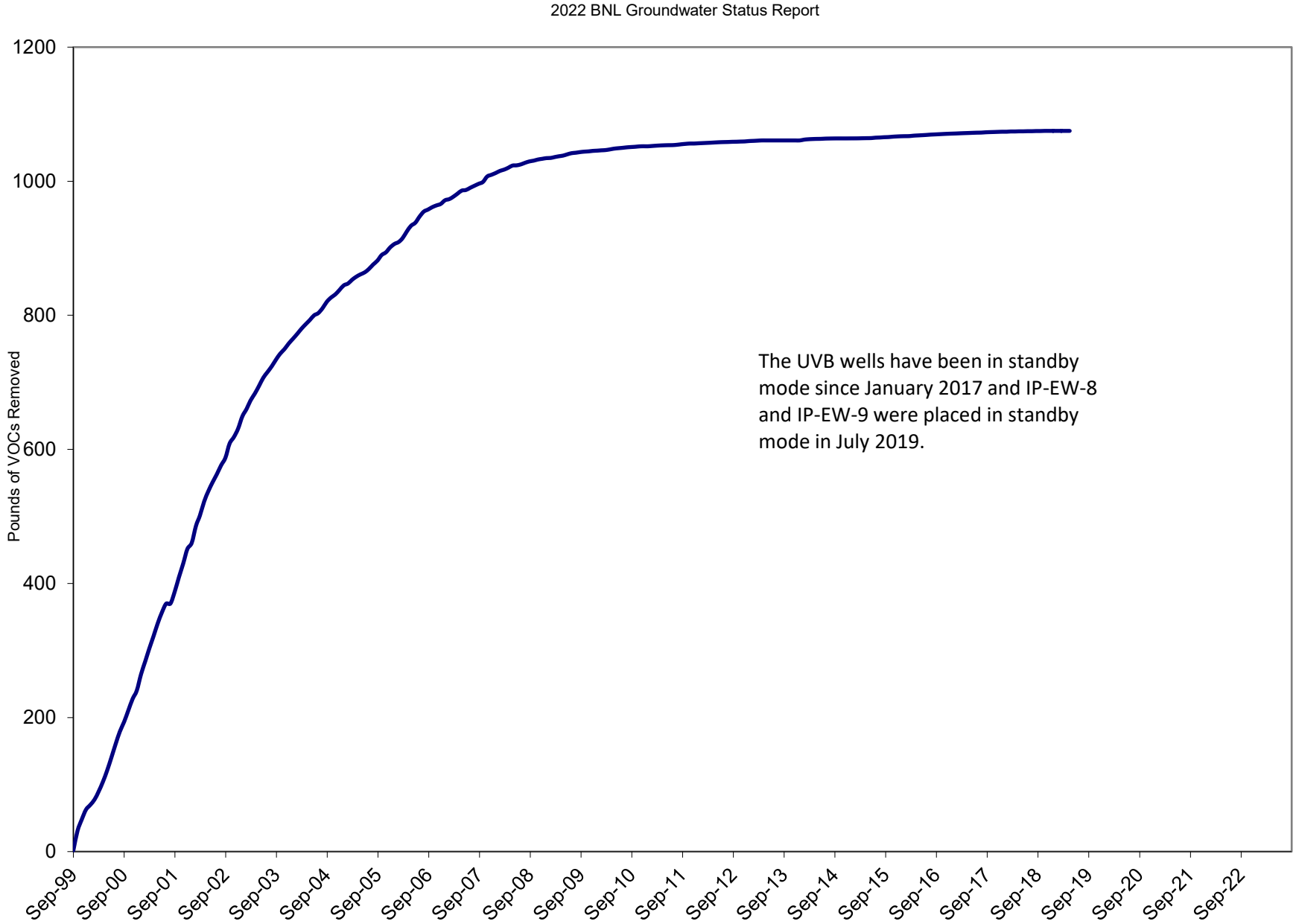


**Figure 3.2.5-6**
**OU III Industrial Park Groundwater Remediation System**
**Cumulative VOC Mass Removed**

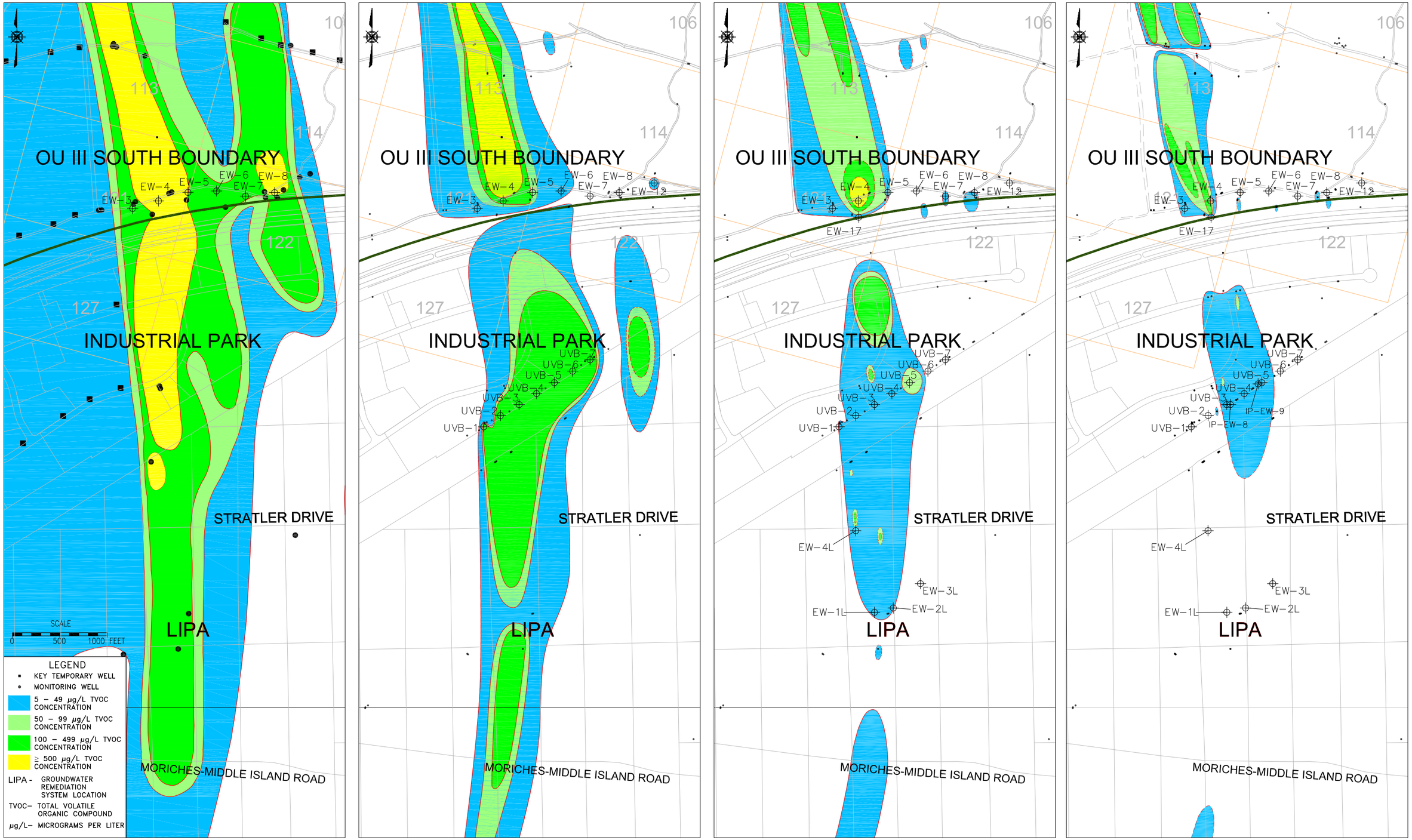


1997 TVOC PLUME DISTRIBUTION

2005 TVOC PLUME DISTRIBUTION

2013 TVOC PLUME DISTRIBUTION

2022 TVOC PLUME DISTRIBUTION

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

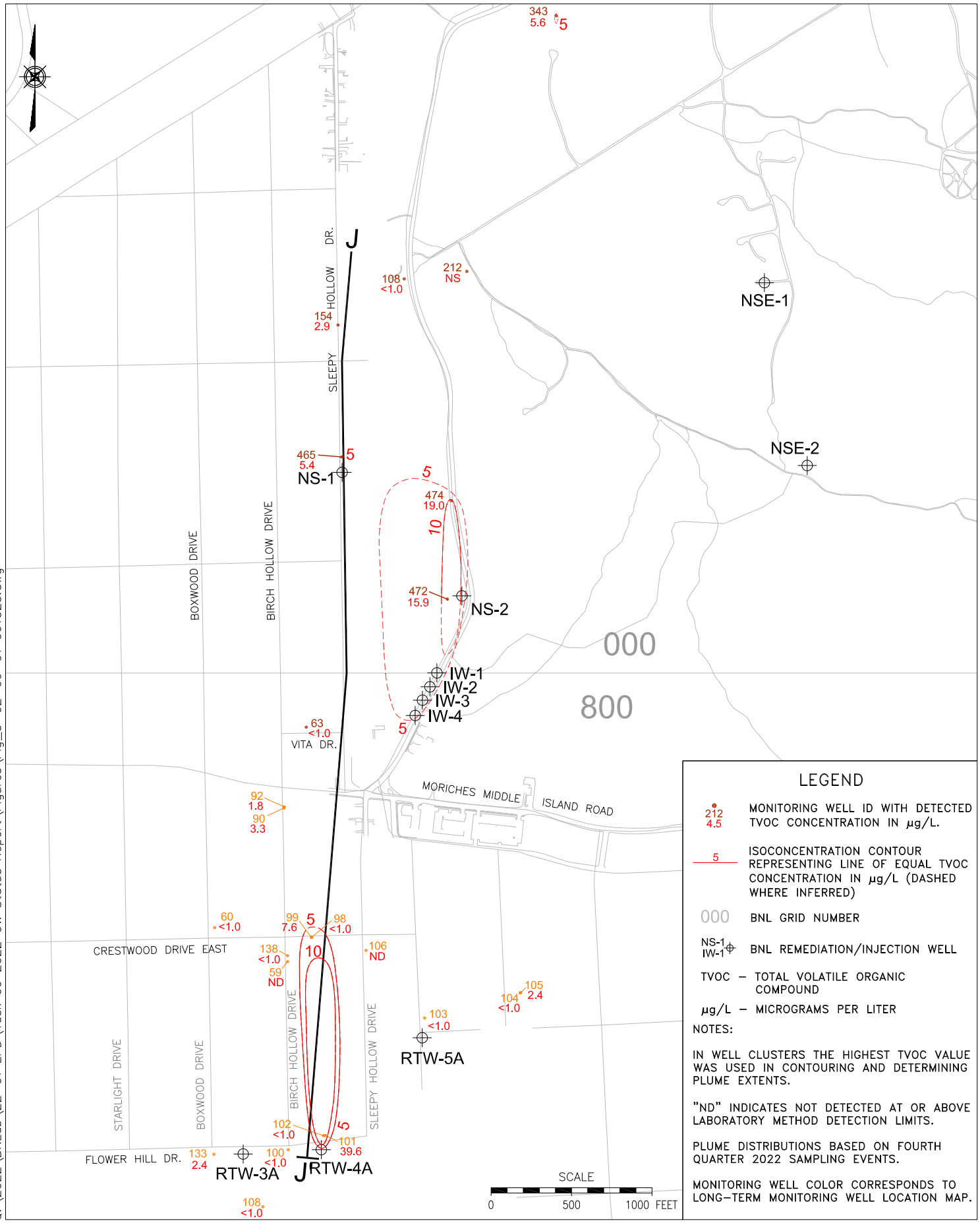
TITLE:

# OU III INDUSTRIAL PARK TVOC PLUME COMPARISON 1997, 2005, 2013, 2022

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.5-7

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

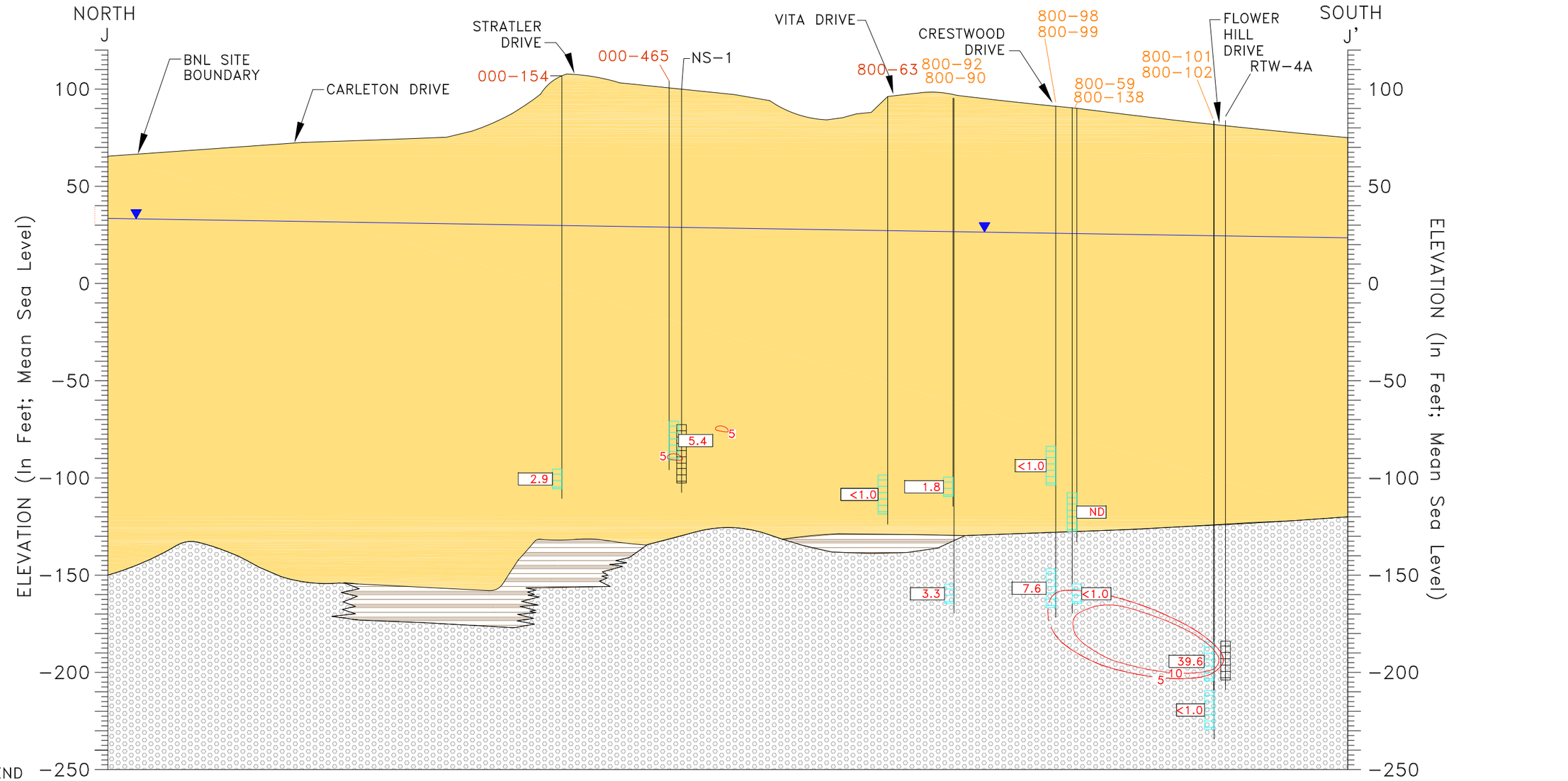
TITLE:

# NORTH STREET TVOC PLUME DISTRIBUTION

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

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 25 – Oct 28, 2022

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 2022 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')

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | 15:1 | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.6-2

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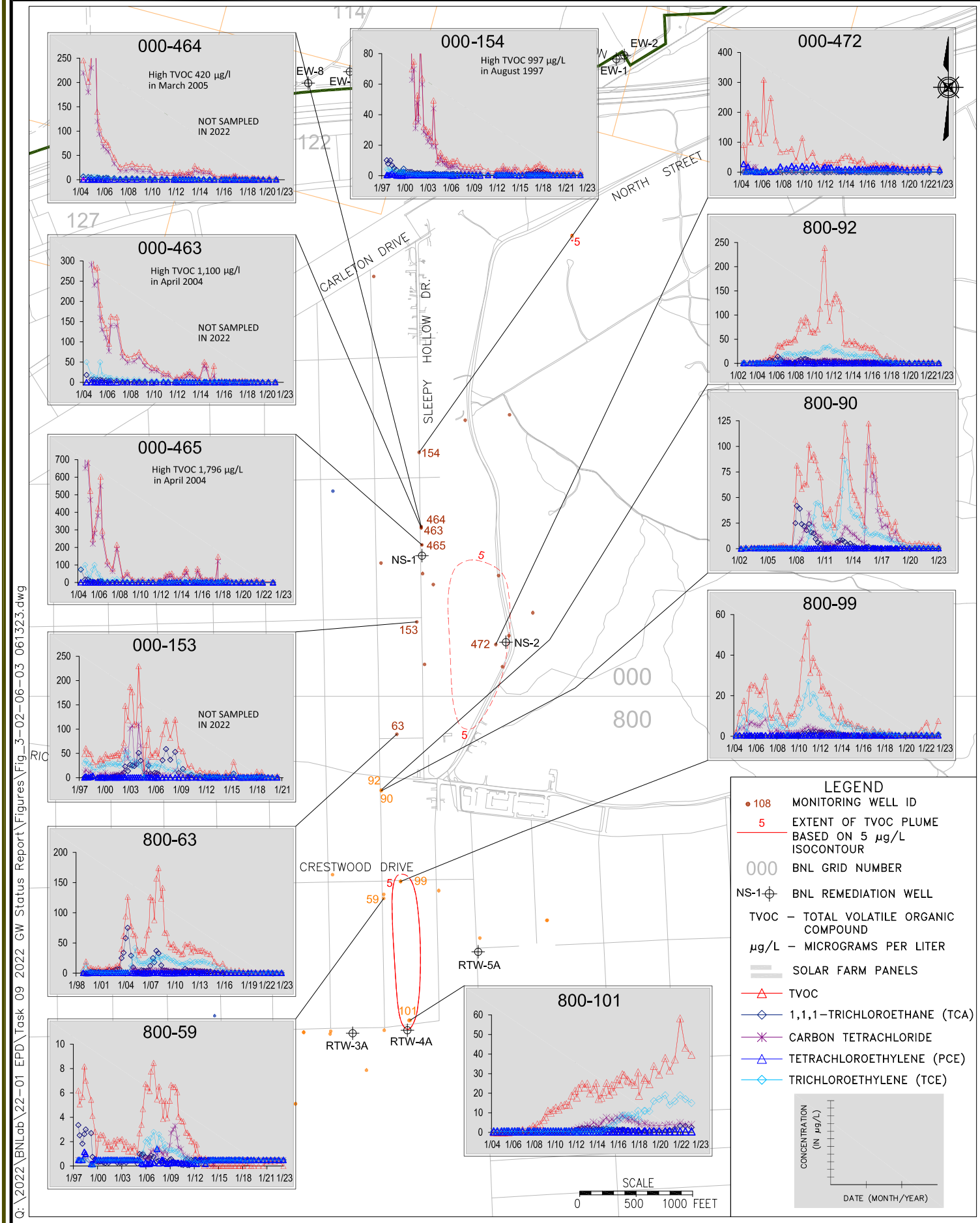


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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

# NORTH STREET HISTORICAL VOC TRENDS

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.6–3

**Figure 3.2.6-4**
**OU III North Street Groundwater Remediation System**
**Extraction Well TVOC Concentrations**

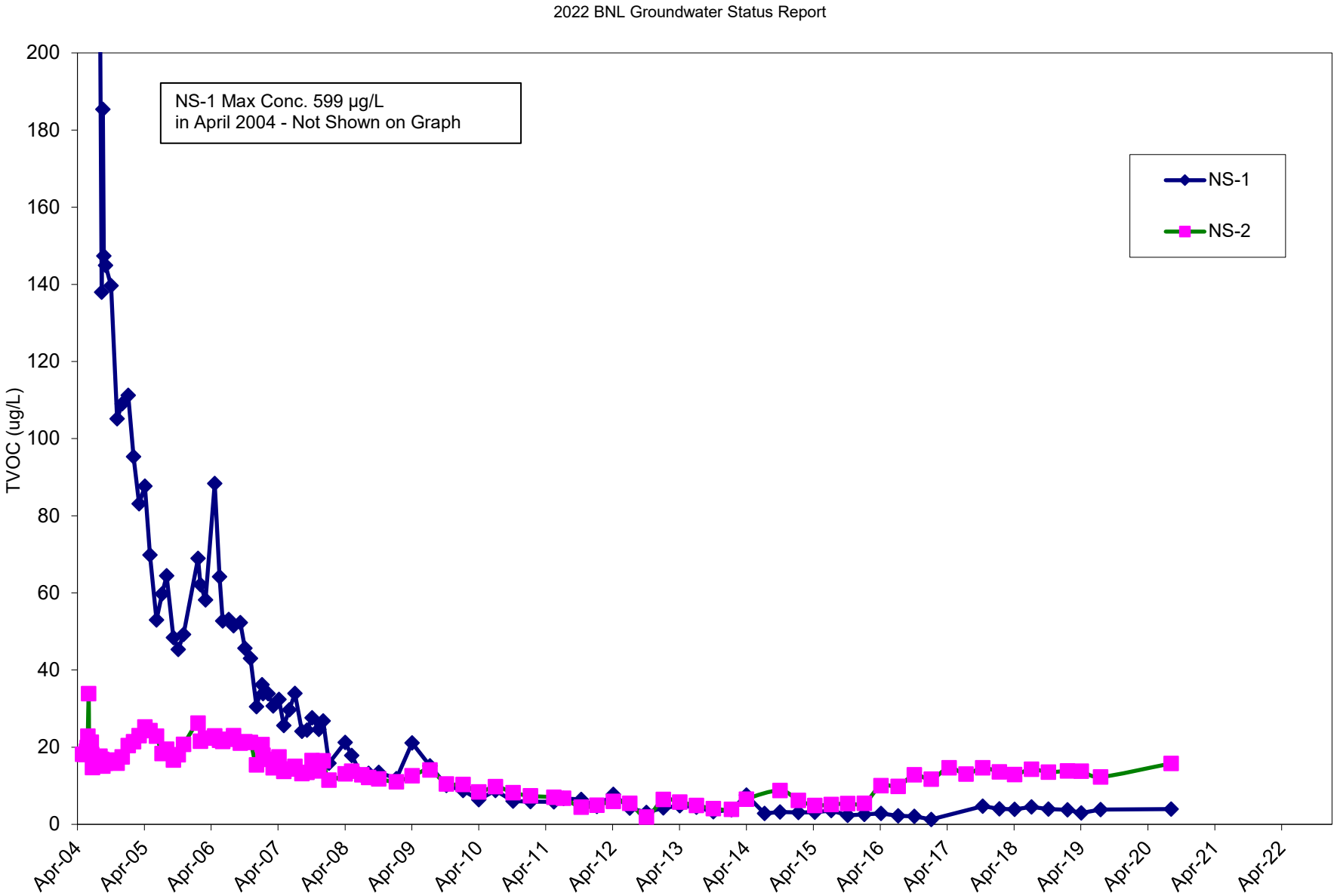
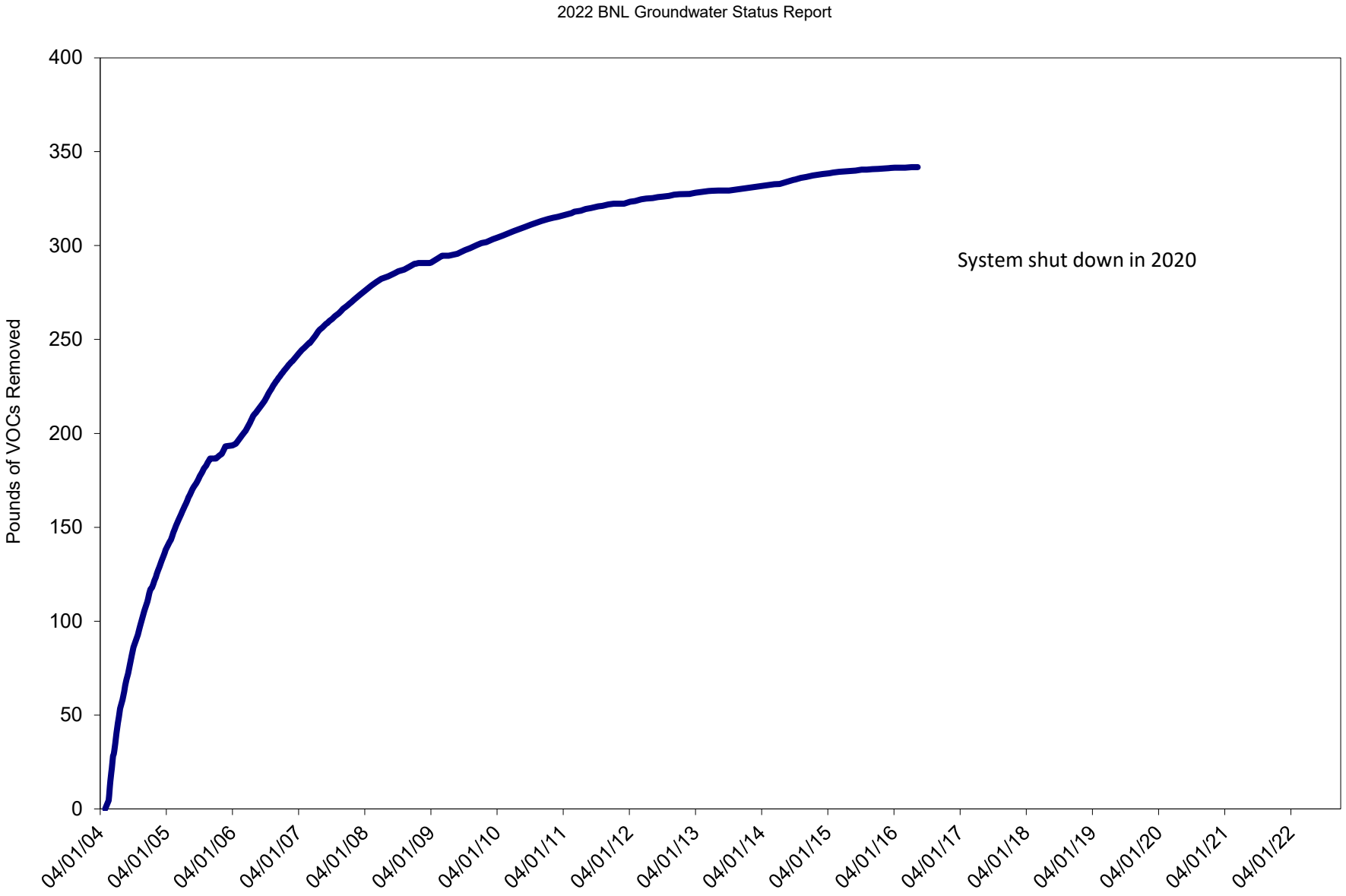
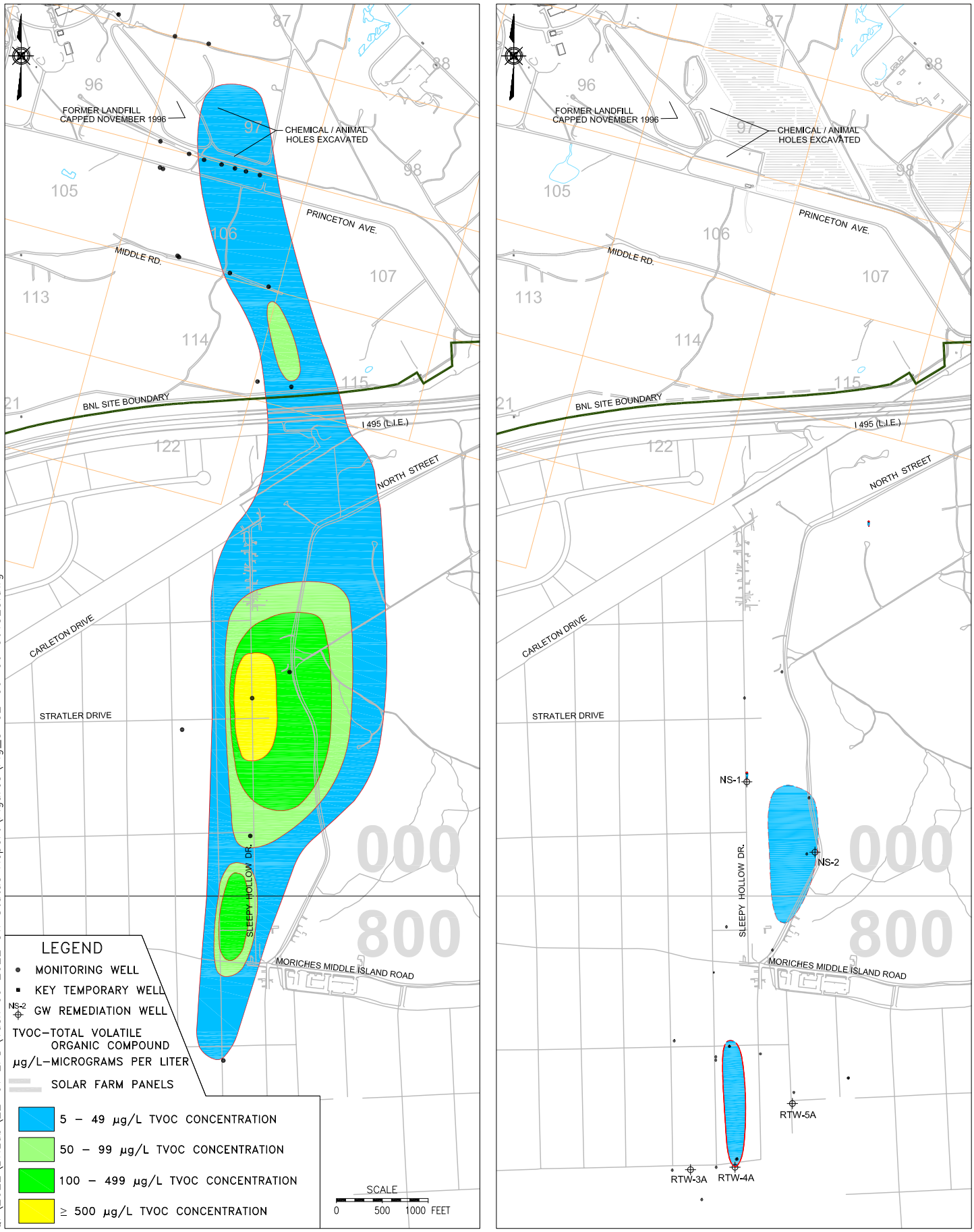


**Figure 3.2.6-5**
**OU III North Street Groundwater Remediation System**
**Cumulative VOC Mass Removed**



1997 TVOC PLUME DISTRIBUTION

2022 TVOC PLUME DISTRIBUTION

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Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

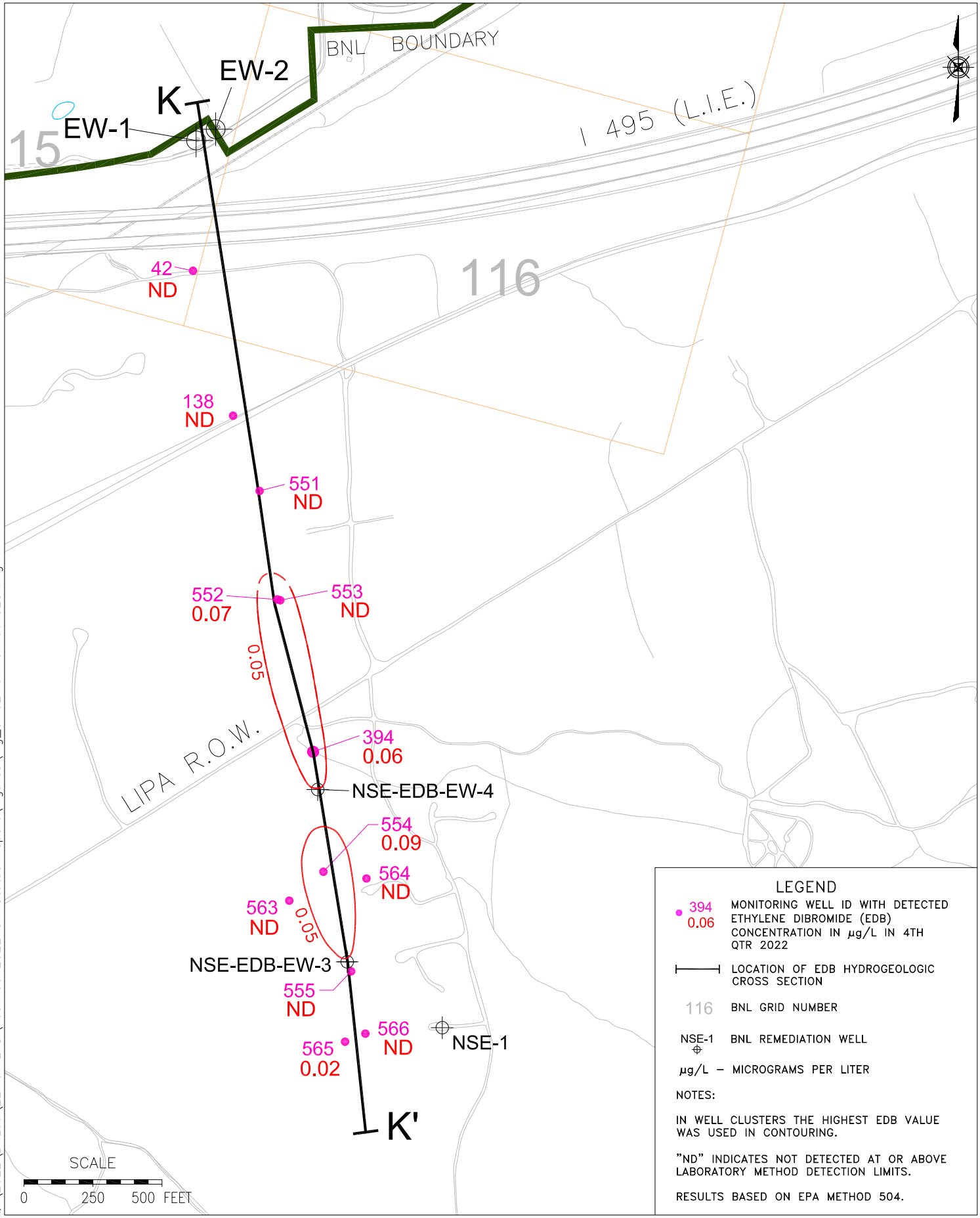
TITLE:

# NORTH STREET TVOC PLUME COMPARISON 1997 – 2022

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

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

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

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

.06 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 25 – Oct 28, 2022

Monitoring Well Screen

Extraction Well Screen

Monitoring Well IDs are stacked in order of the depth of the well from shallow to deep

000–???
000–???

NOTES:

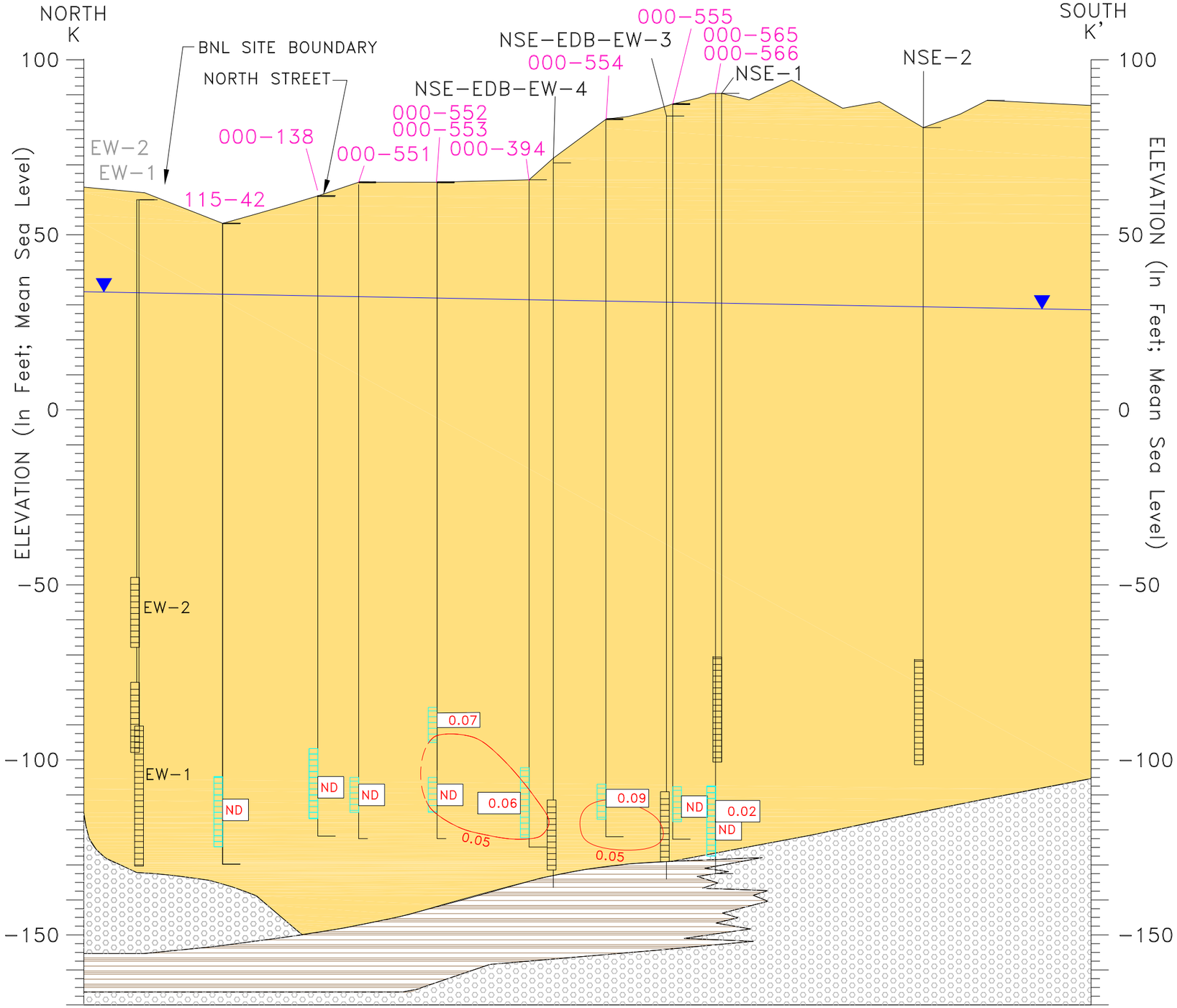
1) GEOLOGIC INFORMATION SHOWN IS BASED ON ADDITIONAL EXPLORATIONS (e.g., HYDROPUNCHES, GEOPROBES, VERTICAL PROFILES, AND/OR TEST WELLS) DOCUMENTED IN PREVIOUS, MORE DETAILED REPORTS.

2) EDB EXTENT IS BASED ON FORTH QUARTER 2022 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')

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | 20:1 | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.7–2

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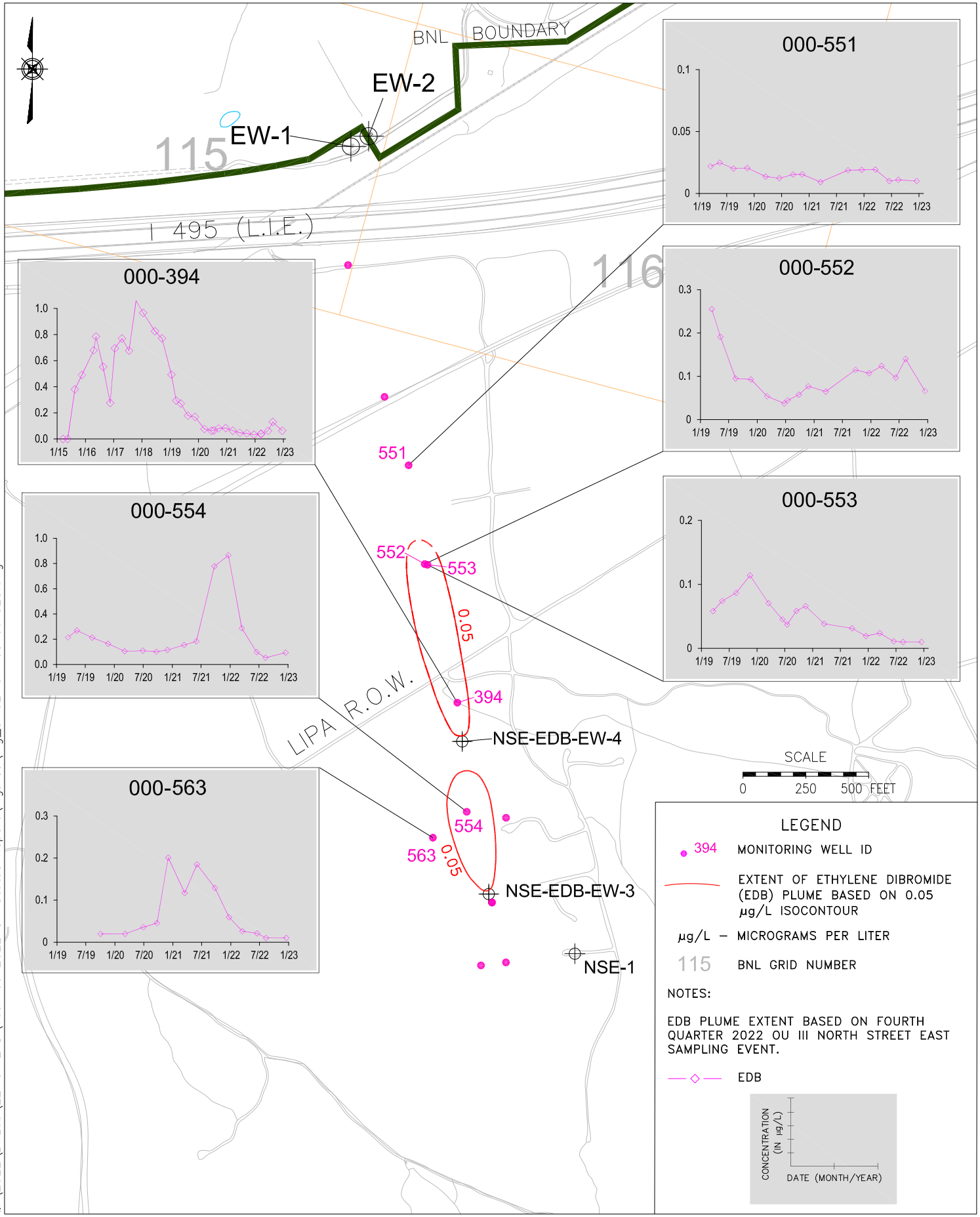


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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

# OU III NORTH STREET EAST HISTORICAL EDB TRENDS

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.7-3

**Figure 3.2.7-4**
**OU III North Street East Groundwater Remediation System**
**Extraction Well TVOC Concentrations**

2022 BNL Groundwater Status Report

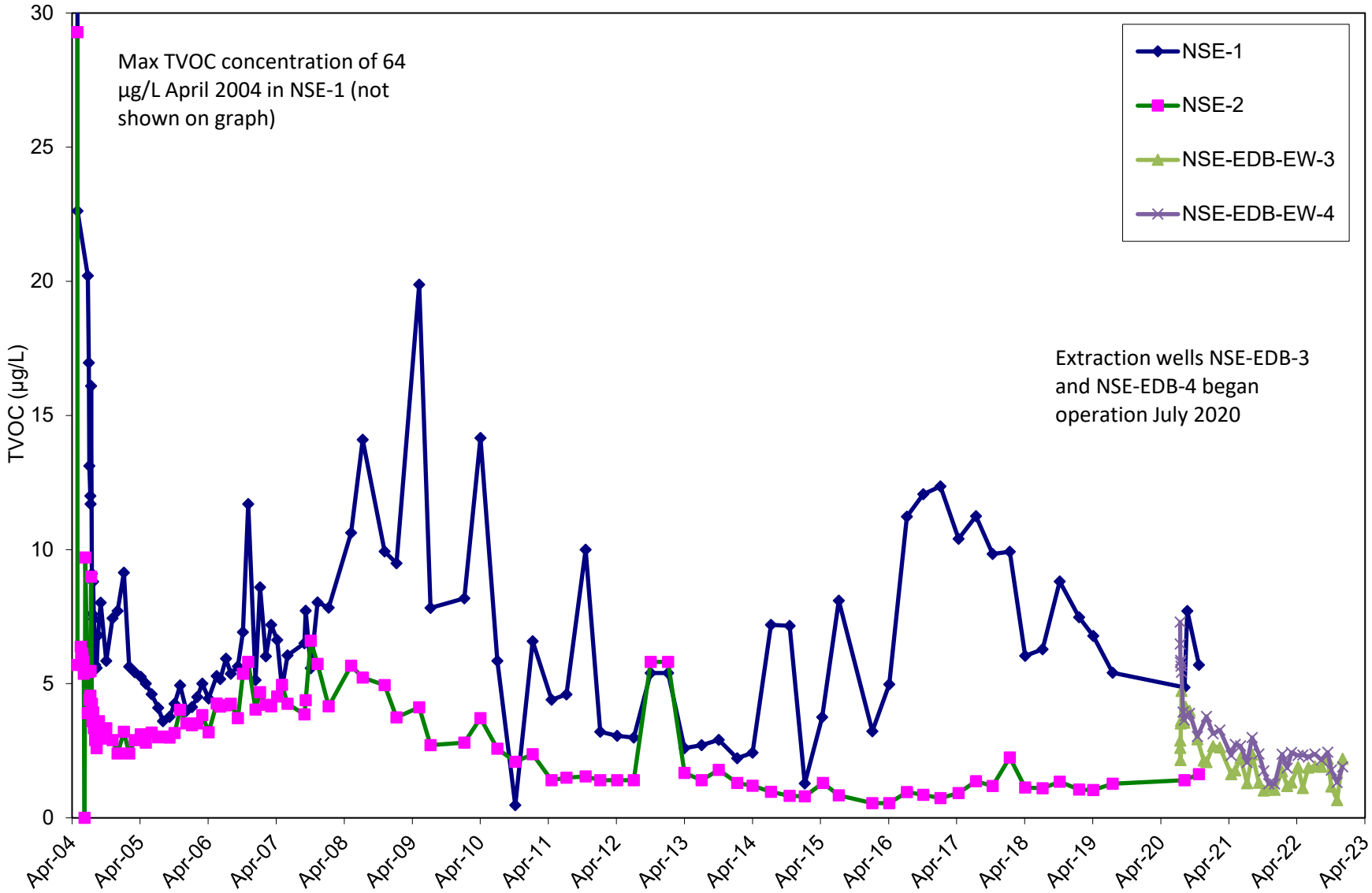


**Figure 3.2.7-5**
**OU III North Street East Groundwater Remediation System**
**Extraction Well EDB Concentrations**

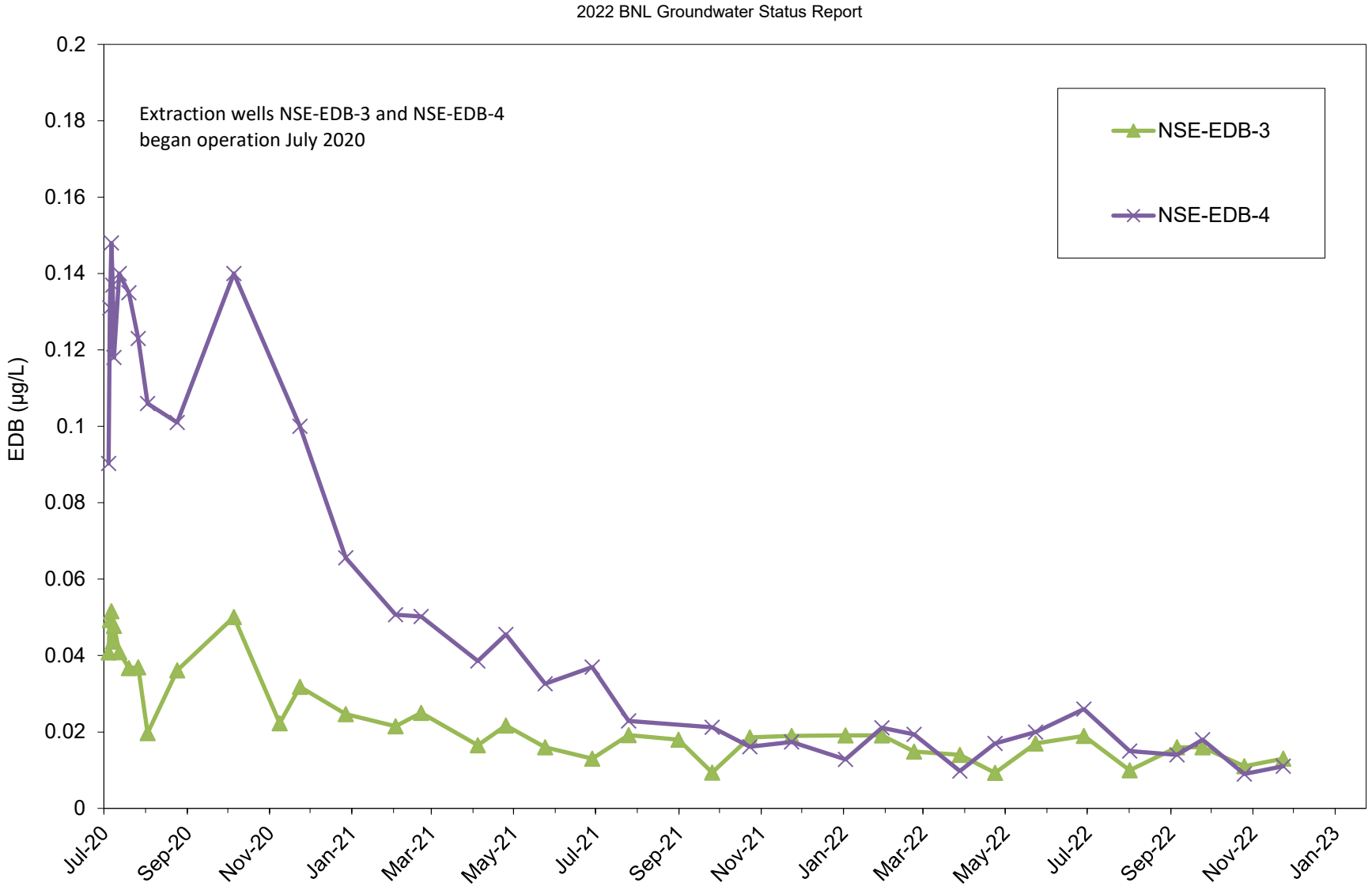
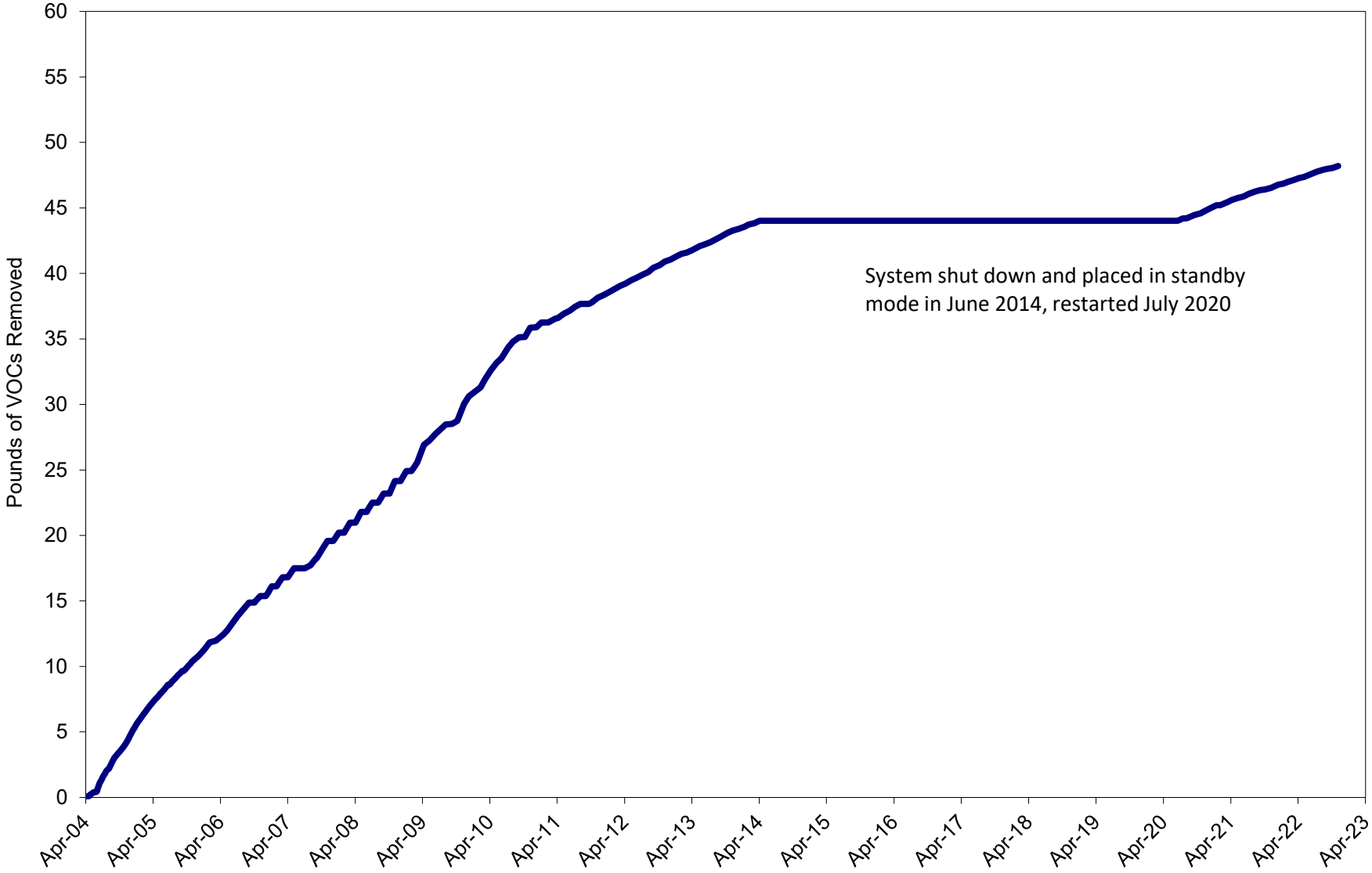
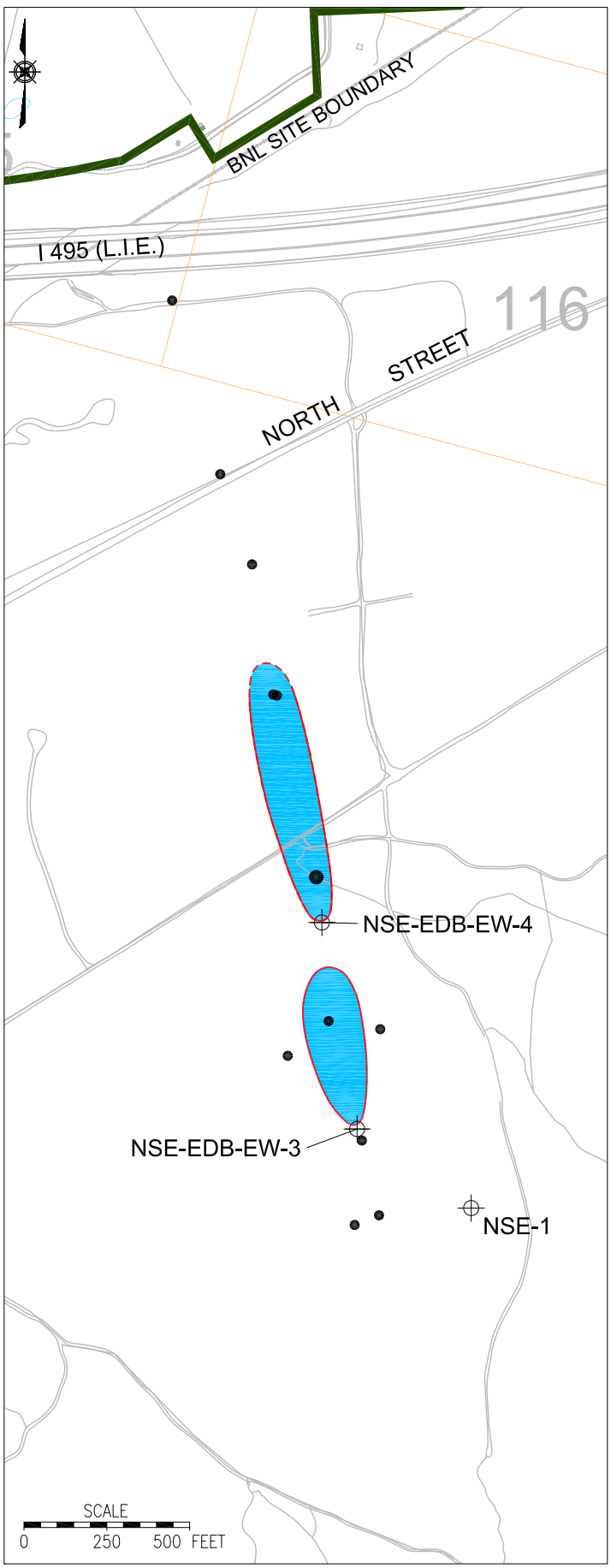


**Figure 3.2.7-6**
**OU III North Street East Groundwater Remediation System**
**Cumulative VOC Mass Removed**

2022 BNL Groundwater Status Report



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Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

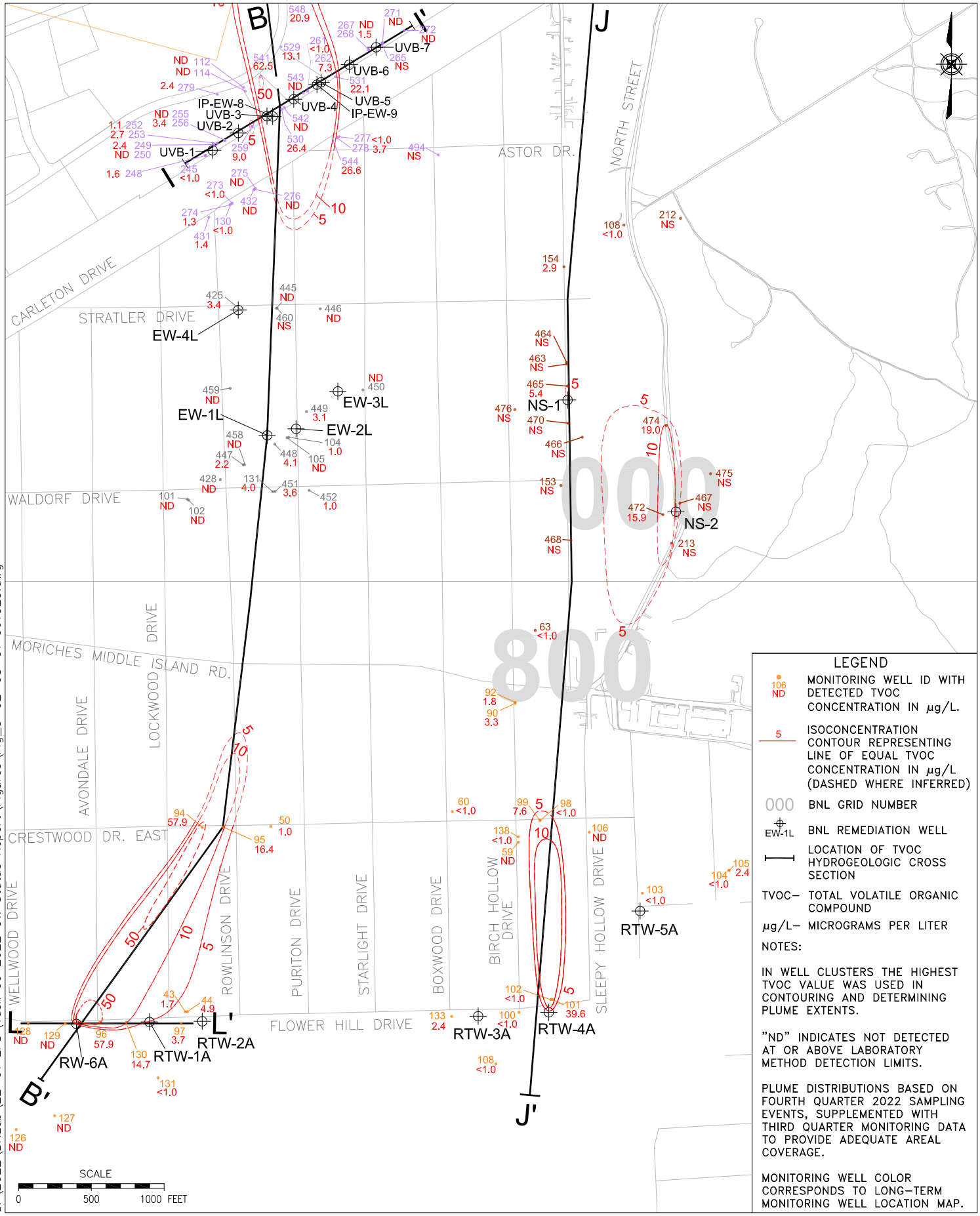
TITLE:

# OU III NORTH STREET EAST EDB PLUME COMPARISON 2019 – 2022

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.7-7




## 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 2022 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

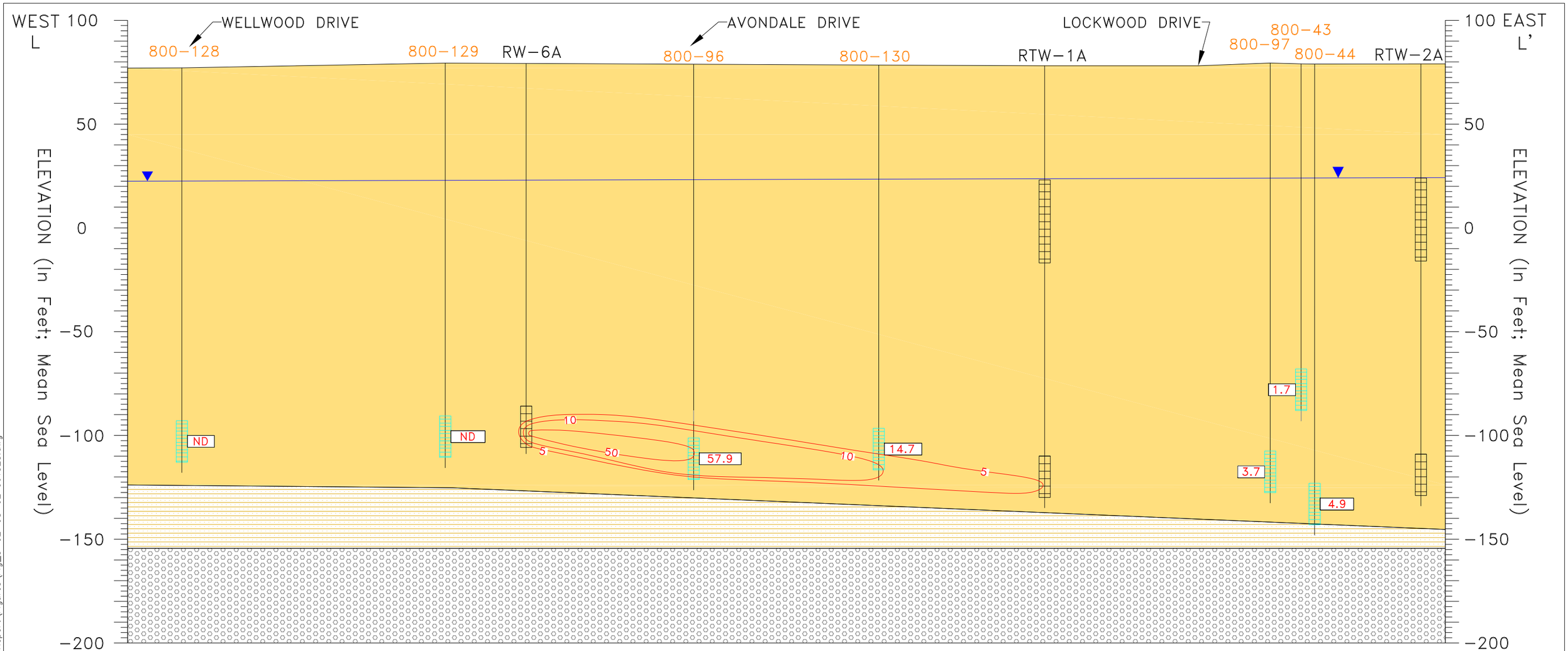
TITLE:

# OU III LIPA/AIRPORT TVOC PLUME DISTRIBUTION

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

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 25 – Oct 28, 2022

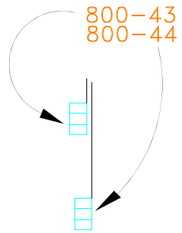
TVOC – Total Volatile Organic Compound

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 2022 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')

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | 2:1 | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.8-2

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**Figure 3.2.8-3**
**OU III LIPA Groundwater Remediation System**
**Extraction Well TVOC Concentrations**

2022 BNL Groundwater Status Report

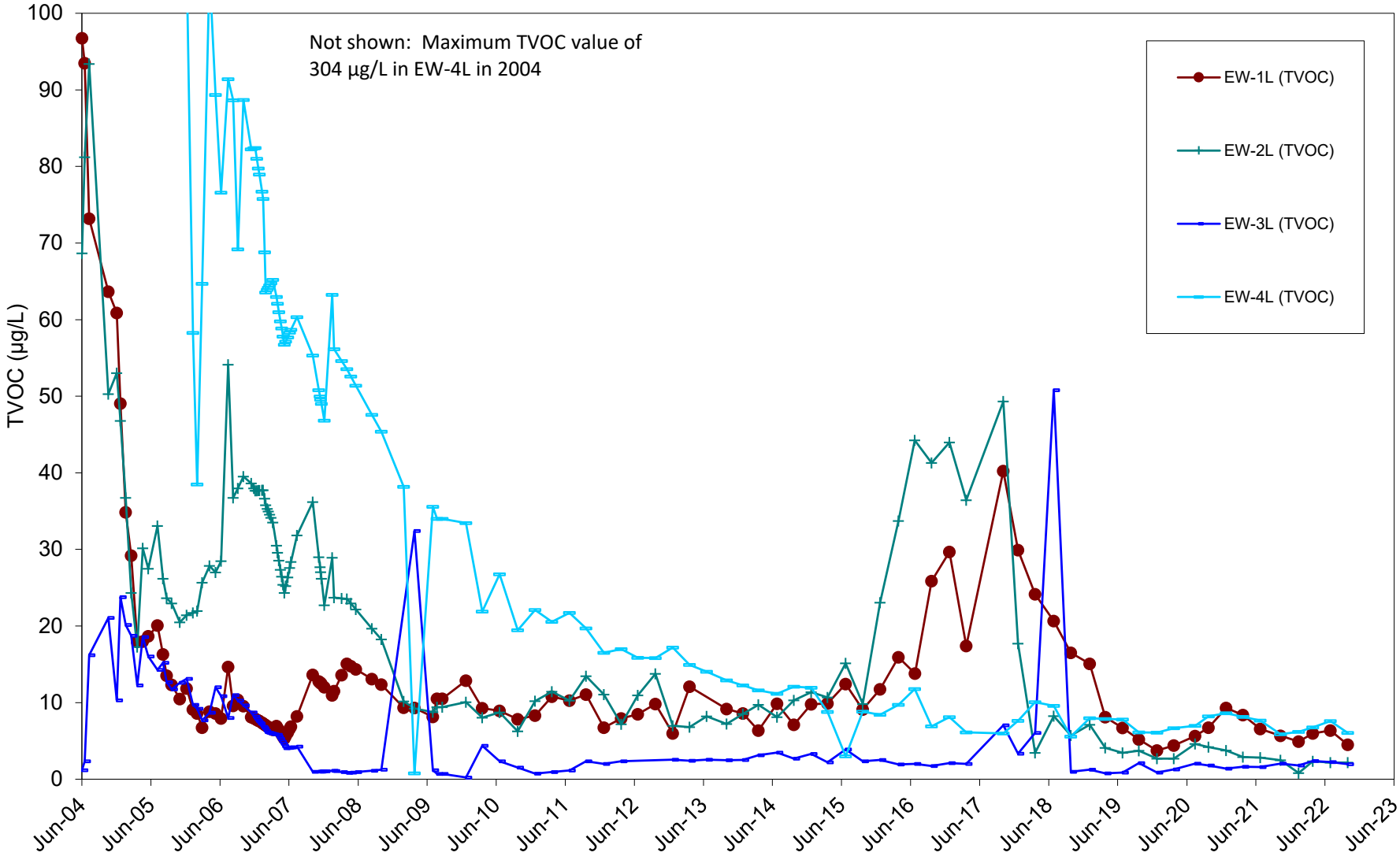


**Figure 3.2.8-4**
**OU III Airport Groundwater Remediation System**
**Extraction Well TVOC Concentrations**

2022 BNL Groundwater Status Report

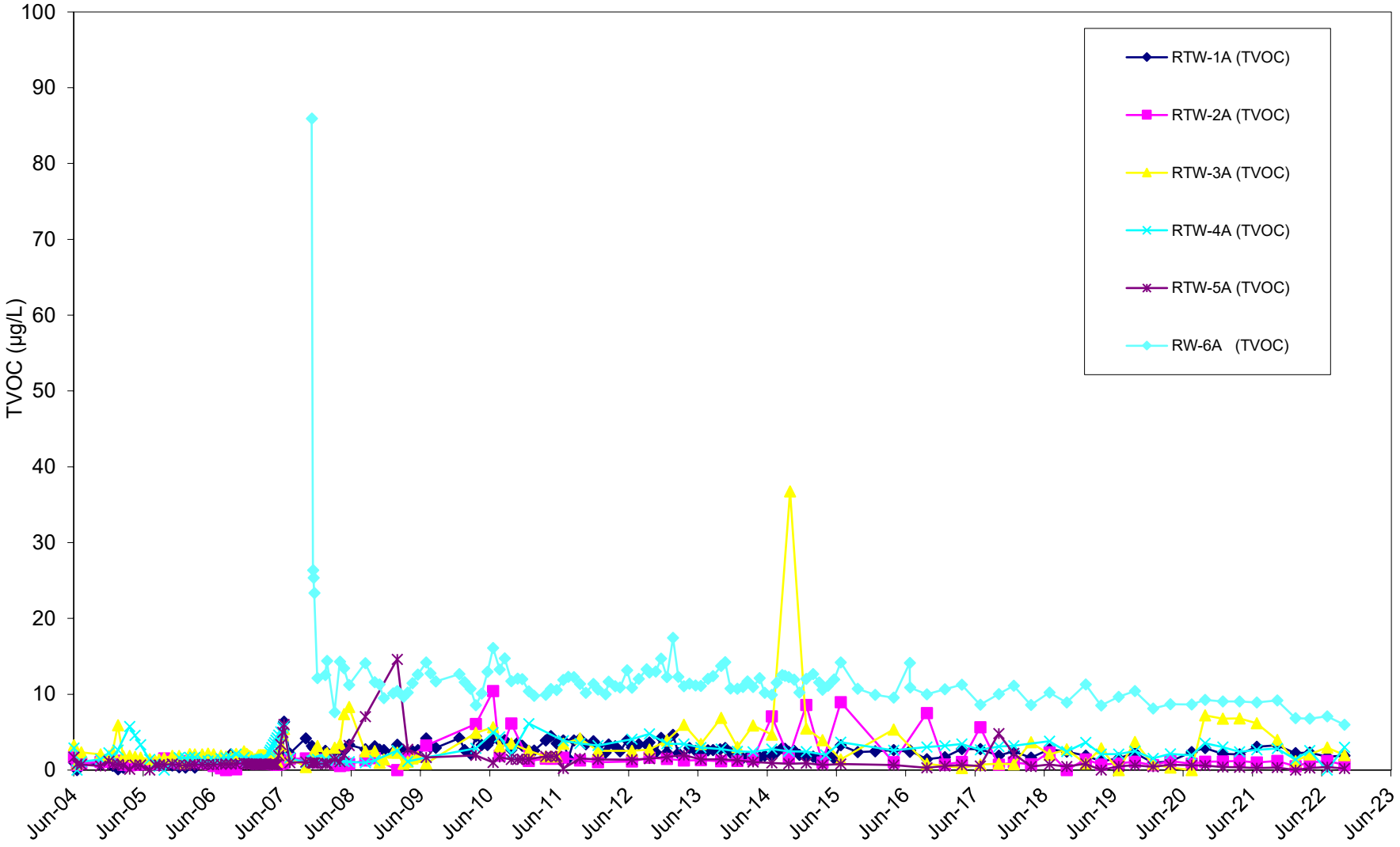
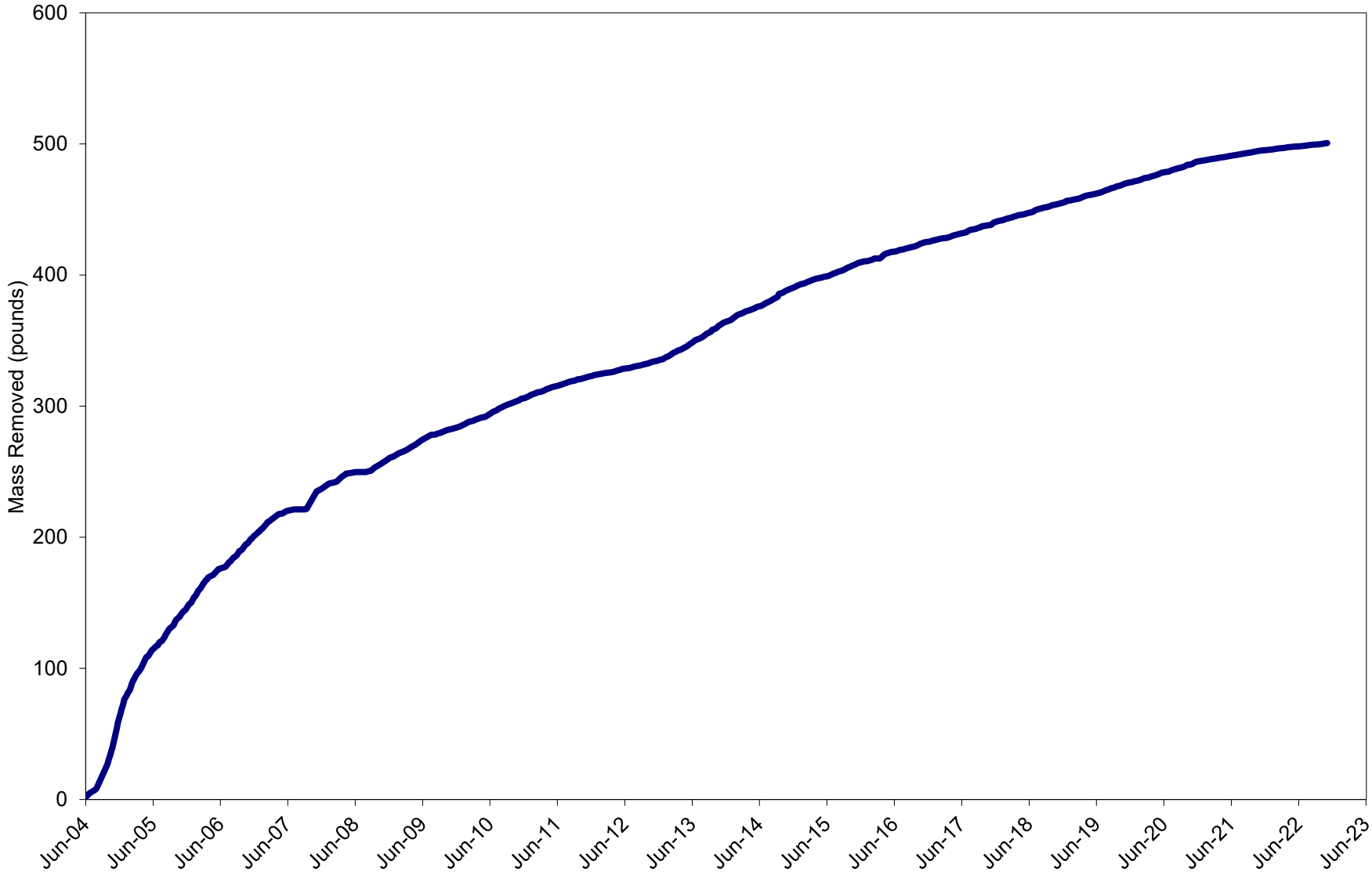
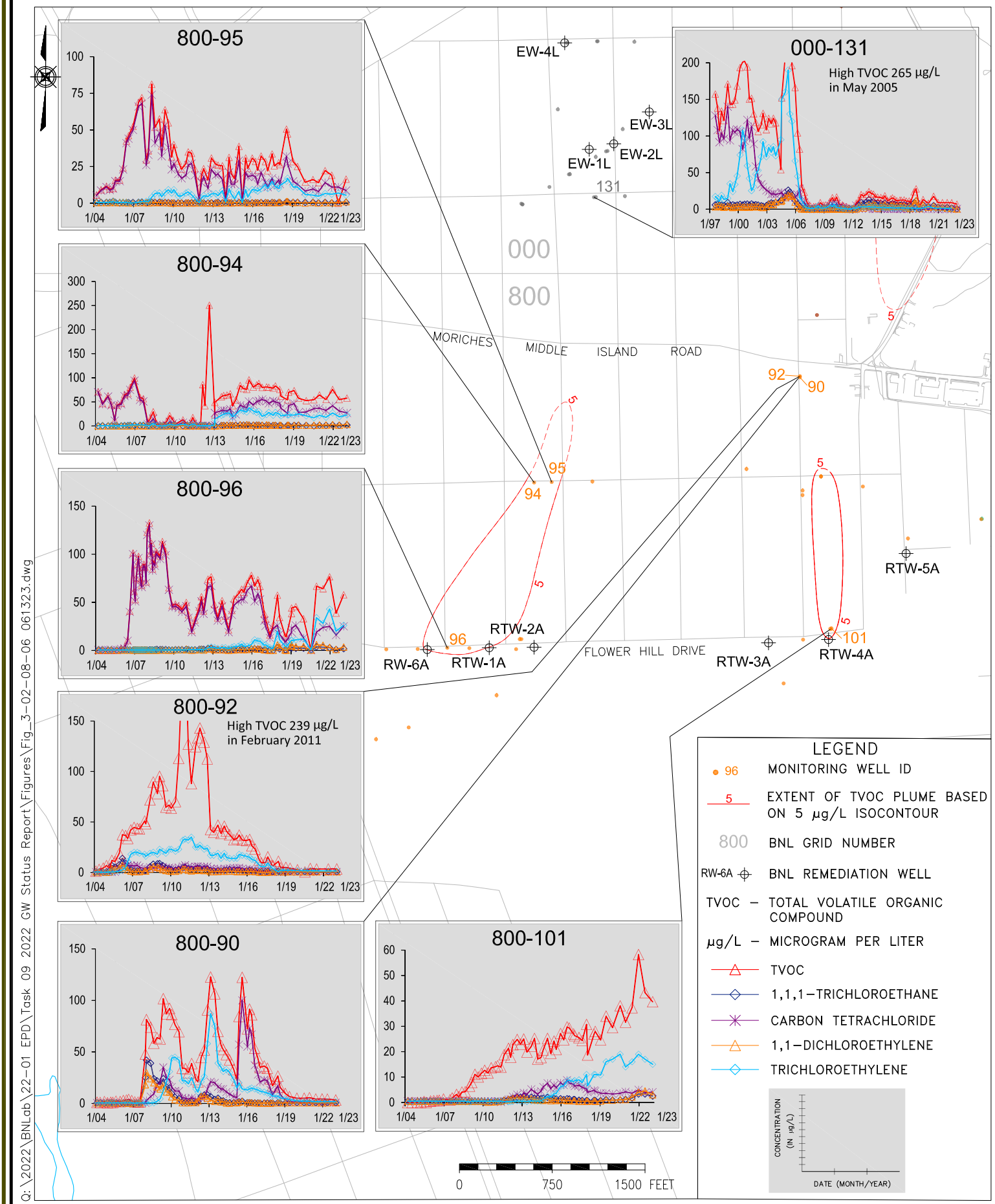


**Figure 3.2.8-5**
**OU III LIPA/Airport Groundwater Remediation System**
**Cumulative VOC Mass Removed**

2022 BNL Groundwater Status Report



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

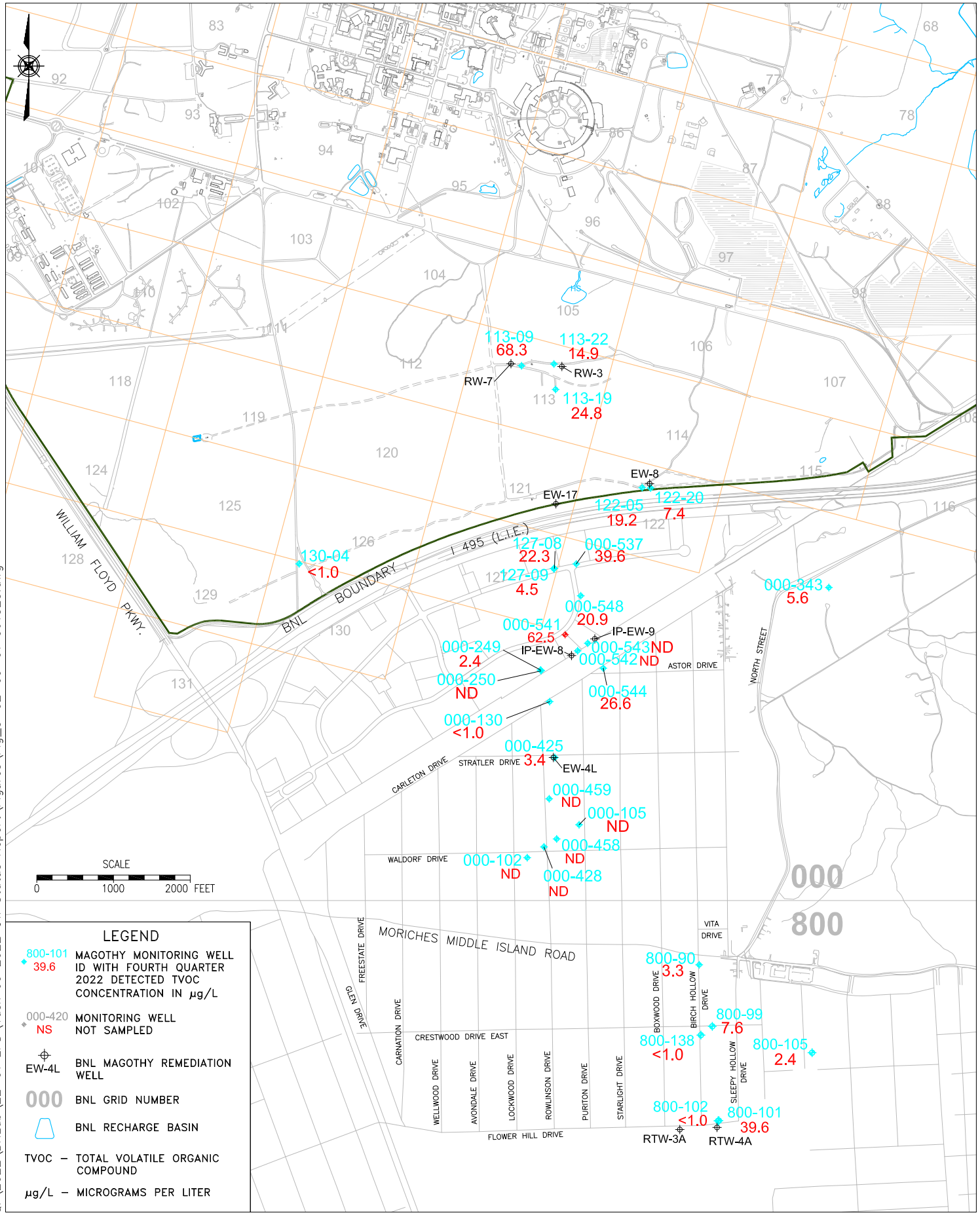
TITLE:

# OU III LIPA/AIRPORT HISTORICAL VOC TRENDS

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.8–6




LEGEND

- 800-101 / 39.6 — MAGOTHY MONITORING WELL ID WITH FOURTH QUARTER 2022 DETECTED TVOC CONCENTRATION IN µg/L
- 000-420 / NS — MONITORING WELL NOT SAMPLED
- EW-4L — BNL MAGOTHY REMEDIATION WELL
- 000 — BNL GRID NUMBER
- BNL RECHARGE BASIN
- TVOC – TOTAL VOLATILE ORGANIC COMPOUND
- µg/L – MICROGRAMS PER LITER

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

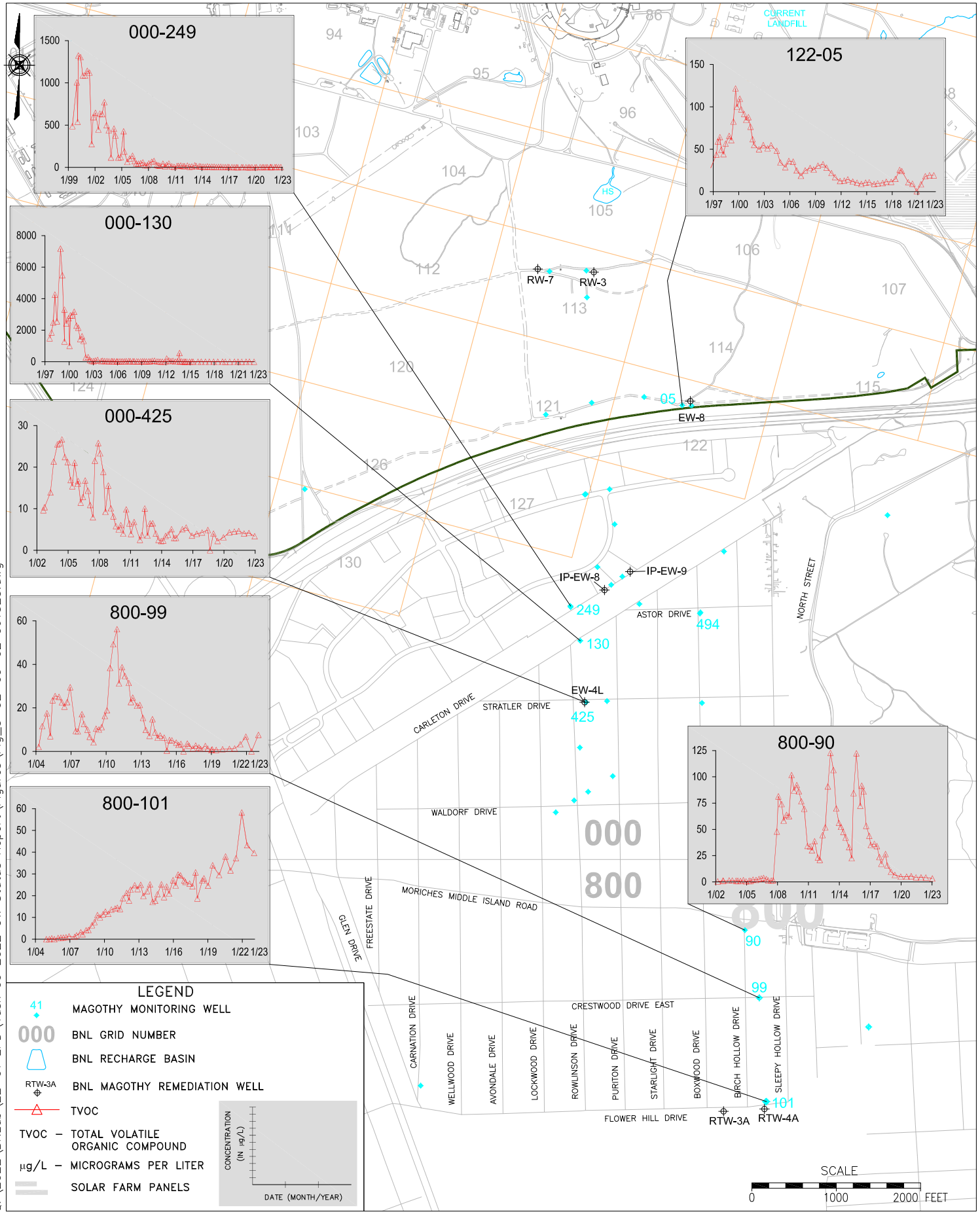
TITLE:

# MAGOTHY WELL LOCATIONS AND TVOC RESULTS

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.9-1

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

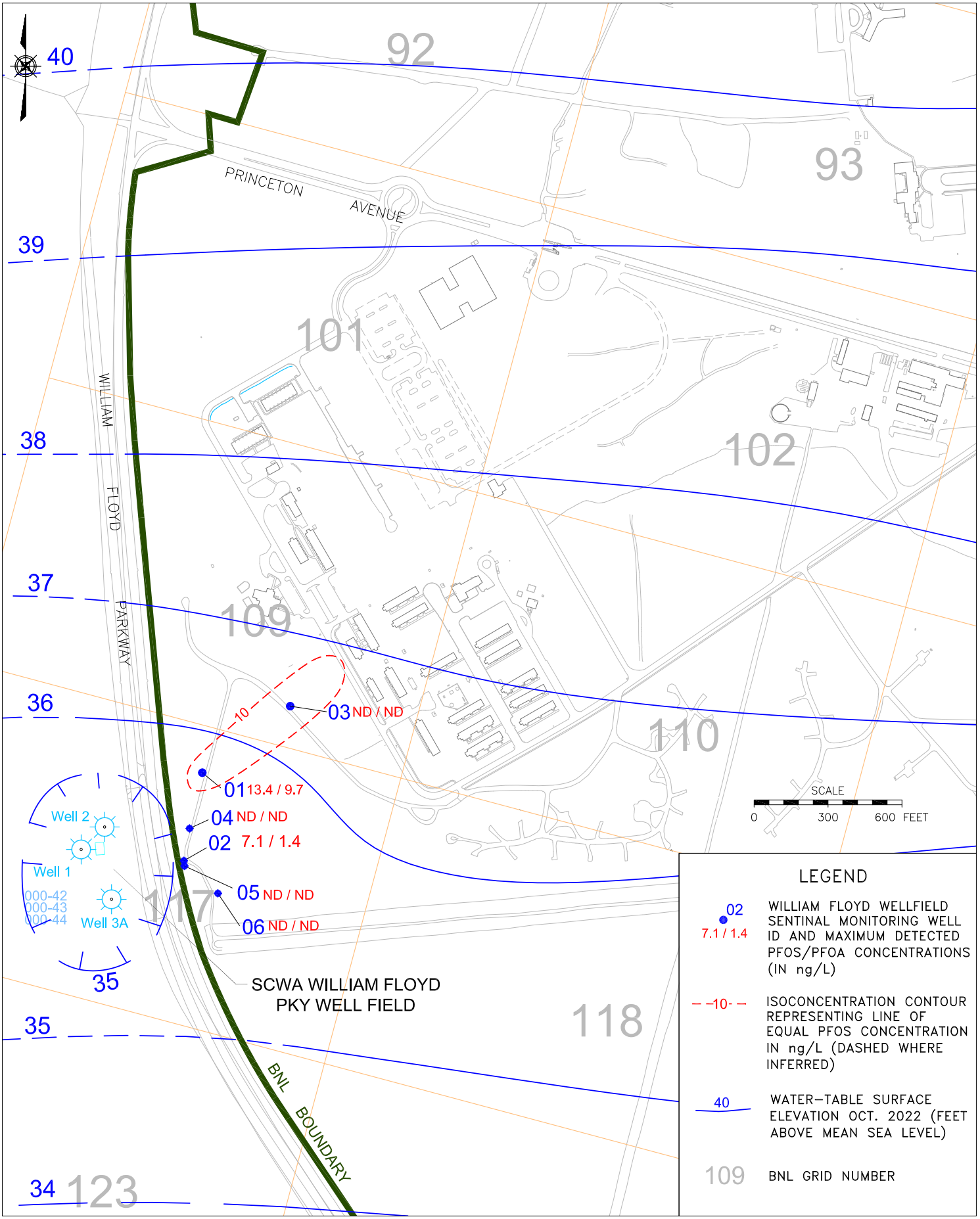
TITLE:

# MAGOTHY HISTORICAL TVOC TRENDS

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

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 PFOS/PFOA DATA 1st Qtr 2022
2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.10-1

BGRR
REMEDIATION SYSTEM
DISCHARGE DRYWELLS

FORMER WASTE
CONCENTRATION
FACILITY

FORMER
PILE FAN SUMP
LOCATION

BELOW GROUND
DUCTS LOCATION

TO BLDG 855

HFBR

BGRR GP- 84 16.2
BGRR GP- 86 24.3
BGRR GP- 87 40.8
BGRR GP- 135 14.7
BGRR GP- 134 25.4
BGRR GP- 108 24.7
BGRR GP- 107 39.7
BGRR GP- 91 78.3
BGRR GP- 133 46.0
BGRR GP- 140 28.5
BGRR GP- 141 41.0
BGRR GP- 143 40.8
BGRR GP- 144 26.9

06 <MDA
176 <MDA
175 56.3
174 5.8
SR-1
160 <MDA
162 <MDA
360 <MDA
362 1.2
361 3.5
178 <MDA
402 <MDA
163 <MDA
164 <MDA
365 <MDA
364 <MDA
363 <MDA
169 157.0
325 23.7
367 <MDA
405 0.9
401 <MDA
37 36.2
170 4.1
38 <MDA
39 17.0
404 0.9
SR-6
699 <MDA
701 3.3
700 <MDA
664 1.5
201 <MDA
665 <MDA
SR-3
666 3.4
673 0.8
SR-5
SR-4
675 <MDA
674 <MDA
194 <MDA
193 <MDA
86 1.7
669 <MDA
672 <MDA
85 18.9
46 <MDA
683 2.0
706 <MDA
681 <MDA
707 1.4
705 1.4
40 NS
39 <MDA
41 <MDA
189 <MDA
SR-7
SR-8
SR-9
682 1.5
210 <MDA
87 <MDA
684 <MDA
47 NS
48 <MDA
415 <MDA
419 <MDA
417 <MDA
670 <MDA
671 2.6
809 <MDA
810 <MDA
811 <MDA
286 <MDA
01 <MDA
171 <MDA
285 <MDA
287 <MDA
290 <MDA
FF-RW-A
399 7.5
402 13.3
406 <MDA
407 <MDA
398 2.8
403 6.7
326 <MDA

Building 725
CFN Building 735
NSLS II

RUTHERFORD DR.
LAWRENCE DR.
CORNELL AVENUE
PENNSYLVANIA STREET
TECHNOLOGY STREET
BROOKHAVEN AVENUE
BELL AVENUE
ROWLAND STREET
ROCHESTER STREET
TEMPLE PLACE
RENAISSANCE ROAD
CORNELL AVENUE
GROVE

BGRR
Building 701
Building 801
FORMER CANAL HOUSE

FORMER ABOVEGROUND TANKS
TANK 1
TANK 2
TANK 3
TANK 4
FORMER UNDERGROUND TANKS A & B
810
FORMER D-WASTE TANKS AREA
FORMER BLDGS.
811

65
75
85

O
O'
M
M'
N
N'

SCALE
0 150 300 FEET

## LEGEND

- 402 <MDA — MONITORING WELL ID WITH DETECTED Sr–90 CONCENTRATION (IN pCi/L) FROM FOURTH QUARTER 2022.
- BGRR-VP-144 ■ 26.9 — TEMPORARY WELL LOCATION WITH MAXIMUM DETECTED Sr–90 RESULTS pCi/L, SAMPLES OBTAINED DURING May/JULY. 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.

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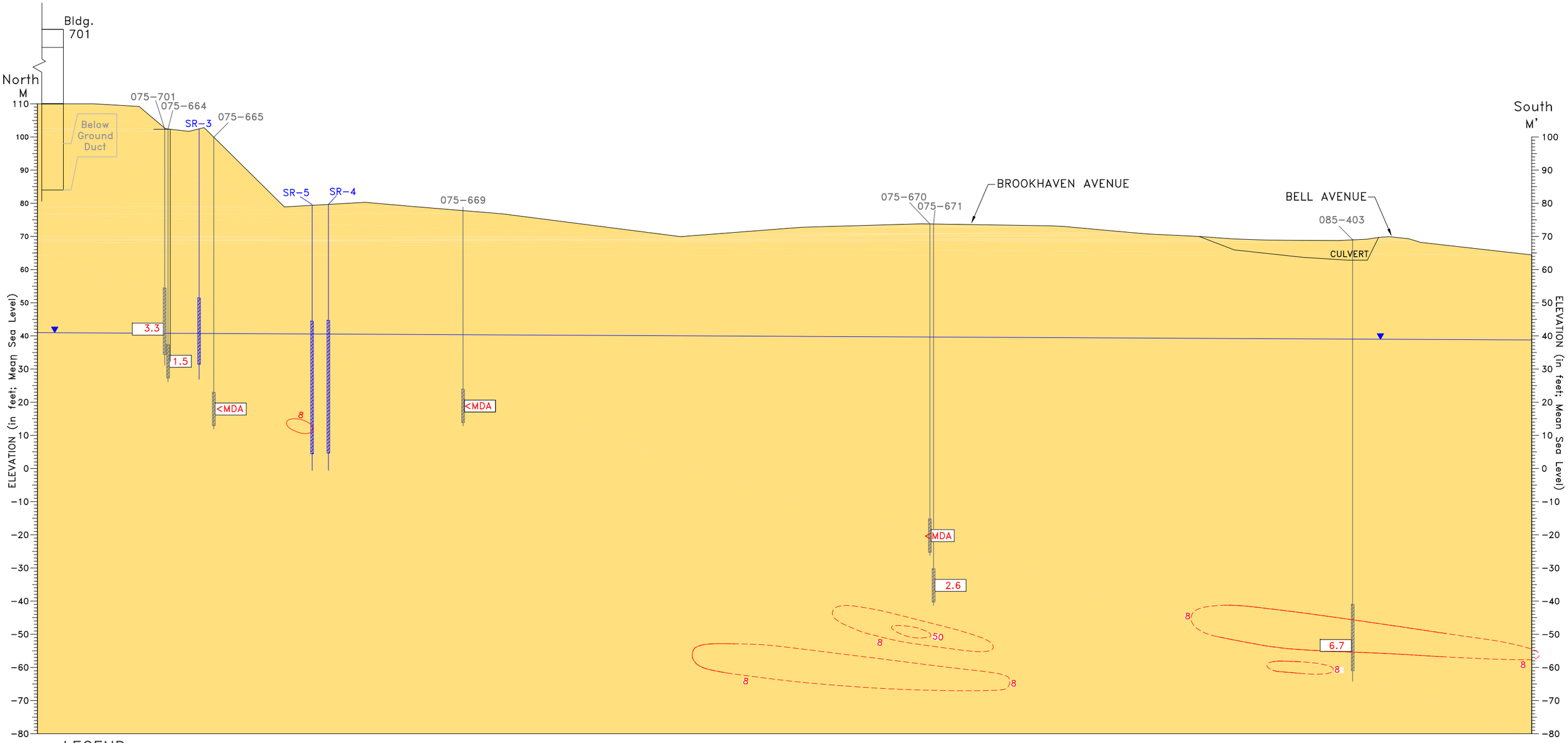
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

# OU III BGRR/WCF
# Sr–90 PLUME DISTRIBUTION
## 2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

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 2022.

"<MDA" indicates below minimum detectable activity.

pCi/L – pico Curies per liter

Water Table As Of Oct 25 – Oct 28, 2022

HORIZONTAL SCALE

0 50 100 FEET

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Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

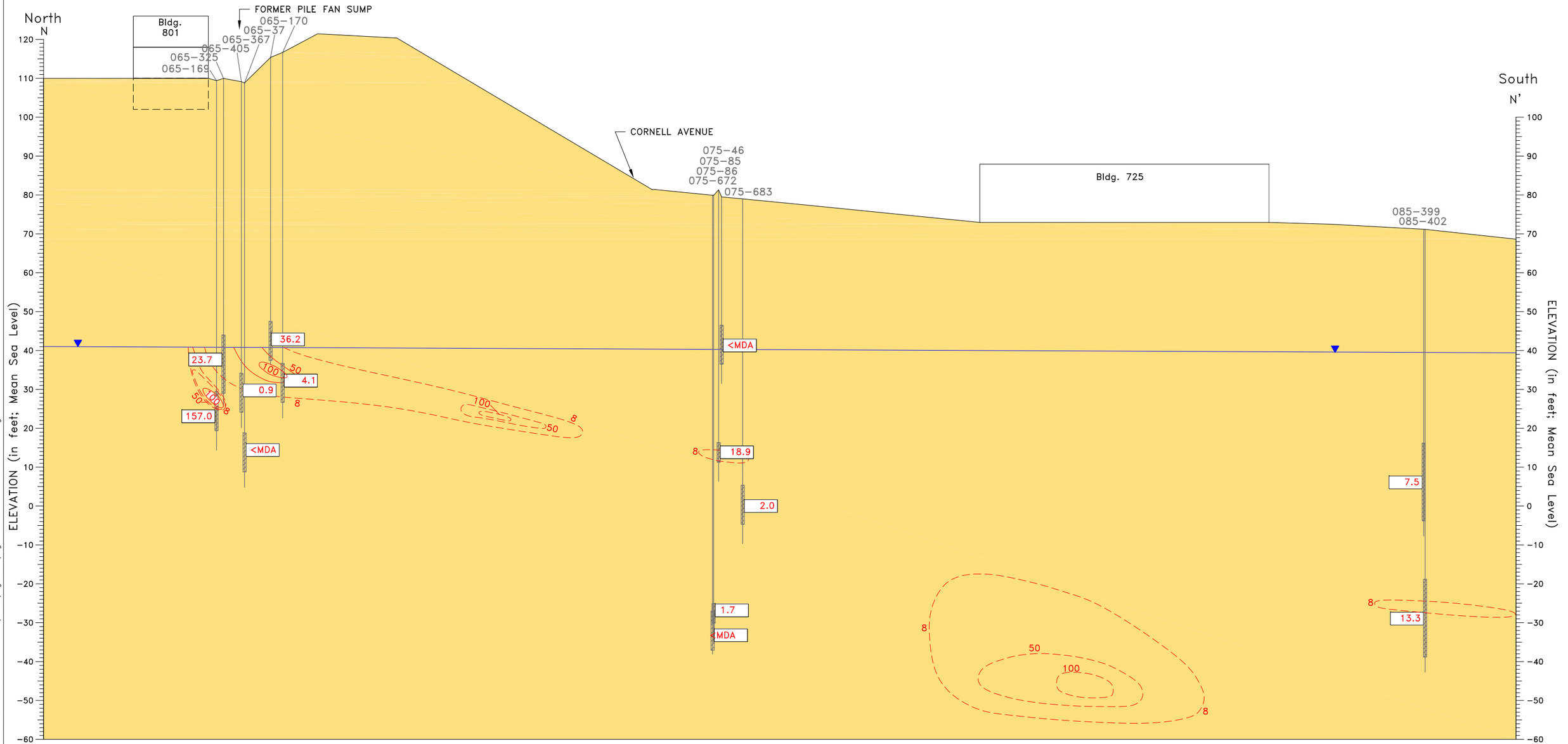
TITLE:

# OU III BGRR/WCF
# Sr–90 CROSS SECTION (M–M')

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | 5:1 | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.11–2




## 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 2022.

"<MDA" indicates below minimum detectable activity.

pCi/L - pico Curies per liter

Water Table As Of Oct 25 - Oct 28, 2022

HORIZONTAL SCALE

0 50 100 FEET

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Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

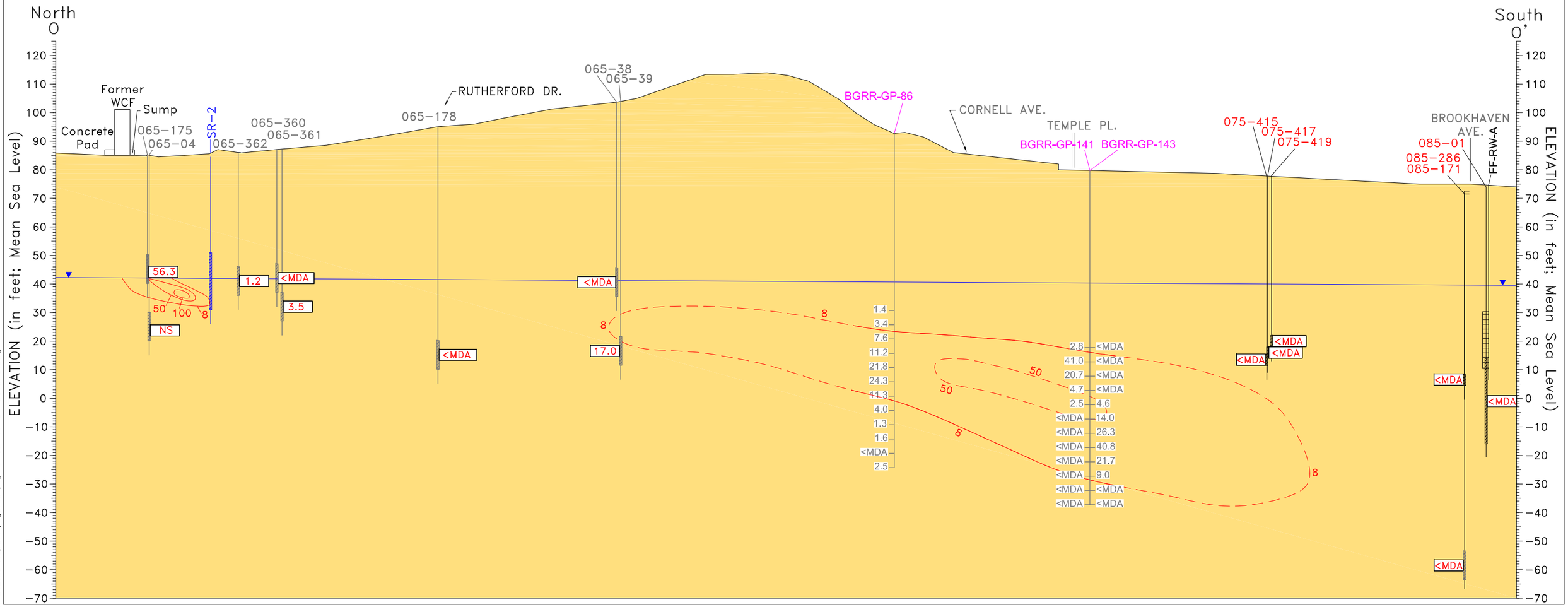
TITLE:

# OU III BGRR/WCF
# Sr-90 CROSS SECTION (N-N')

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | 5:1 | 05/19/23 | - |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | - |

FIGURE NO.: 3.2.11-3

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## 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 2022.

"<MDA" indicates below minimum detectable activity.
"NS" indicates not sampled.

pCi/L – pico Curies per liter

Water Table As Of Oct 25 – Oct 28, 2022

HORIZONTAL SCALE

0 100 200 FEET

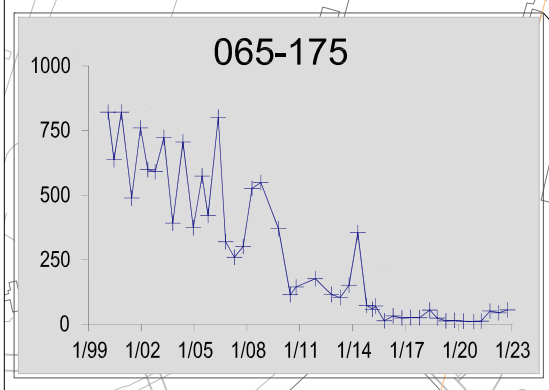
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

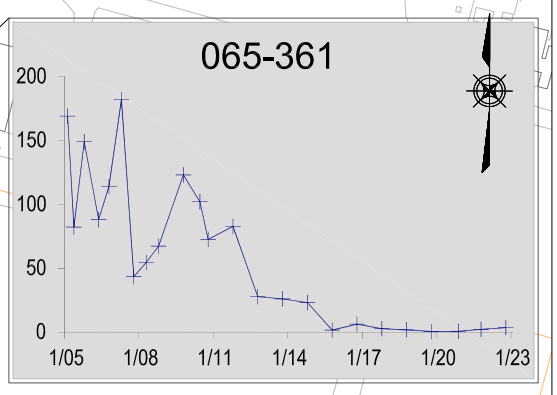
TITLE:

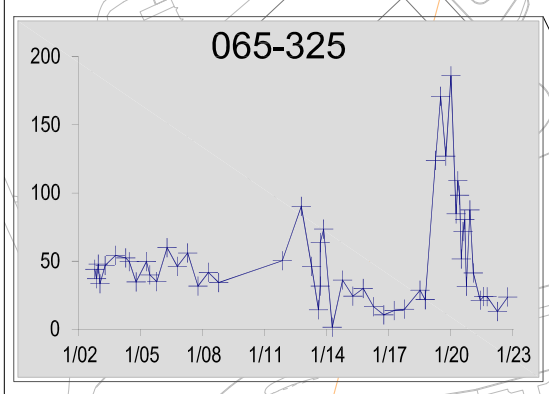
# OU III BGRR/WCF
# Sr–90 CROSS SECTION (O–O')
2022 BNL GROUNDWATER STATUS REPORT

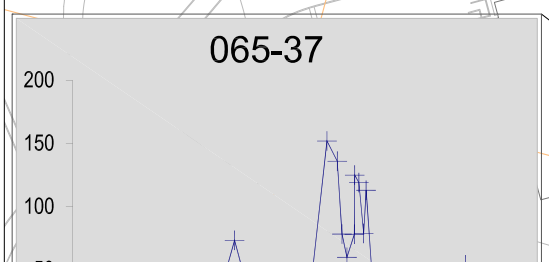
| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | 5:1 | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

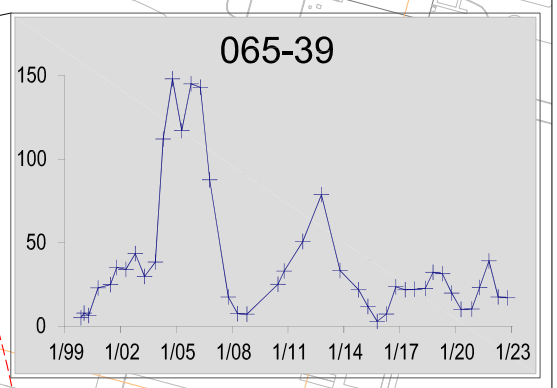
FIGURE NO.: 3.2.11–4

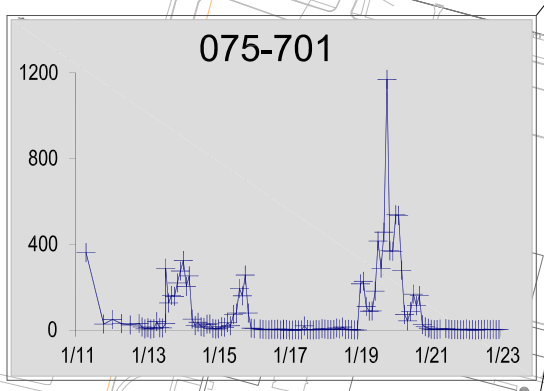


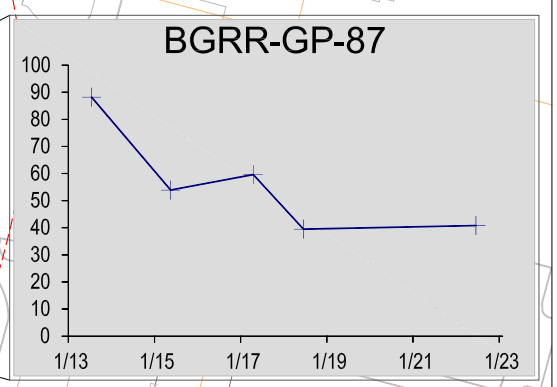



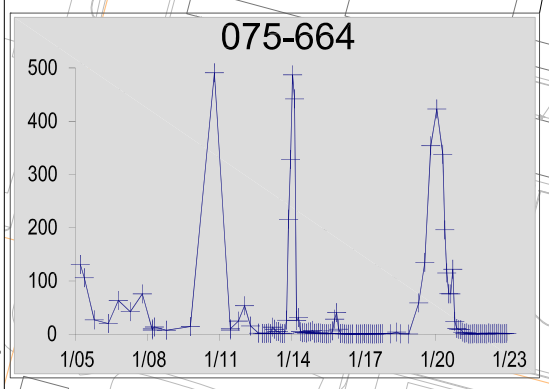



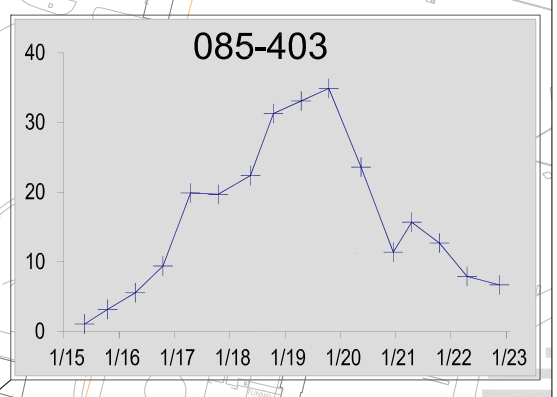



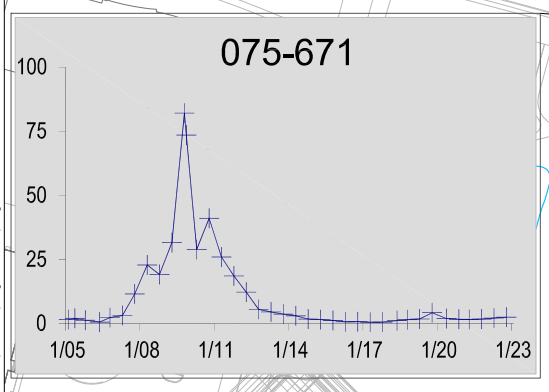




HENRY ST.

WASTE CONCENTRATION FACILITY

175

SR-1

SR-2

361

BGRR

325

37

701

664

SR-3

SR-6

HFBR

SR-5

SR-4

SR-7

SR-8

SR-9

BGRR GP-87

CORNELL AVENUE

669

TEMPLE STREET

TECHNOLOGY

39

65

75

671

BROOKHAVEN AVENUE

85

403

ROCHESTER

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)

Q:\2022\BNLab\22-01 EPD\Task 09 2022 GW Status Report\Figures\Fig_3-02-11-05 061323.dwg

Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

# OU III BGRR/WCF HISTORICAL Sr-90 TRENDS

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

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**

2022 BNL Groundwater Status Report

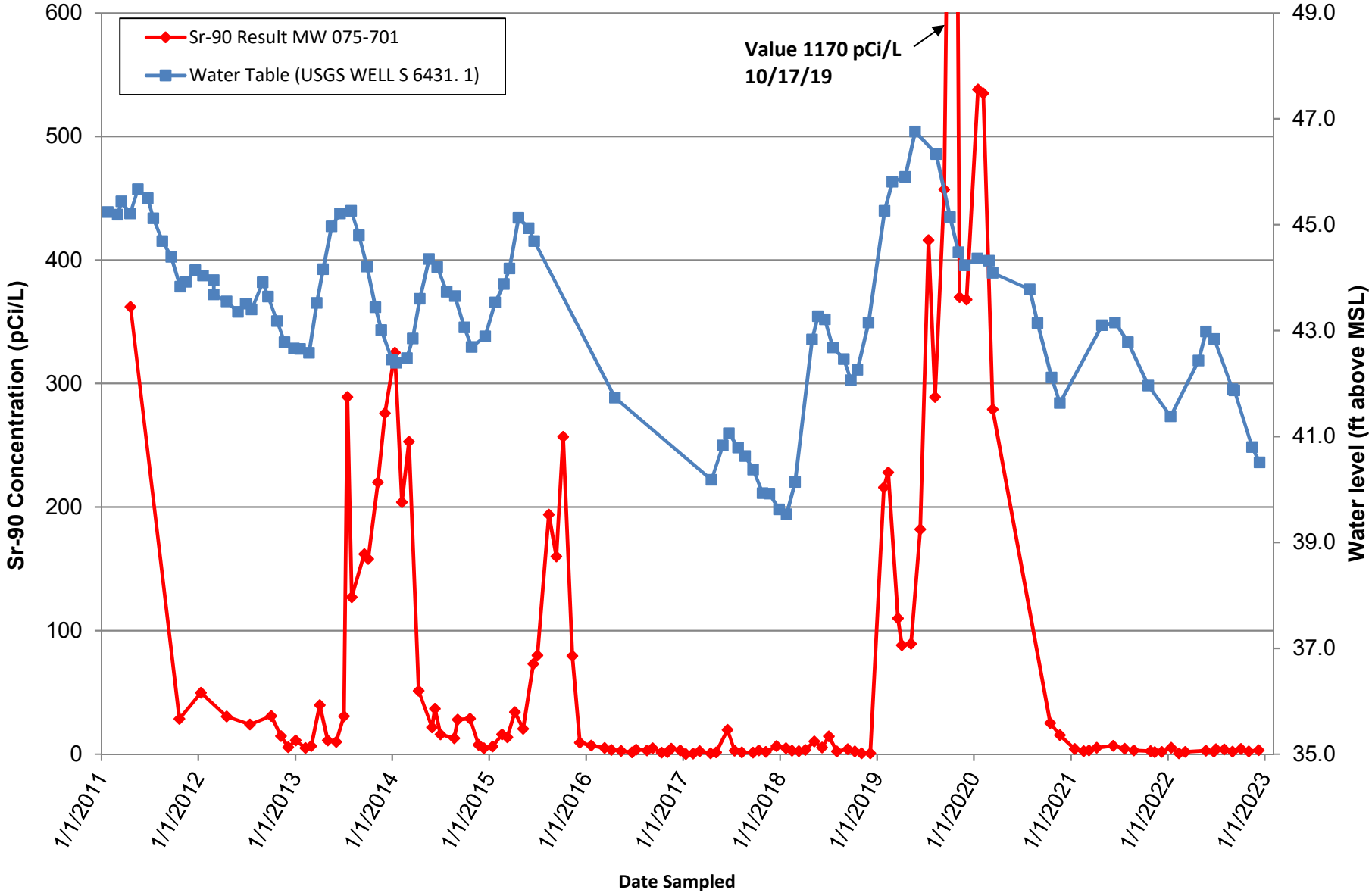


**Figure 3.2.11-7**
**OU III BGRR/WCF**
**Sr-90 Cumulative**
**MilliCuries Removed**

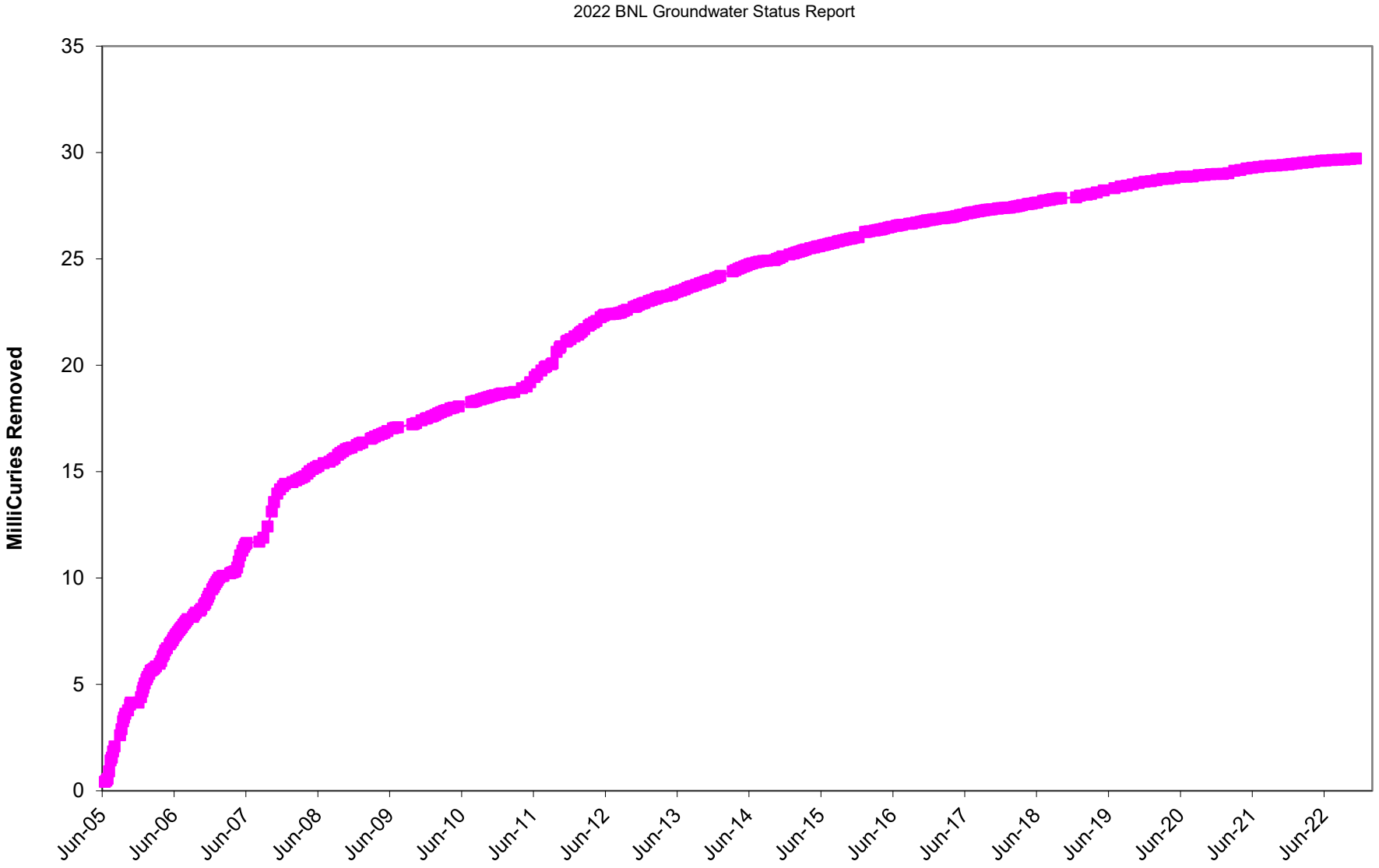


**Figure 3.2.11-8**
**OU III BGRR/WCF**
**Sr-90 Influent Concentrations For Extraction Wells**

2022 BNL Groundwater Status Report

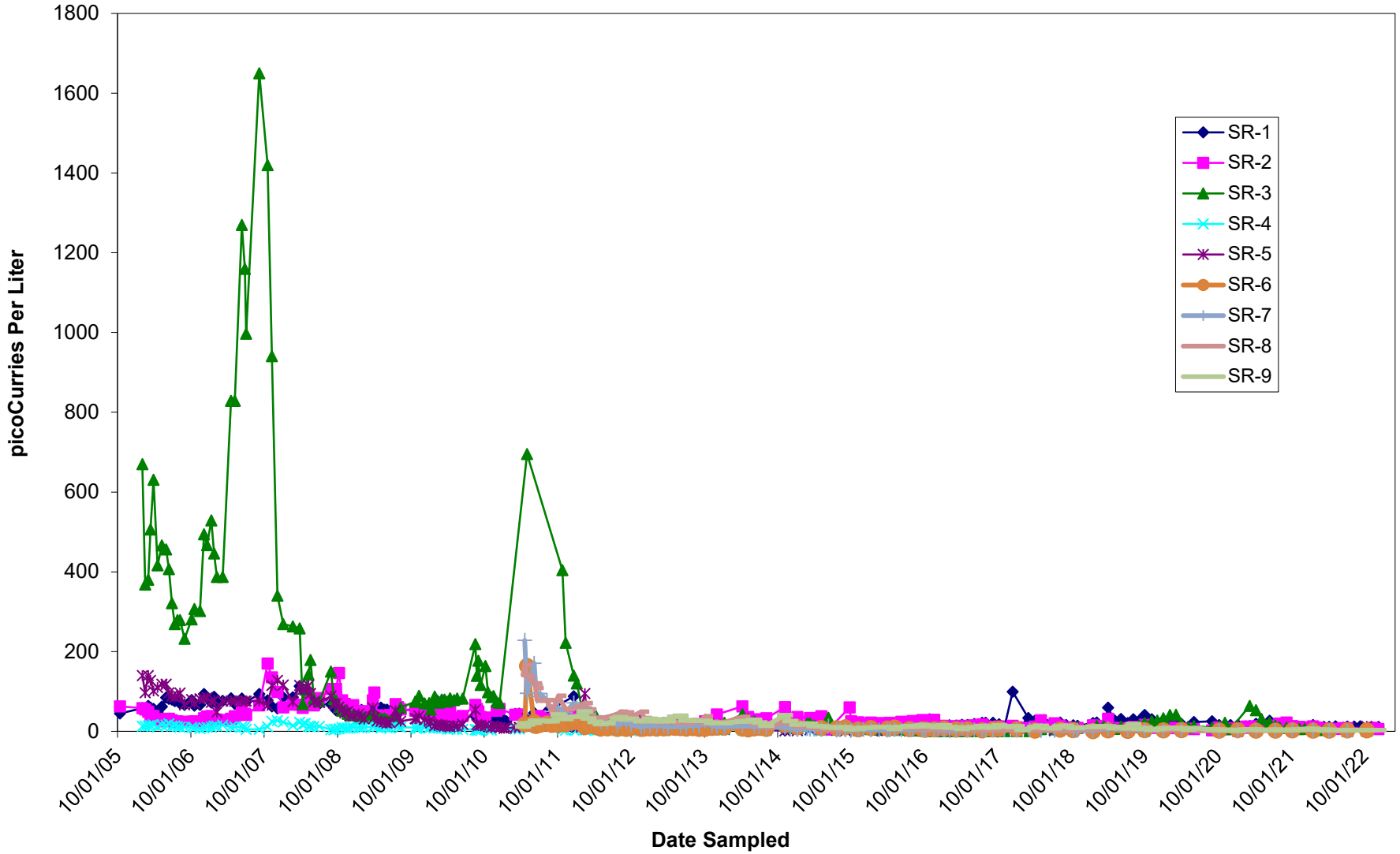
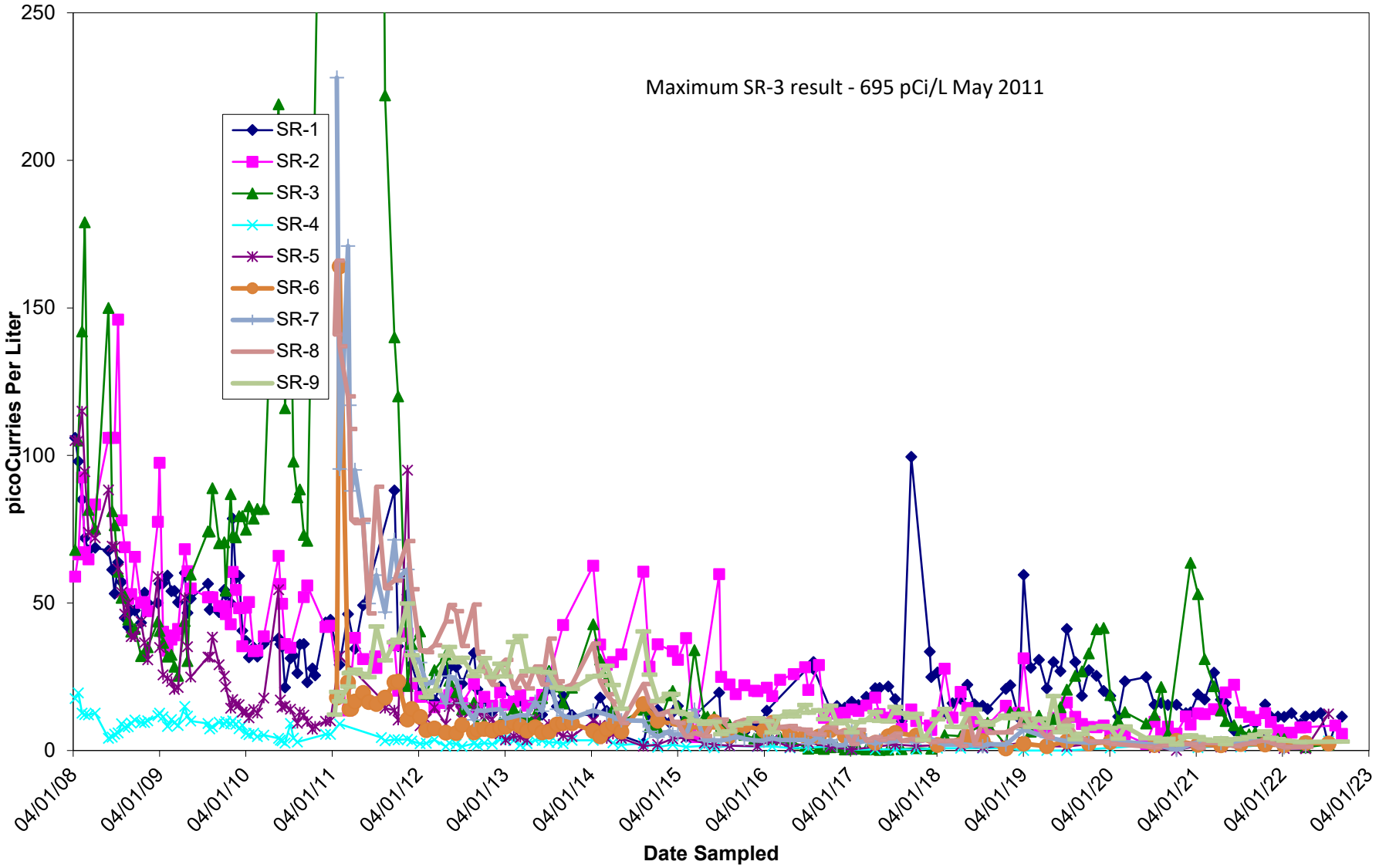


**Figure 3.2.11-9**
**OU III BGRR/WCF**
**Sr-90 Influent Concentrations From April 2008 to Present**

2022 BNL Groundwater Status Report



2004

2008

2022

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

CORNELL AVENUE

PENNSYLVANIA STREET

RAILROAD STREET

TEMPLE PLACE

TECHNOLOGY STREET

BROOKHAVEN AVENUE

DRIVE

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

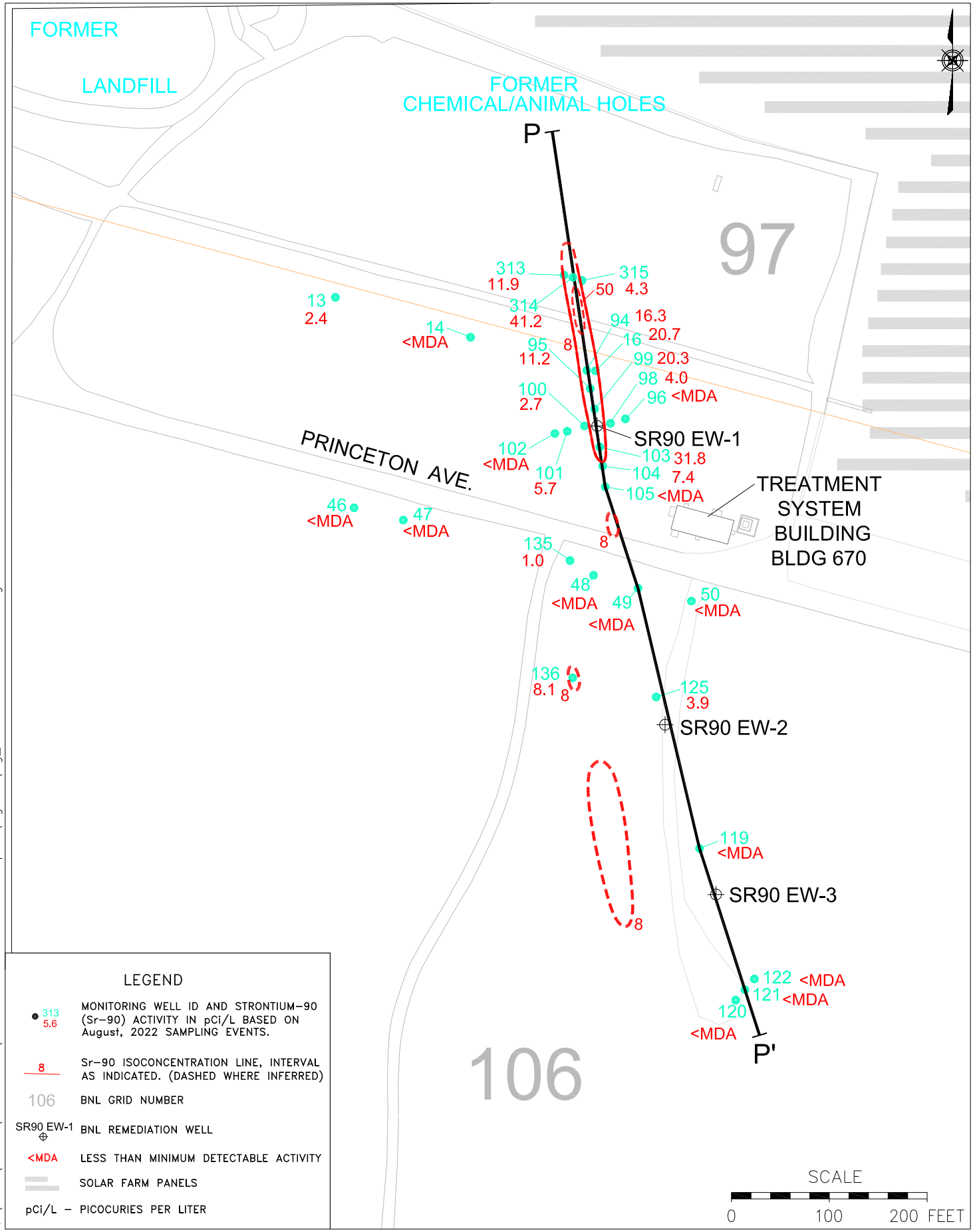
TITLE:

# OU III BGRR/WCF
# Sr–90 PLUME COMPARISON 2004 – 2022

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.11–10




LEGEND

- 313 / 5.6 — MONITORING WELL ID AND STRONTIUM-90 (Sr-90) ACTIVITY IN pCi/L BASED ON August, 2022 SAMPLING EVENTS.
- 8 — Sr-90 ISOCONCENTRATION LINE, INTERVAL AS INDICATED. (DASHED WHERE INFERRED)
- 106 — BNL GRID NUMBER
- SR90 EW-1 — BNL REMEDIATION WELL
- <MDA — LESS THAN MINIMUM DETECTABLE ACTIVITY
- SOLAR FARM PANELS
- pCi/L – PICOCURIES PER LITER

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

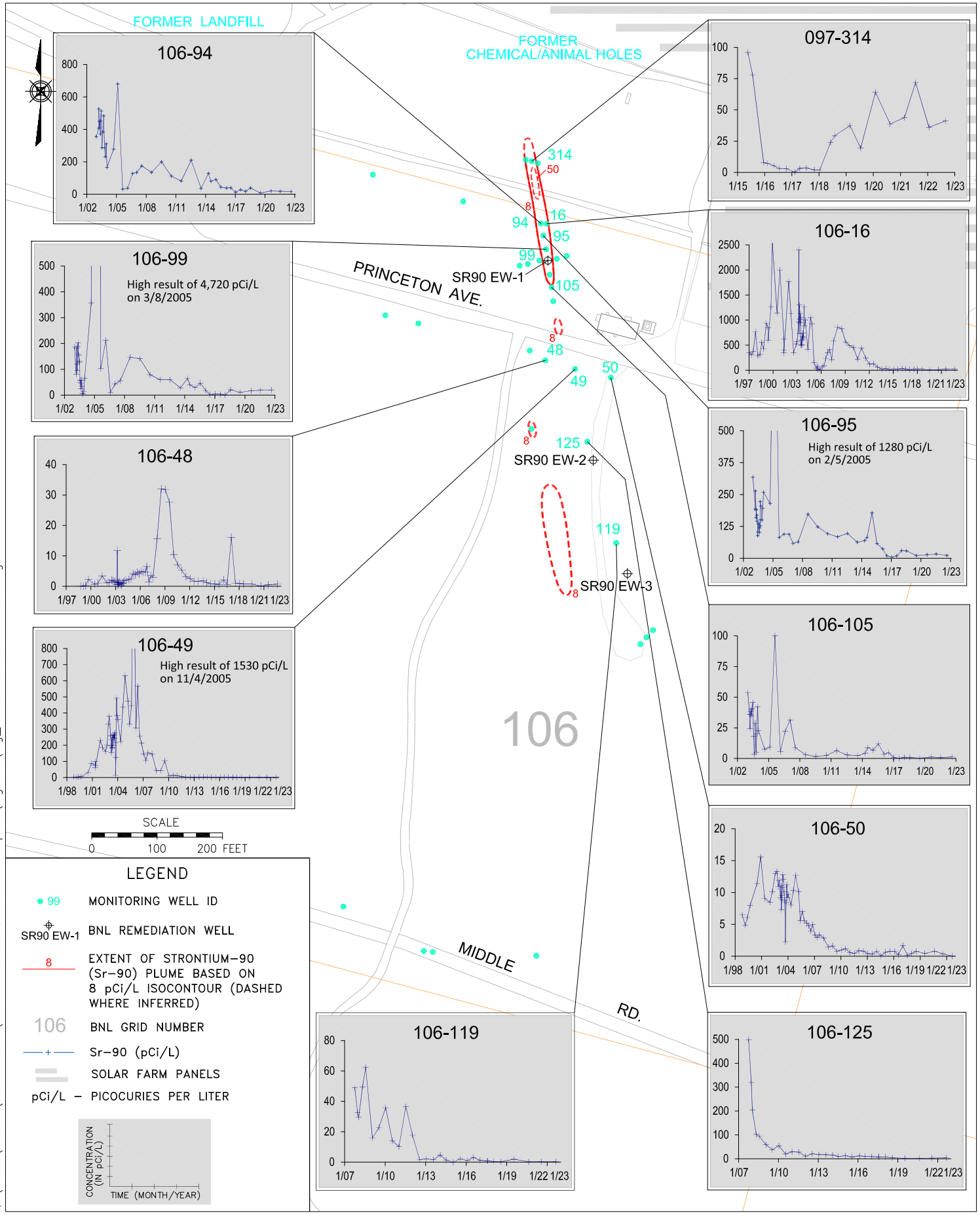
TITLE:

# OU III CHEMICAL/ANIMAL HOLES Sr-90 PLUME DISTRIBUTION

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.12-1

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

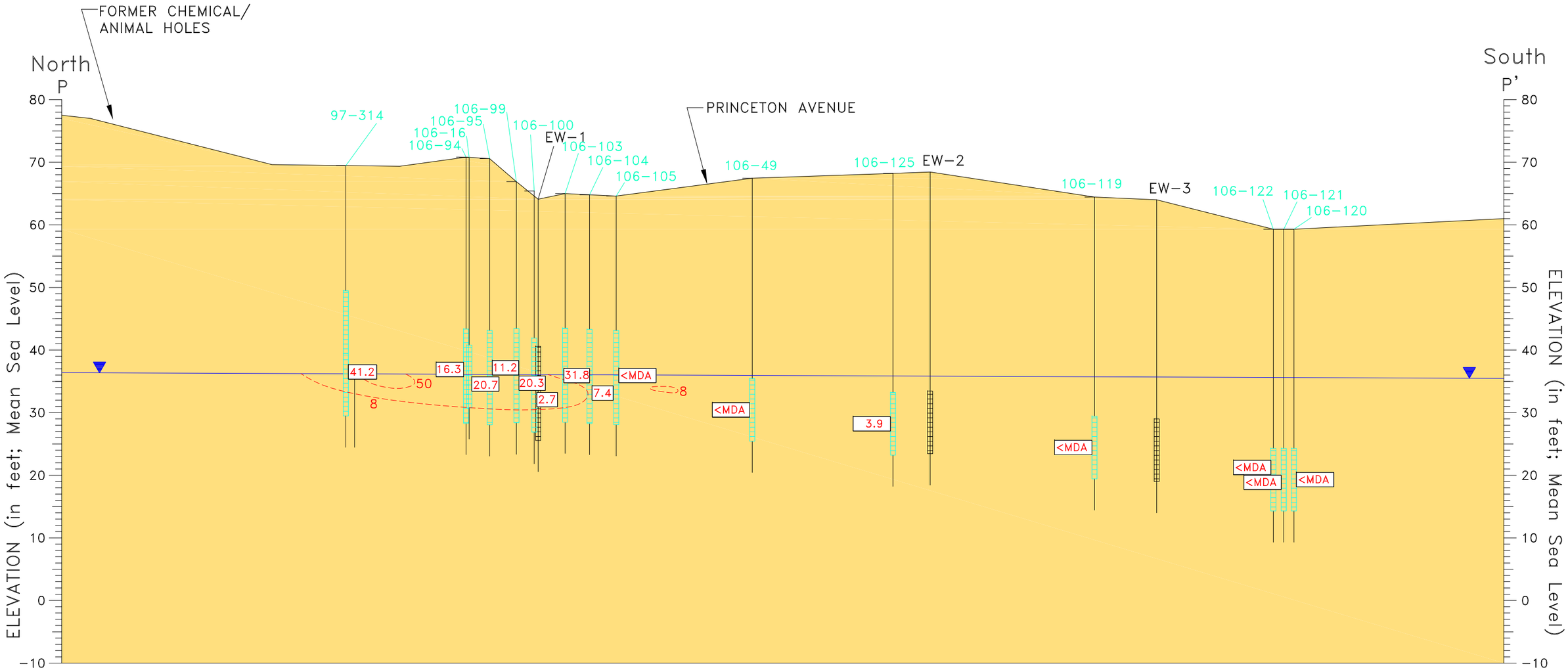
TITLE:

# OU III CHEMICAL/ANIMAL HOLES HISTORICAL Sr-90 TRENDS

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.12-2




## LEGEND

Upper Glacial aquifer

UG Upper Glacial Sands

20.9 — Sr-90 results in pCi/L, obtained during AUGUST 2022 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 25 – Oct 28, 2022

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')

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | 5:1 | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.12-3

**Figure 3.2.12-4**
**OU III Chemical/Animal Holes**
**Sr-90 Extraction Well Concentrations**

2022 BNL Groundwater Status Report

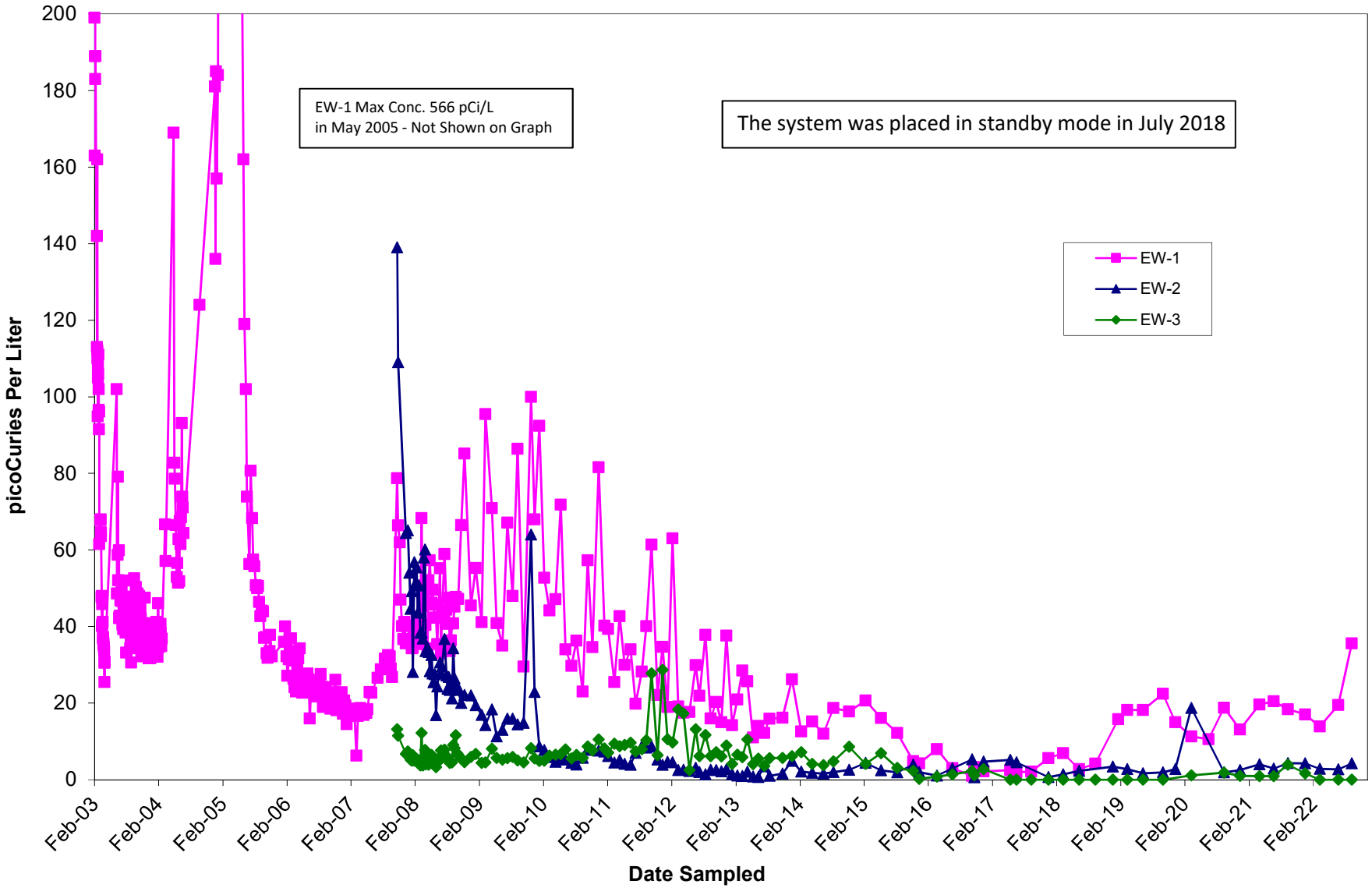
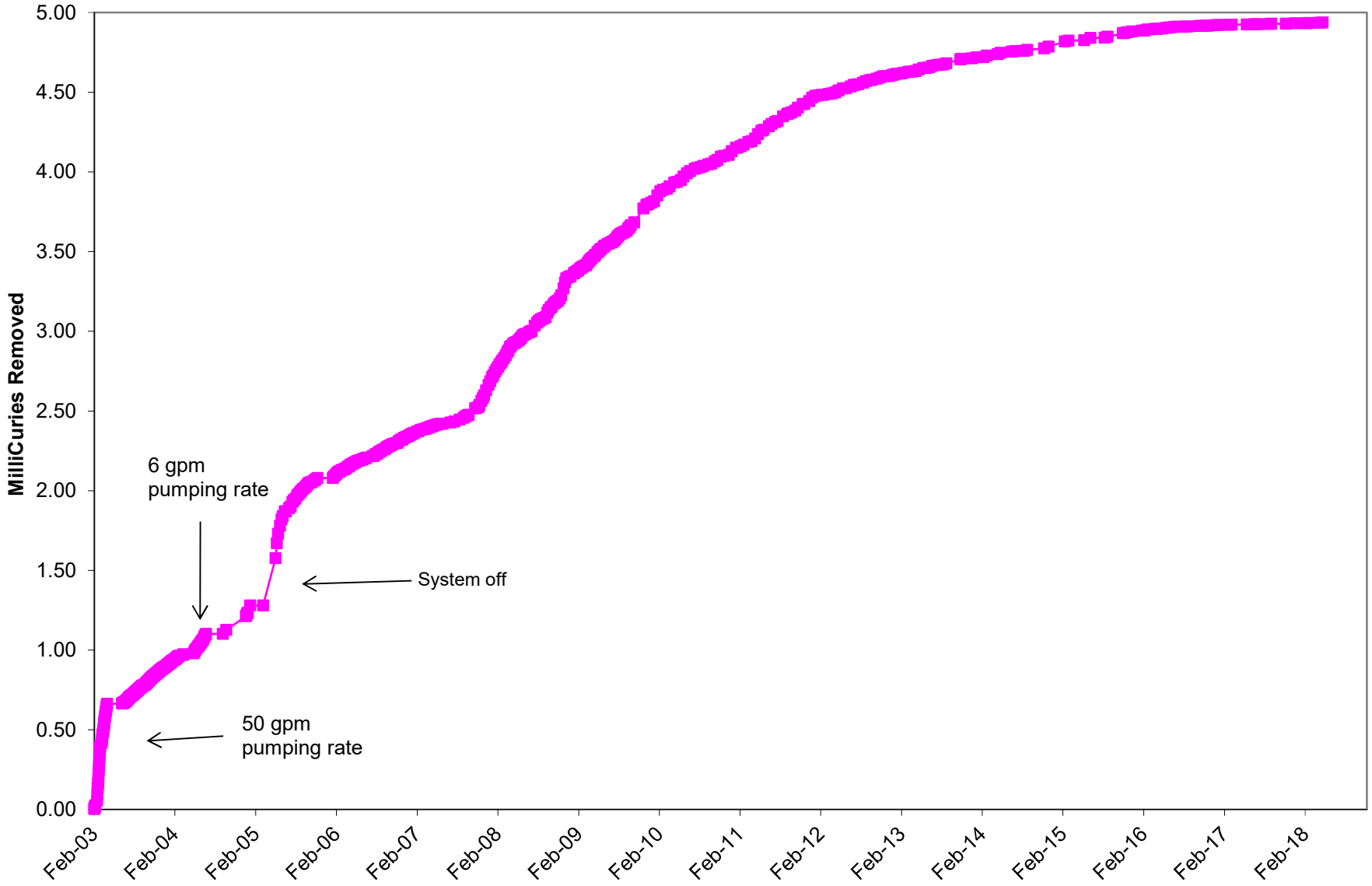
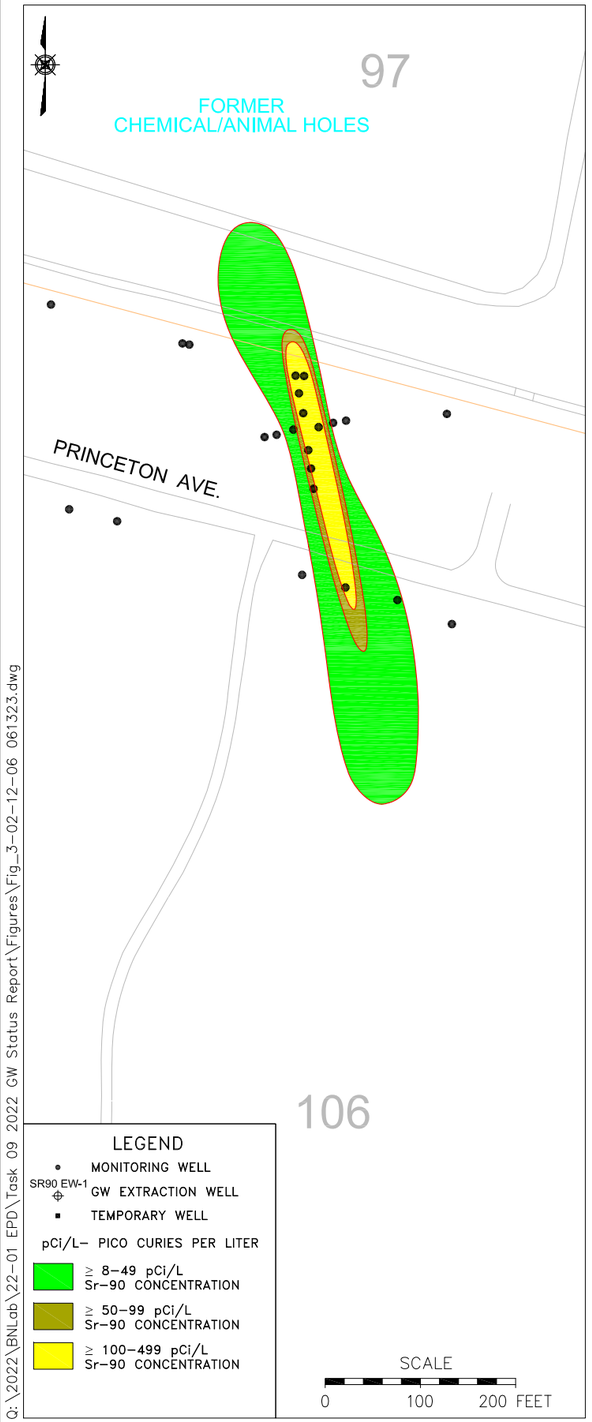


**Figure 3.2.12-5**
**OU III Chemical/Animal Holes**
**Sr-90 Cumulative MilliCuries Removed**

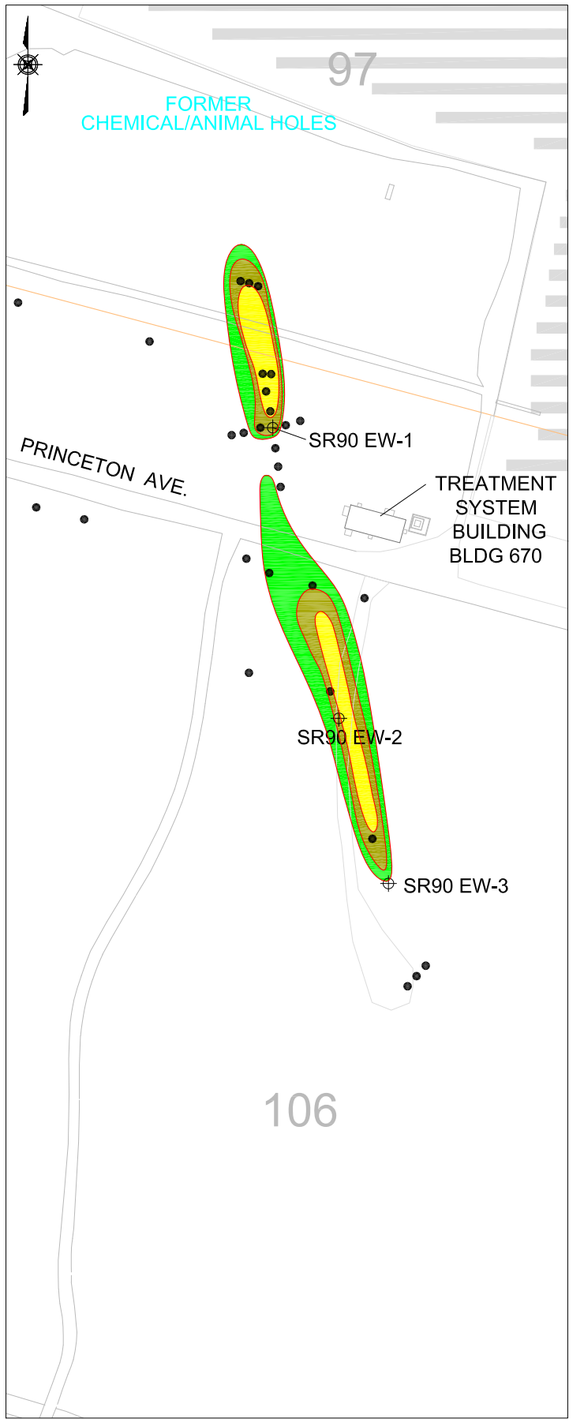
2022 BNL Groundwater Status Report



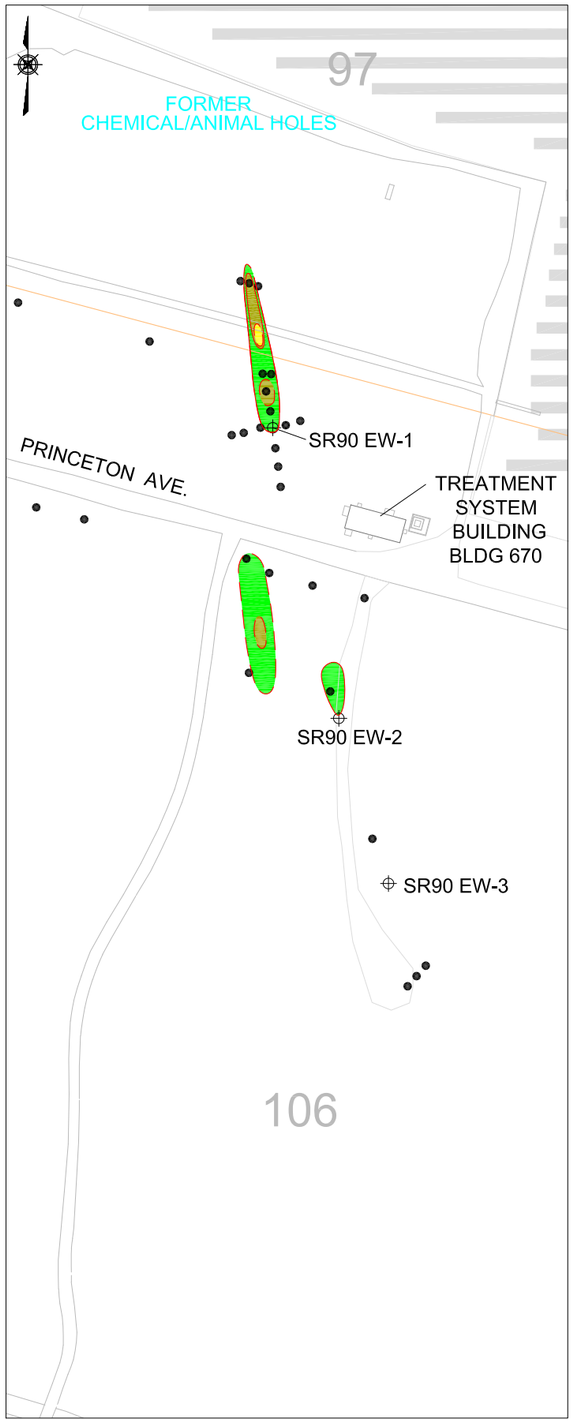
2002 Sr-90 PLUME DISTRIBUTION



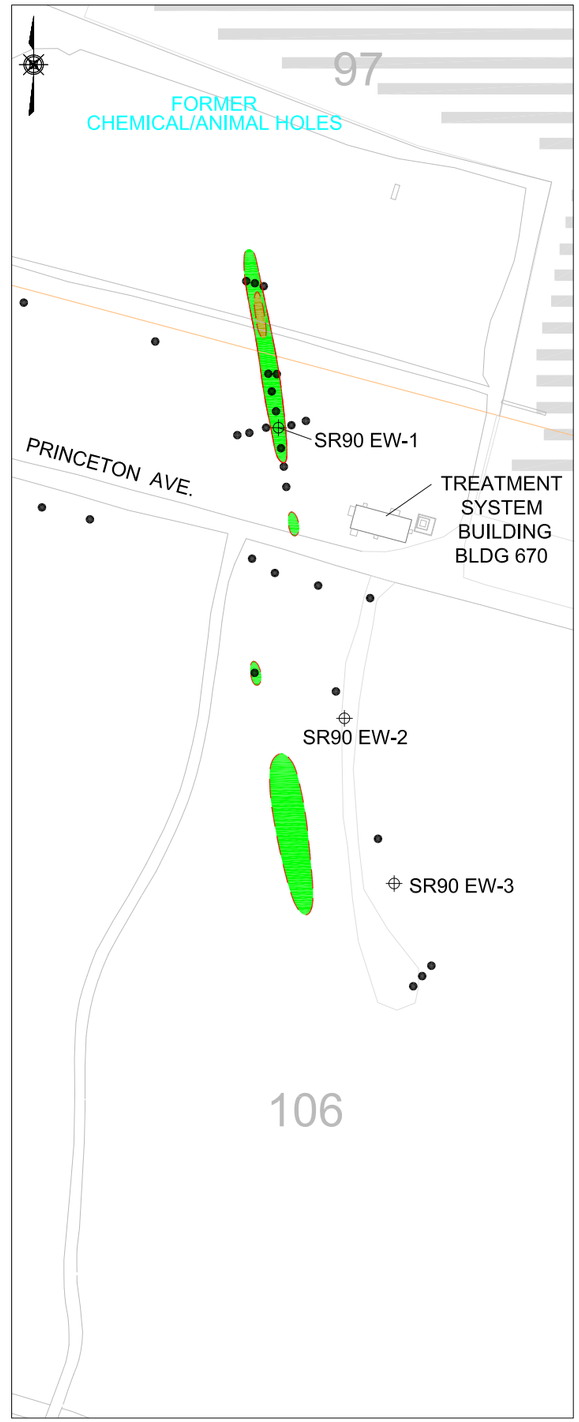

2008 Sr-90 PLUME DISTRIBUTION




2013 Sr-90 PLUME DISTRIBUTION




2022 Sr-90 PLUME DISTRIBUTION

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

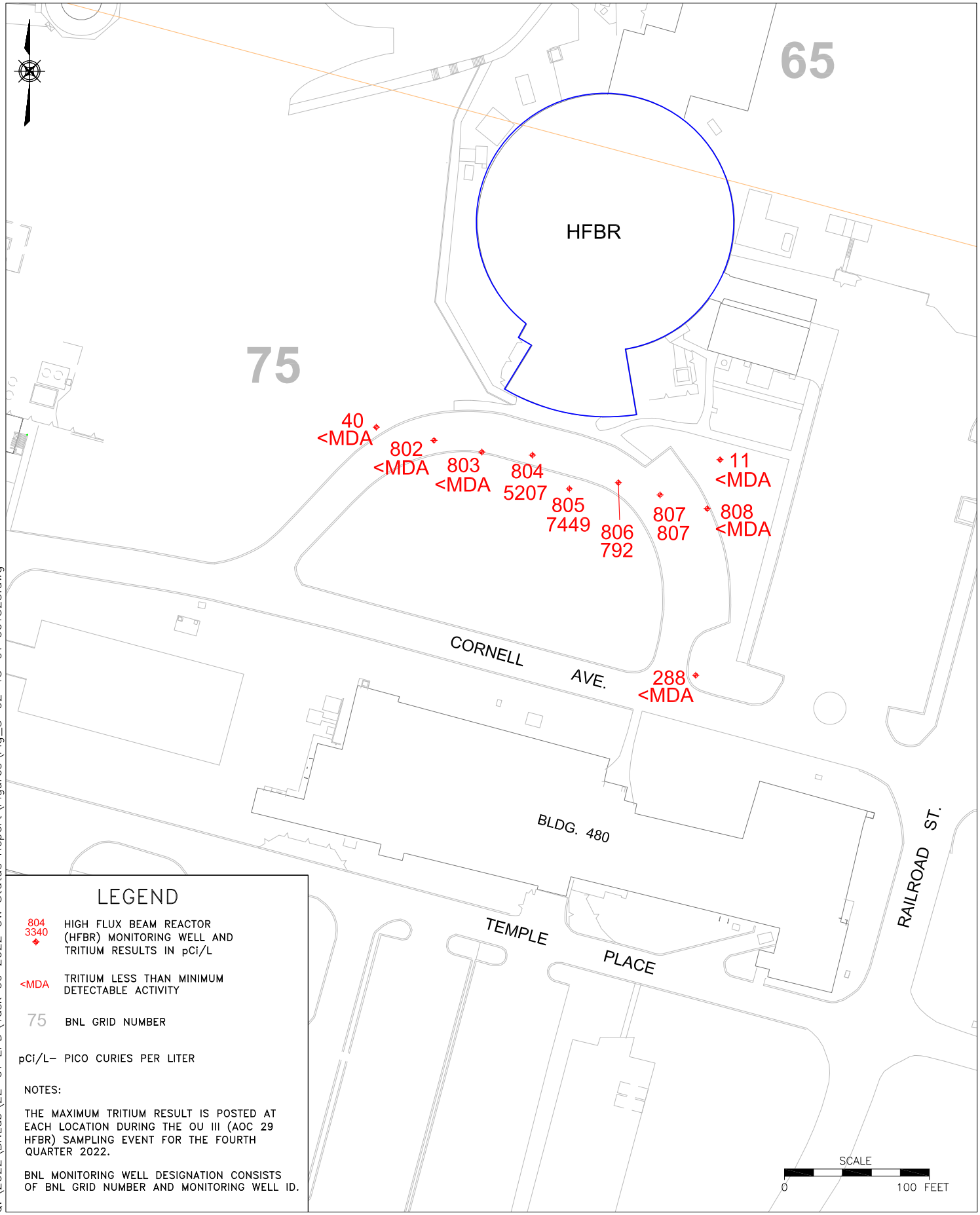
TITLE:

# OU III CHEMICAL/ANIMAL HOLES Sr-90 PLUME COMPARISON 2002, 2008, 2013 AND 2022

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.12-6

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

# OU III HFBR AOC 29 TRITIUM MONITORING WELL RESULTS

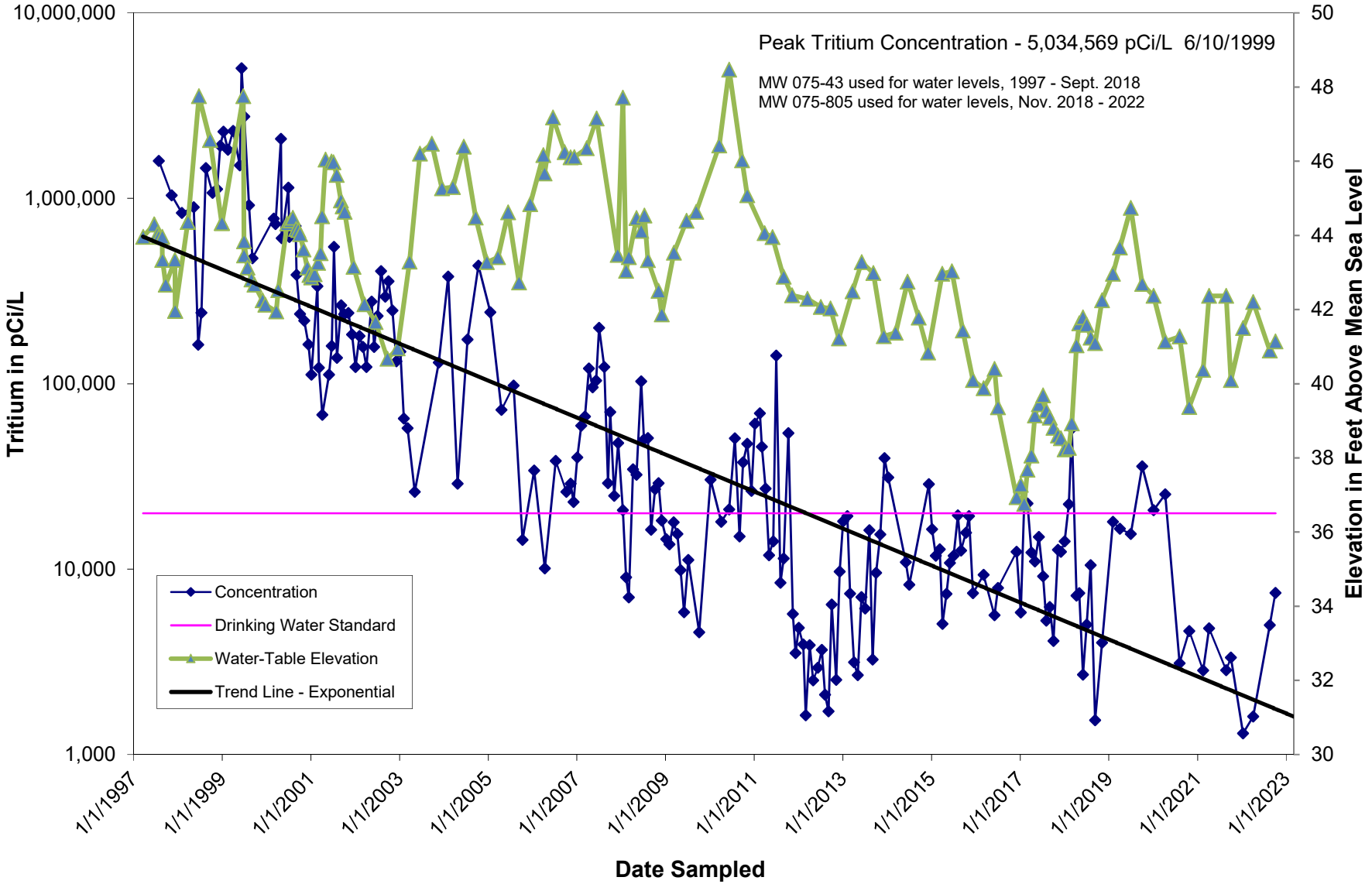
2022 BNL GROUNDWATER STATUS REPORT

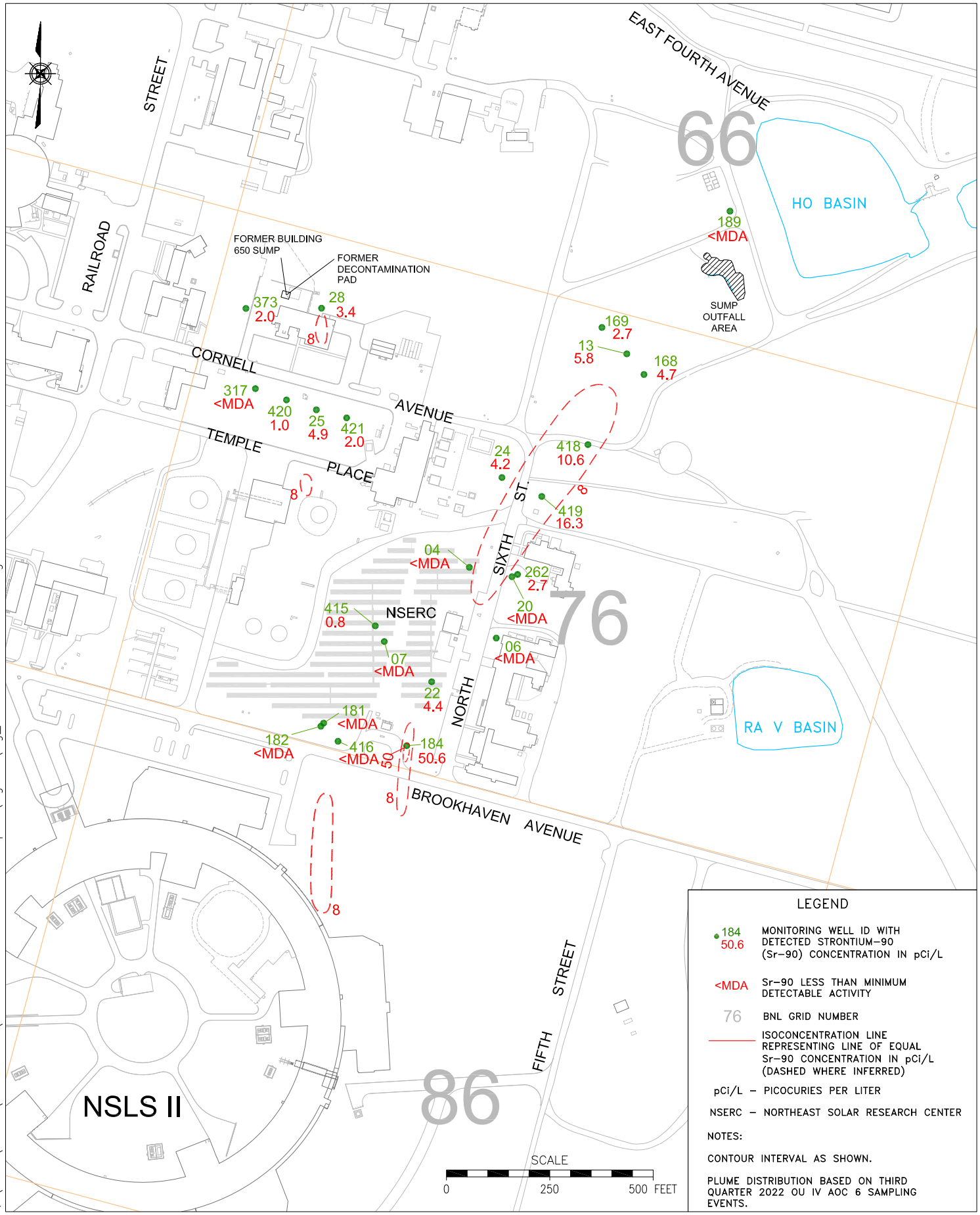
| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.2.13-1

**Figure 3.2.13- 2**
**OU III HFBR**
**Peak Tritium Concentrations in Groundwater - HFBR to Cornell Avenue**

2022 BNL Groundwater Status Report



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

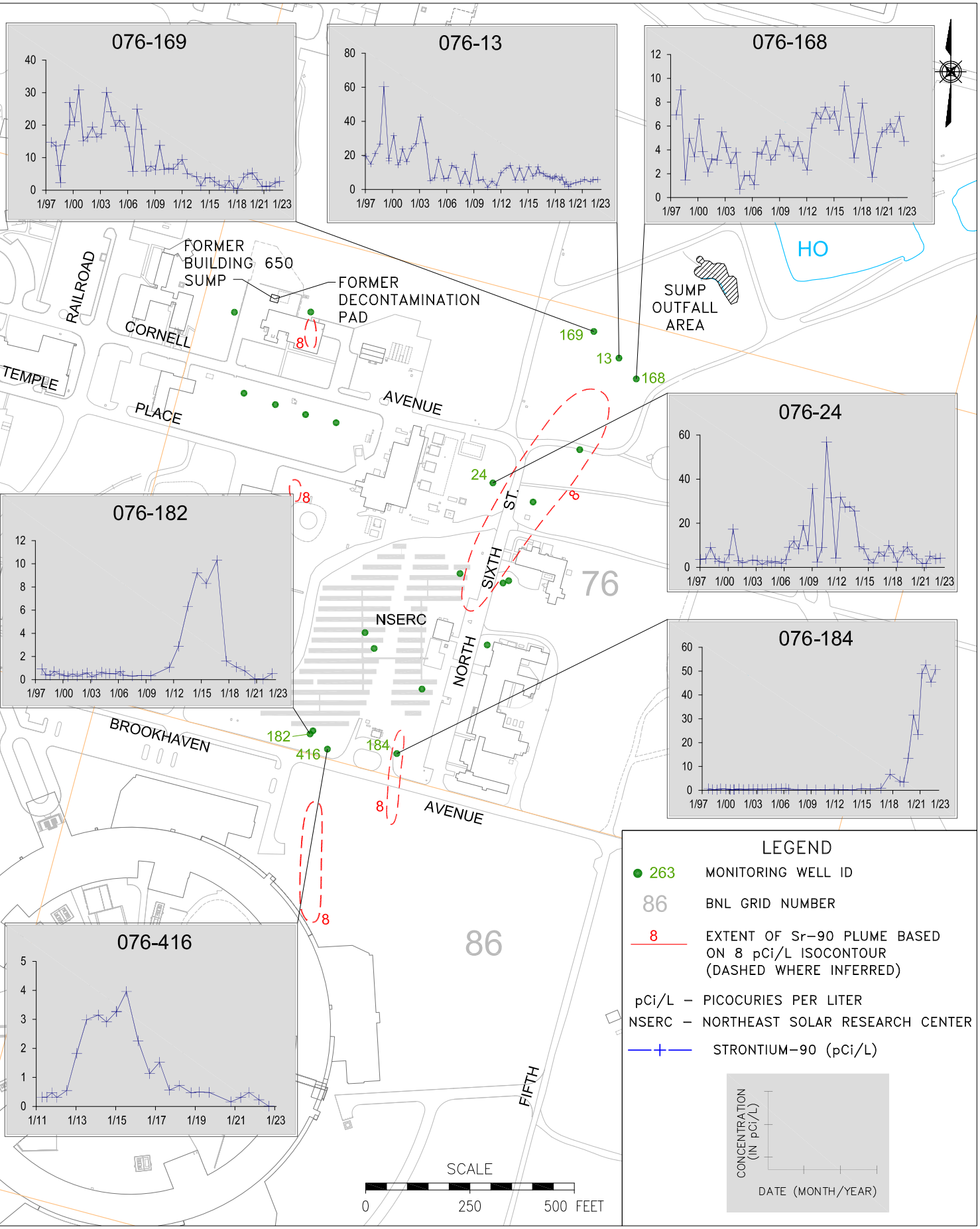
TITLE:

# OU IV AOC 6
# Sr-90 PLUME DISTRIBUTION

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.3.1-1

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

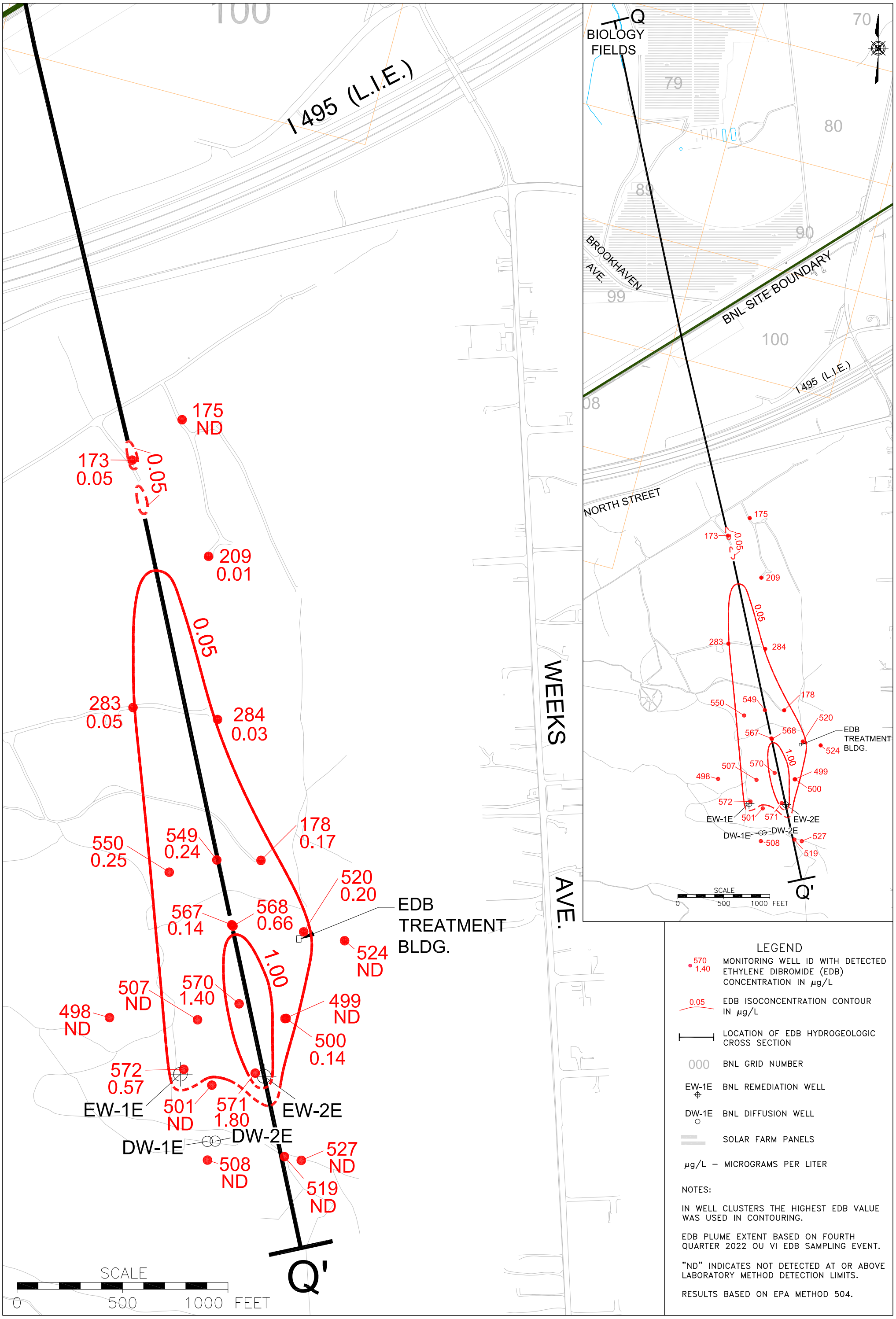
TITLE:

# OU IV AOC 6
# HISTORICAL Sr-90 TRENDS

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.3.1-2

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

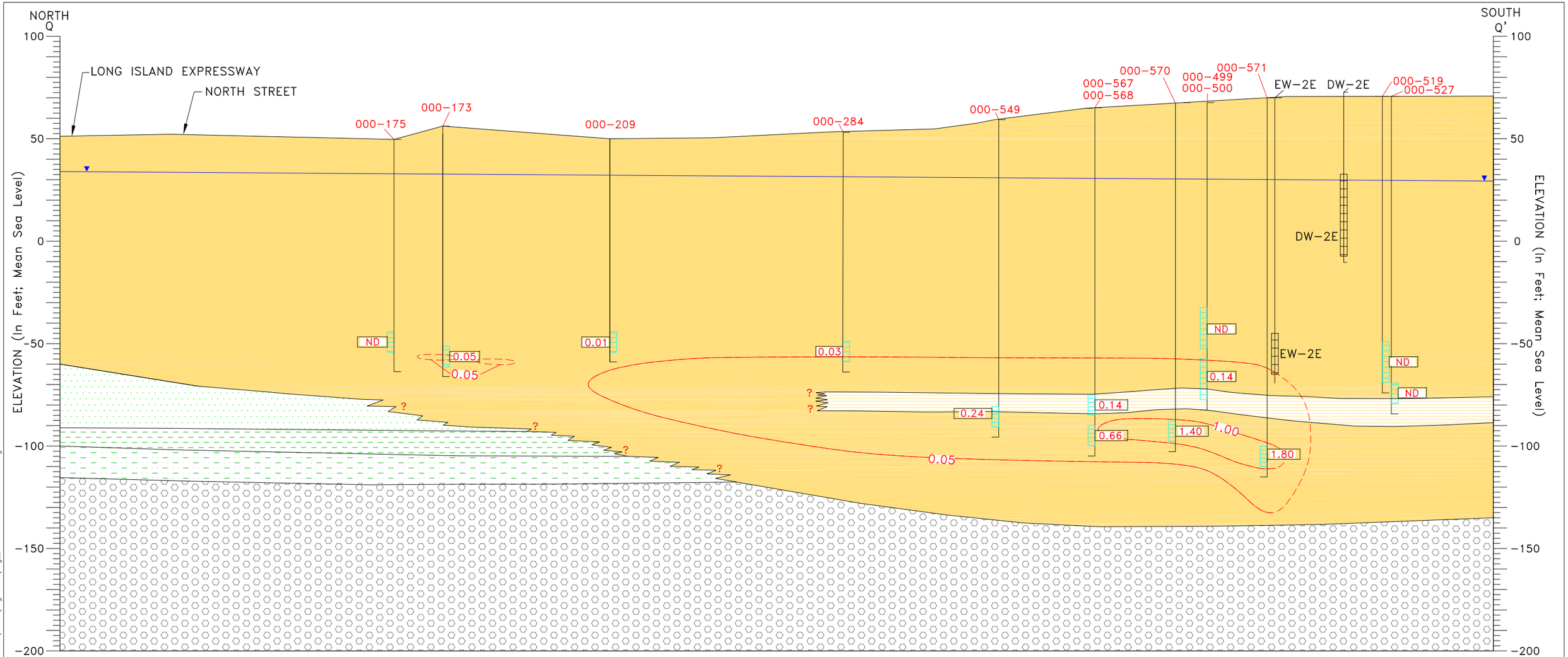
TITLE:

# OU VI
# EDB PLUME DISTRIBUTION

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

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. 25 – Oct. 28, 2022

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 2022 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')

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT:HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | 25:1 | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |
| FIGURE NO.: | | | |
| 3.4–2 | | | |

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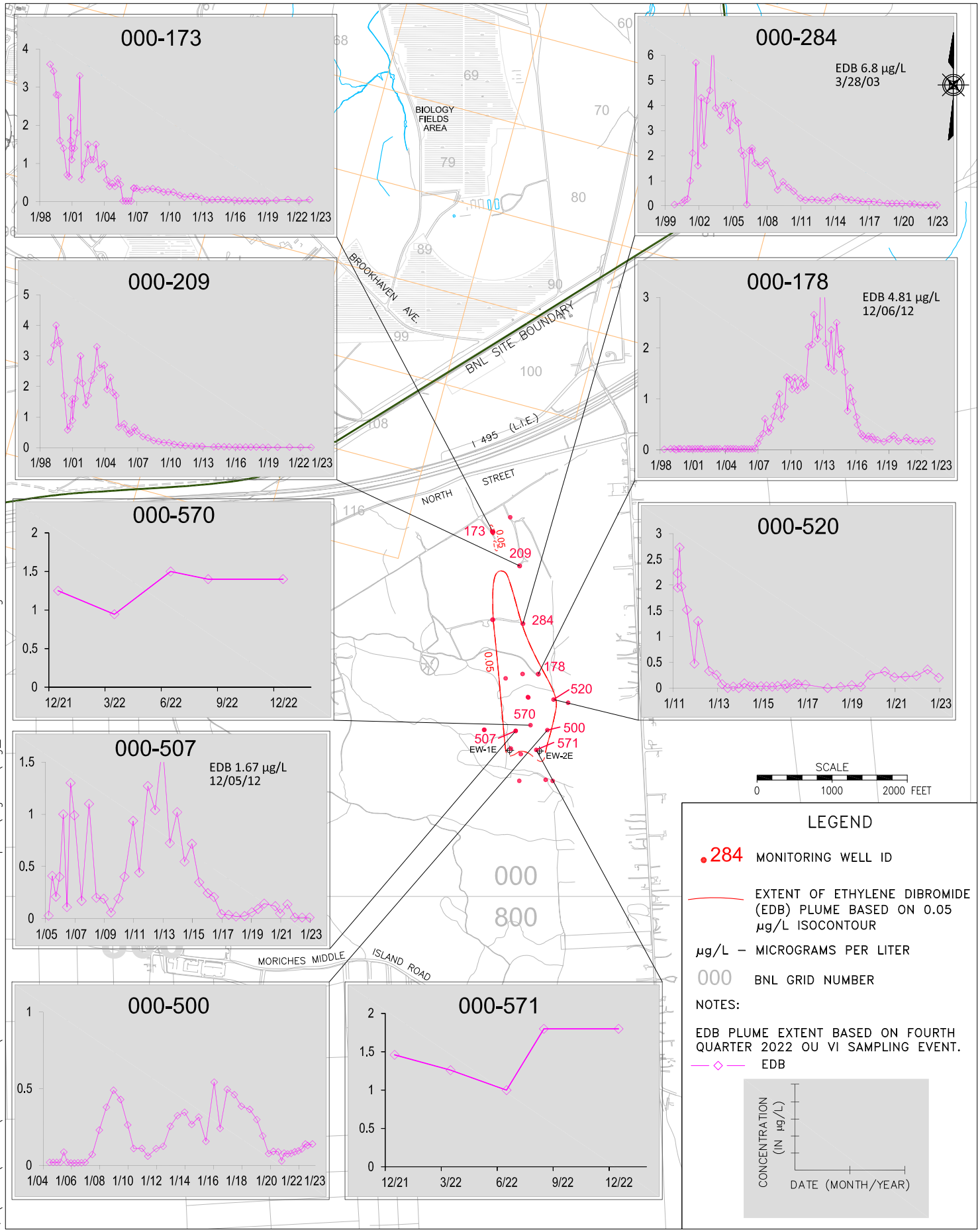


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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

# OU VI HISTORICAL EDB TRENDS

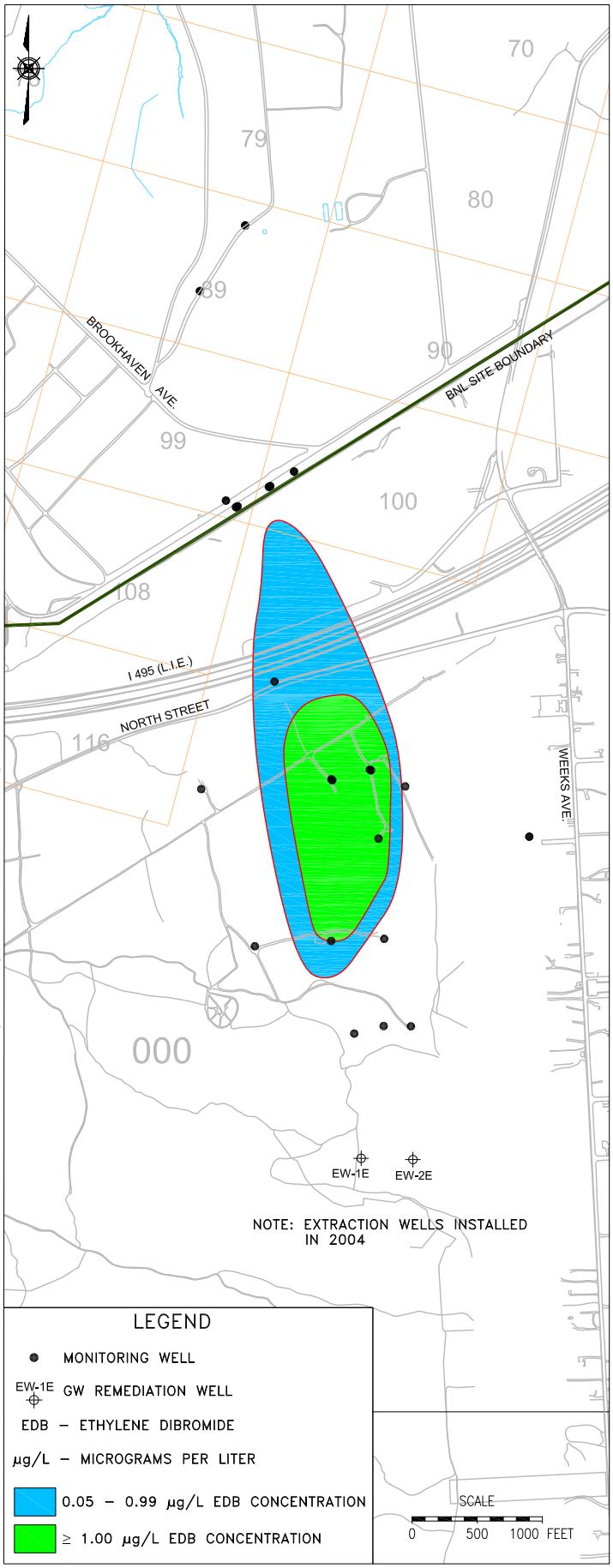
2022 BNL GROUNDWATER STATUS REPORT

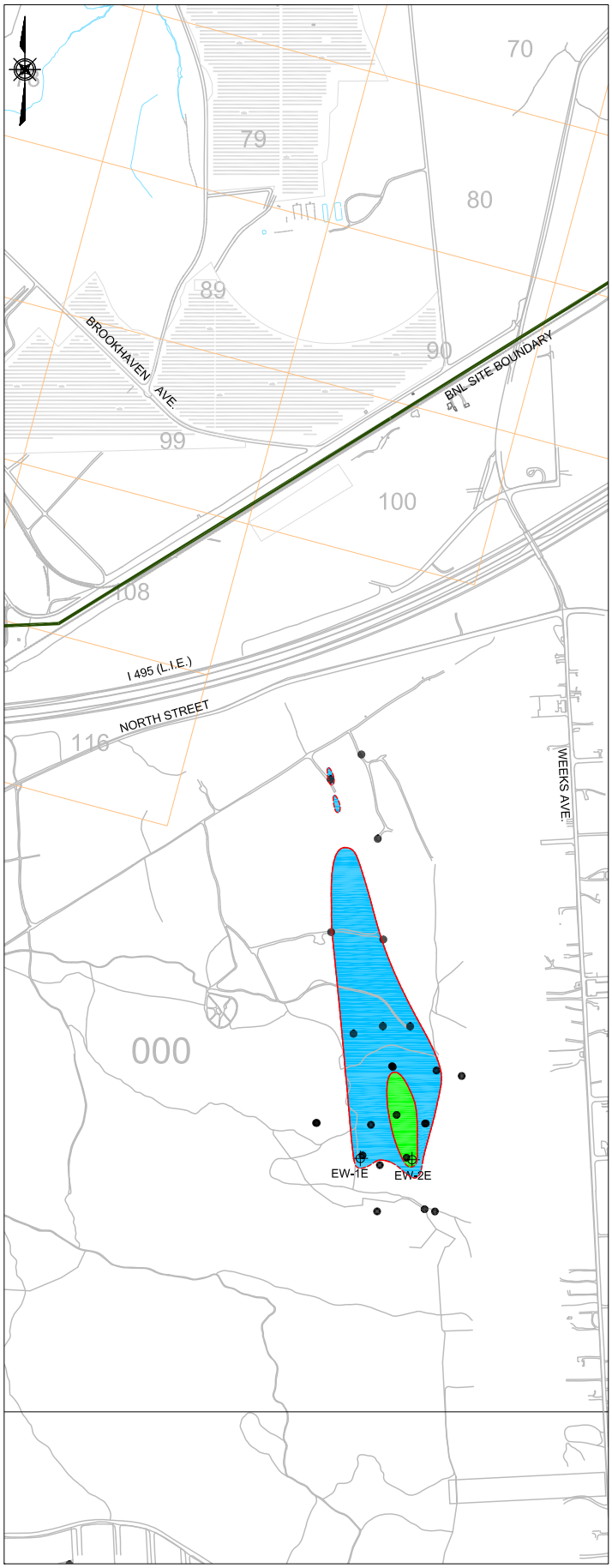
| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.4-3

1999 EDB PLUME DISTRIBUTION

2022 EDB PLUME DISTRIBUTION

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Brookhaven National Laboratory

ENVIRONMENTAL PROTECTION DIVISION

TITLE:

# OU VI EDB PLUME COMPARISON 1999 – 2022

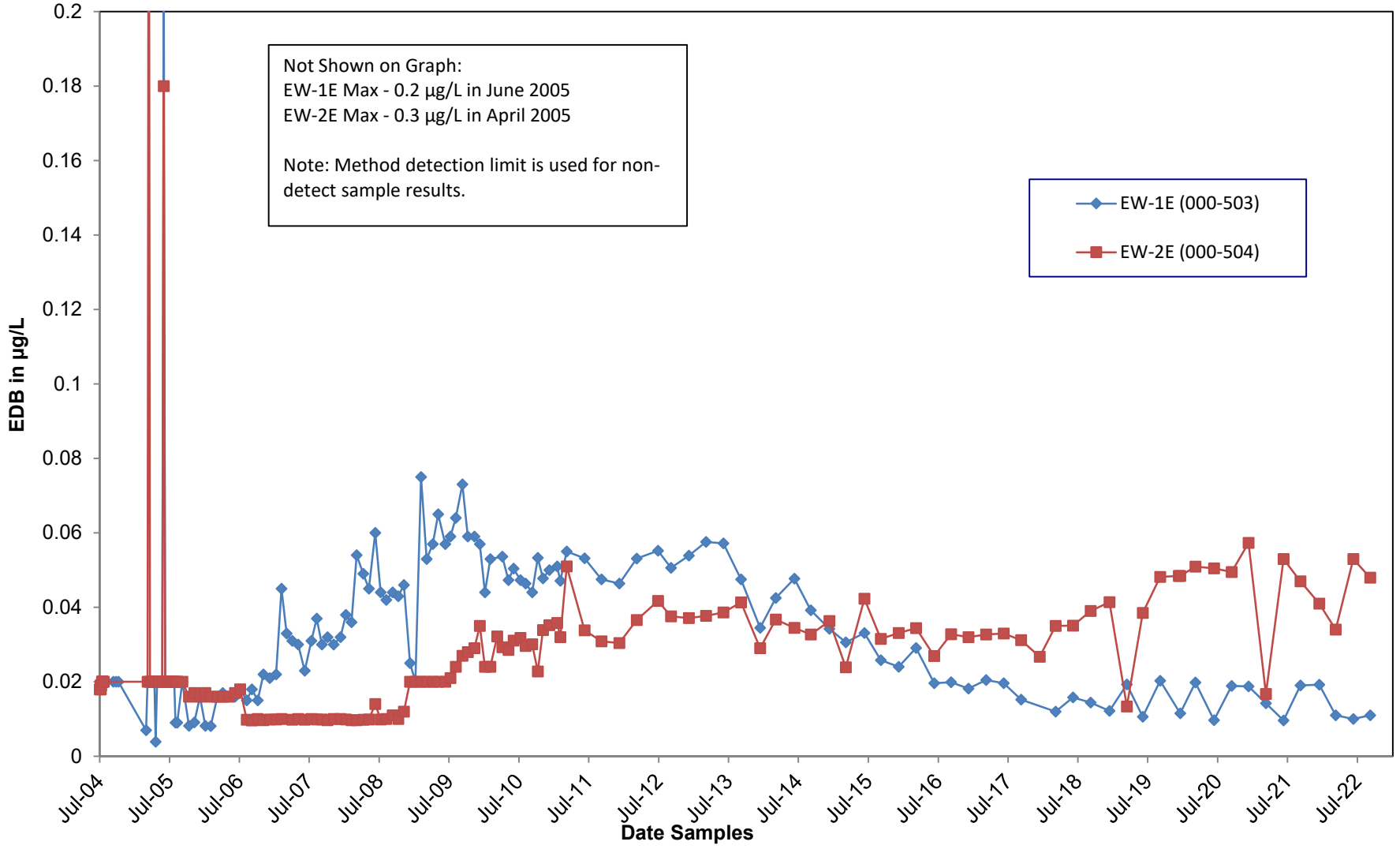
2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.4-4

**Figure 3.4-5**
**OU VI EDB**
**EDB Concentrations in Extraction Wells**

2022 BNL Groundwater Status Report



## LEGEND

29 / 2.7 / 1.3 — NEW MONITORING WELL ID WITH DETECTED (PFAS), PFOS/PFOA CONCENTRATIONS (IN ng/L) MAY–SEPT. 2022

02 / 7.1 / 1.4 — EXISTING MONITORING WELL WITH DETECTED (PFAS), (IN ng/L JAN–MAR. 2022 & PERMANENT MONITORING WELLS FOR WILLIAM FLOYD WELL FIELD

BNL-4 — POTABLE SUPPLY WELL (PRESENTLY INACTIVE)

GENERAL GROUNDWATER FLOW DIRECTION

SUSPECTED FOAM RELEASE AREA

NS — NOT SAMPLED

–10– ISOCONCENTRATION CONTOUR REPRESENTING LINE OF EQUAL PFOS CONCENTRATION IN ng/L (DASHED WHERE INFERRED)

NOTE:
PFAS RESULTS BASED ON METHOD 537.1

Water Treatment Plant Recharge Basins
HX
01 NS
Upton Road
Cornell Avenue
Training Area
27 212.0 / 2.9
28 3110.0 / 70.9
29 2.7 / 1.3
CF-RW-A
31 5550.0 / 222.0
32 2190.0 / 66.3
135 615.0 / 8.8
33 1140.0 / 4.2
Drywell
Current Fire House
1560.0 / 6.6 26
CF-RW-B
752.0 / 2.2 30
West Brookhaven
BNL Paint Shop
01 NS
441.0 / 2.7 35
14.1 / 2.3 33
55.8 / ND 34
BNL-4
77.2 / 1.9 36
02 NS
38 55.1 / 0.9
39 95.1 / 1.4
86 11.8 / 0.8
87 284.0 / 14.2
88 293.0 / 7.7
89 98.2 / 2.7
40 30.2 / 1.2
Avenue
Street
Johns Hopkins
Woods Road
37 748.0 / 9.0
Columbia
Bell Road
90 161.0 / 11.3
91 56.5 / 9.3
92 814.0 / 51.7
Avenue
04 NS
03 NS
05 NS
47 8.2 / ND
93 310.0 / 2.5
BNL-7
Training Areas
CF-RW-C
CF-RW-D
CF-RW-E
Mitchell Lane
3.1 / 1.2 41
2.3 / 1.0 44
05 NS
42 ND / ND
Bldg. 170
43 82.2 / 2.2
93 58.3 / 4.7
94 155.0 / 9.3
95 ND / ND
96 776.0 / 16.6
97 692.0 / 13.7
98 ND / ND
28 NS
95 355.0 / 1.1
94 4090.0 / 39.1
96 127.0 / 4.9
BNL-6
88 0.9 / 1.1
35
04 NS
89 2.1 / ND
90 10.4 / ND
91 33.4 / 0.8
92 164.0 / 1.5
276 82.0 / 2.8
275 22.0 / 1.6
277 43.2 / 5.3
278 176.0 / 8.8
Upton Road
West Princeton Ave.
97 420.0 / 14.2
98 1870.0 / 44.2
36 27.1 / 1.9
CF-RW-I
37 590.0 / 9.9
26 20.5 / 1.2
CF-RW-F
27 7.5 / 0.7
CF-RW-G
CF-RW-H
28 ND / ND
38 8.1 / 0.9
39 471.0 / 7.6
94.4 / 3.5 32
319.0 / 10.4 31
89.0 / 5.4 30
34 20.9 / 2.7
33 17.0 / 4.3
10 NS
29 88.4 / 2.7
12 NS
40 84.9 / 7.4
30 164.0 / 3.1
31 410.0 / 11.0
19 NS
18 NS
East Princeton Ave.
02 NS
Yale Road
Yule Lane
York Lane
Stormwater Discharge Area
Recreation Center Area
Yale
Yule
York
Lane
Road
Carver Court
Upton Road
04 ND / ND
03 ND / ND
13 NS
12 NS
01 13.4 / 9.7
04 ND / ND
02 7.1 / 1.4
05 ND / ND
06 ND / ND
000-42
000-43
000-44
Well 2
Well 1
Well 3A
Yaphank Road
Mendel Lane
Aston
Suffolk County Water Authority
William Floyd Well Field
William Floyd Parkway
72
73
74
82
83
84
92
93
94
101
102
103
109
110
111
117
118
119
123
SCALE
0 400 800 FEET

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

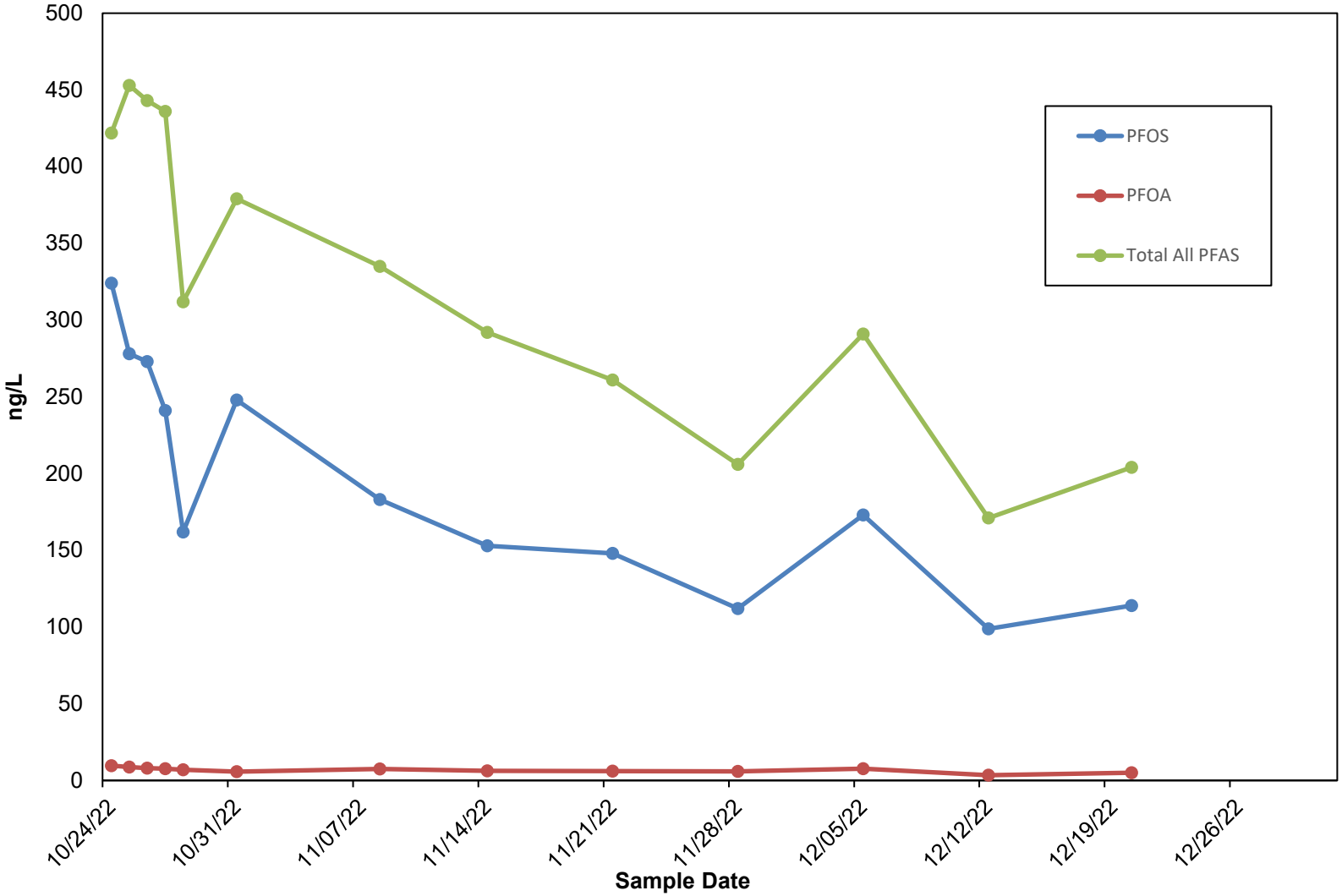
TITLE:
# CURRENT FIREHOUSE AND BUILDING 170 PFAS RESULTS FOR NEW PERMANENT MONITORING WELLS
2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| DEP | DEP | 06/13/23 | – |

FIGURE NO.: 3.5.1–1

**Figure 3.5.1-2**
**Current Firehouse Treatment System**
**Influent Concentrations (ng/L)**

2022 BNL Groundwater Status Report



LEGEND

410 ● 10.4 / 4.2 — MONITORING WELL ID WITH DETECTED (PFAS), PFOS/PFOA CONCENTRATIONS (IN ng/L). JUNE 2022.

● 02 — EXISTING MONITORING WELL

RTW-1 ⊕ — EXISTING REMEDIATION WELL

GENERAL GROUNDWATER FLOW DIRECTION

SUSPECTED FOAM RELEASE AREA

NS — NOT SAMPLED

–10– — ISOCONCENTRATION CONTOUR REPRESENTING LINE OF EQUAL PFOS CONCENTRATION IN ng/L (DASHED WHERE INFERRED)

672 NS
87 NS
671 NS
1710.0 / 54.9 809
2380.0 / 221.0 810
811 2260.0 / 758.0
380 NS
17 NS
16 NS
378 NS
18 NS
379 NS
185 NS
34.5 / 6.8 407
2350.0 / 210.0 406
19.0 / 12.0 404
16.2 / 5.7 405
408 174.0 / 72.1
410 10.4 / 4.2
409 6.6 / 5.3
384 NS
167.0 / 132.0 411
412 12.4 / 3.8
42 NS
62.5 / 25.2 122
26.3 / 8.0 123
124 6.8 / 3.4
125 12.6 / 5.6
150.0 / 26.4 128
152.0 / 62.1 127
85.3 / 13.2 126
57.0 / 18.3 129
131 10.2 / 6.3
130 21.2 / 4.6
115 NS
117 NS
118 NS
84 NS
23 NS
37 NS
43 NS
44 NS
74 33.1 / 9.2
75 143.0 / 31.7
76 38.5 / 10.3
127.0 / 37.2 73
55.0 / 15.9 72
78 159.0 / 114.0
77 52.9 / 11.9

EW-18
RTW-1
RTW-2
RTW-3
RTW-4
EW-16
EW-9
EW-10
EW-11
FF-RW-A
FF-RW-B
FF-RW-C

Training Area
Former Roadway
Former Fire House
Training Area
Former Water Supply Well 1
Major Petroleum Facility
Former Building 96 Area
Former Supply and Material Area
Storm Drainage Culvert
Building 526

Technology Street
Brookhaven Avenue
Temple Street
Place
Bell Avenue
Rowland Street
Weaver Drive
East Princeton Avenue
Grove Street
S. Railroad St.

75 76 85 86 95 96 104 105

HW

SCALE 0 200 400 FEET

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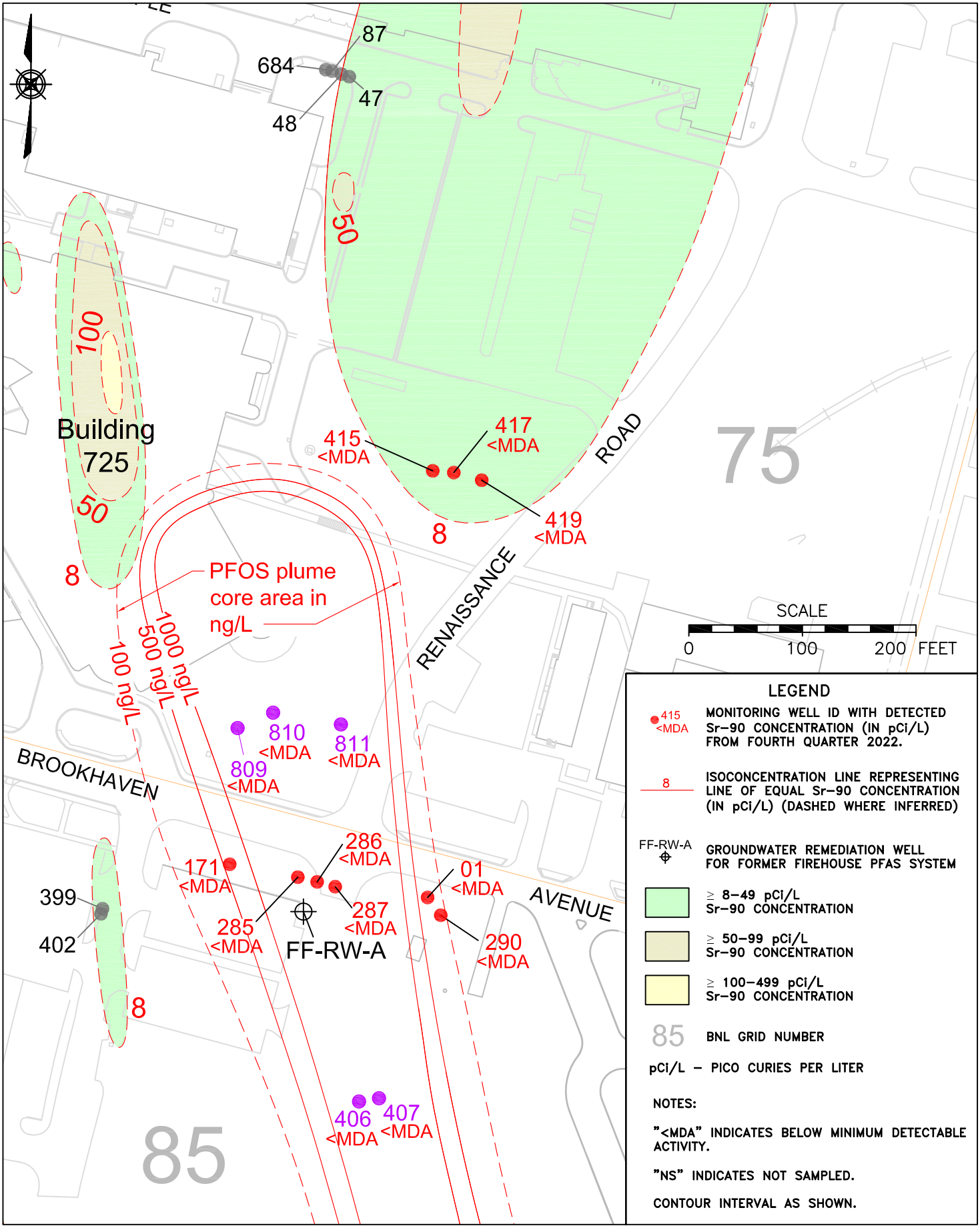
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
# FORMER FIREHOUSE PFAS RESULTS FOR NEW PERMANENT MONITORING WELLS
2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| DEP | DEP | 06/13/23 | – |

FIGURE NO.: 3.5.2–1

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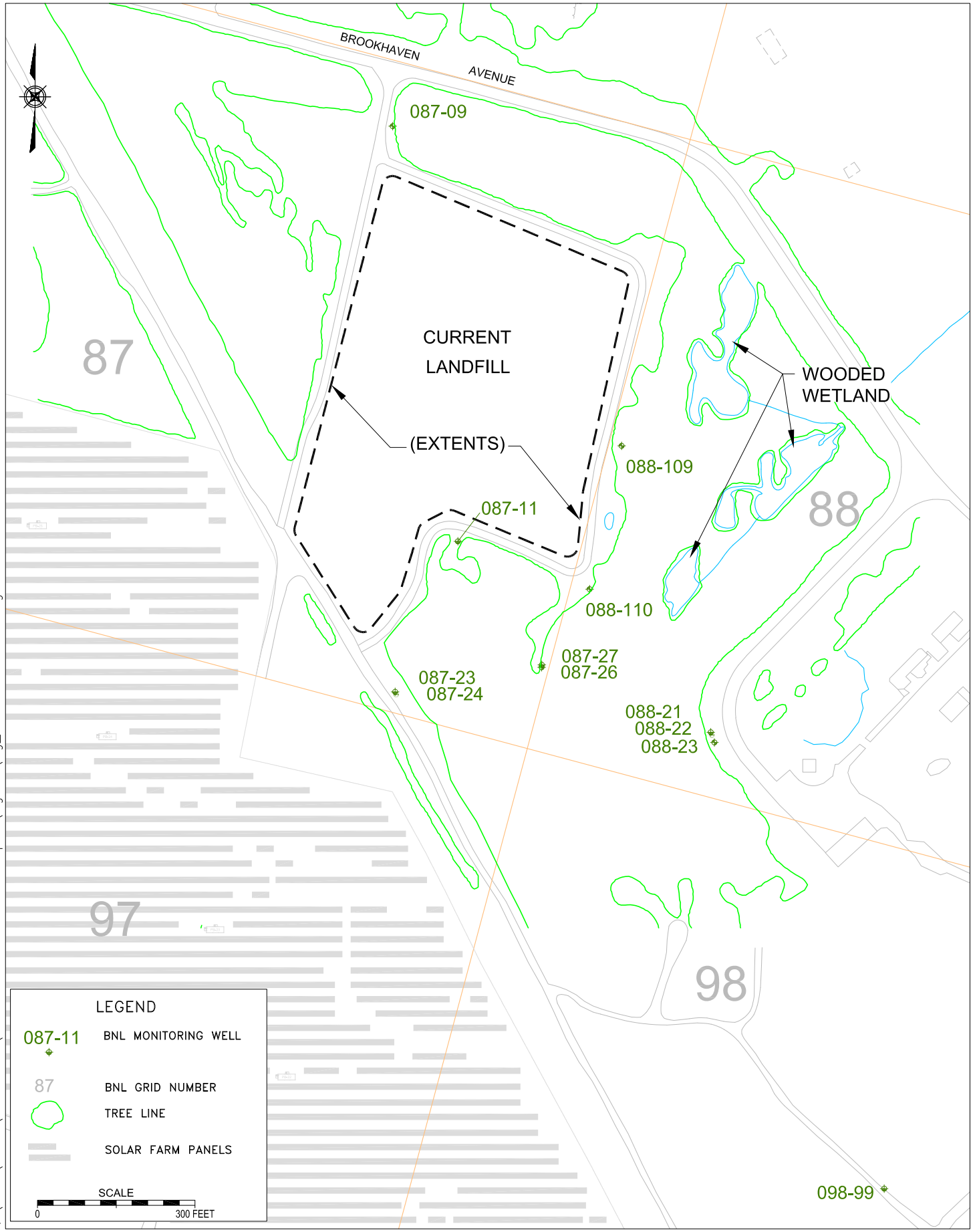
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
# DETECTION OF Sr-90 IN THE VICINITY OF FORMER FIREHOUSE EXTRACTION WELL FF-RW-A
2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | WRD | 06/13/23 | – |

FIGURE NO.: 3.5.2-2

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

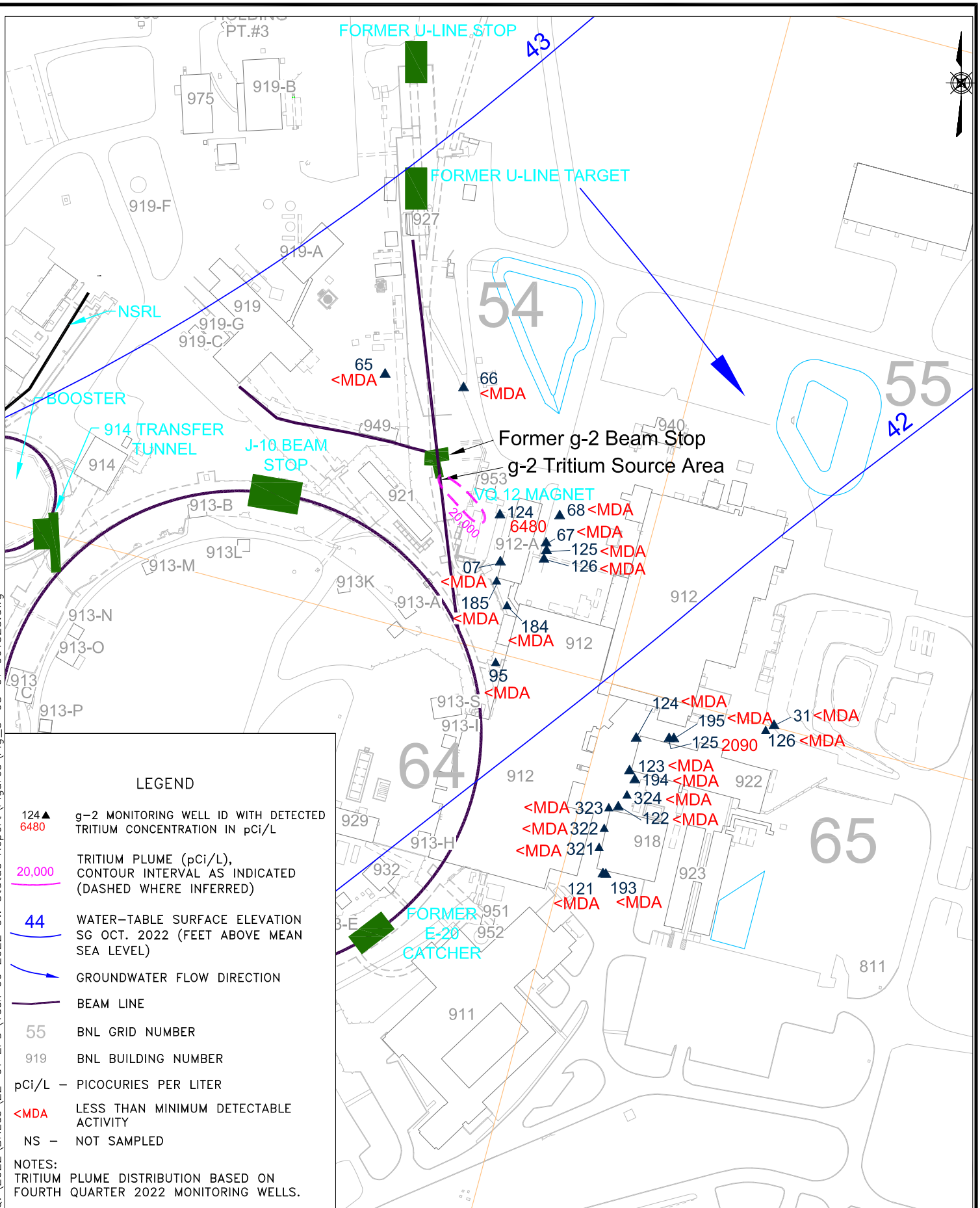
TITLE:

# CURRENT LANDFILL MONITORING WELL LOCATIONS

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | RFH | 06/13/23 | – |

FIGURE NO.: 3.7-1




LEGEND

| | |
|---|---|
| 124▲ 6480 | 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. 2022 (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 2022 MONITORING WELLS.

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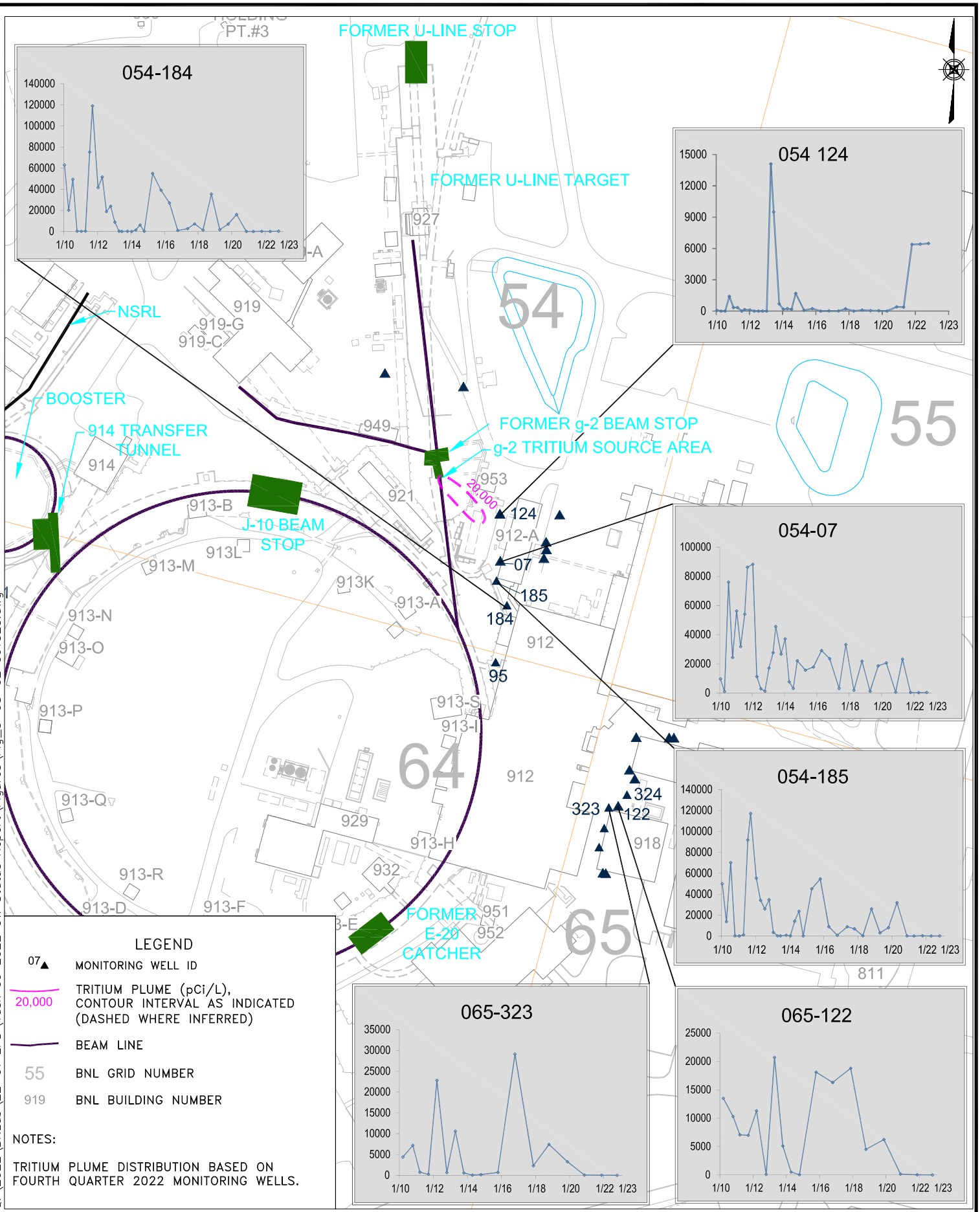
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
# FACILITY MONITORING PROGRAM, AOC 16T g–2 TRITIUM PLUME 4th QUARTER 2022
2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | DEP | 06/13/23 | – |

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

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | DEP | 06/13/23 | – |

FIGURE NO.: 3.8-2

**Figure 3.8-3**
**Facility Monitoring Program**
**AOC 16T g-2 Tritium Plume**
**Comparison to ROD Trigger**

2022 BNL Groundwater Status Report

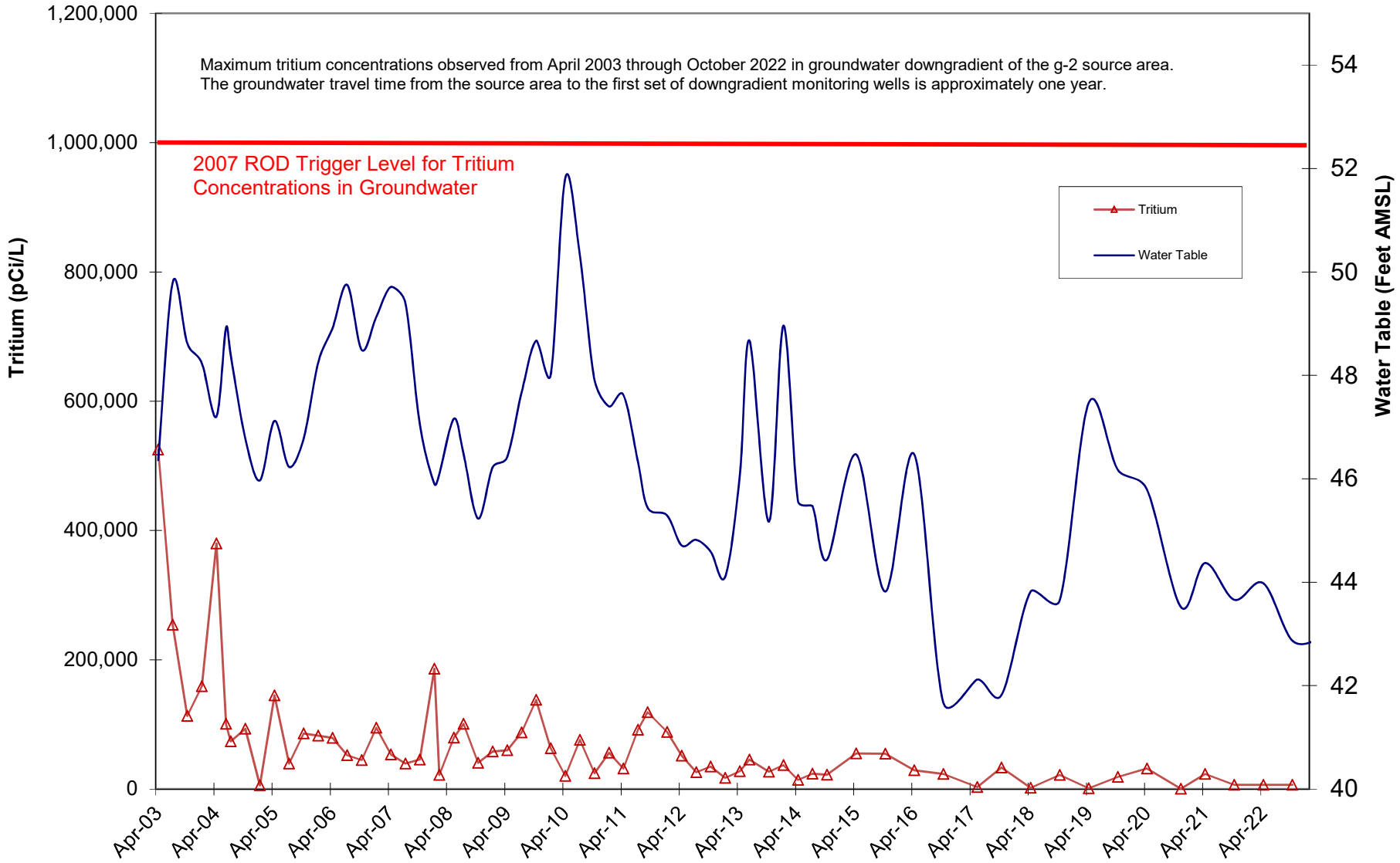
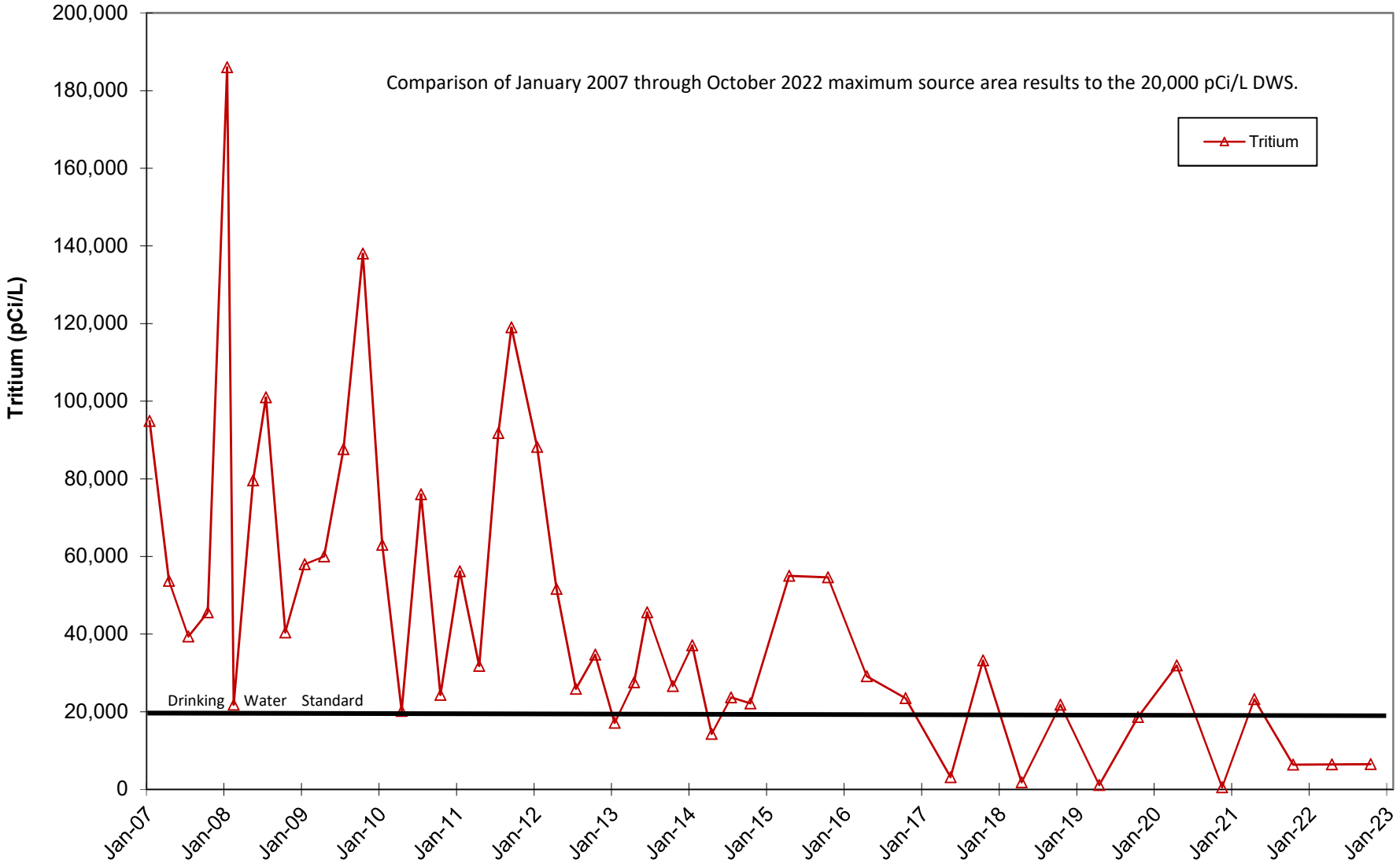
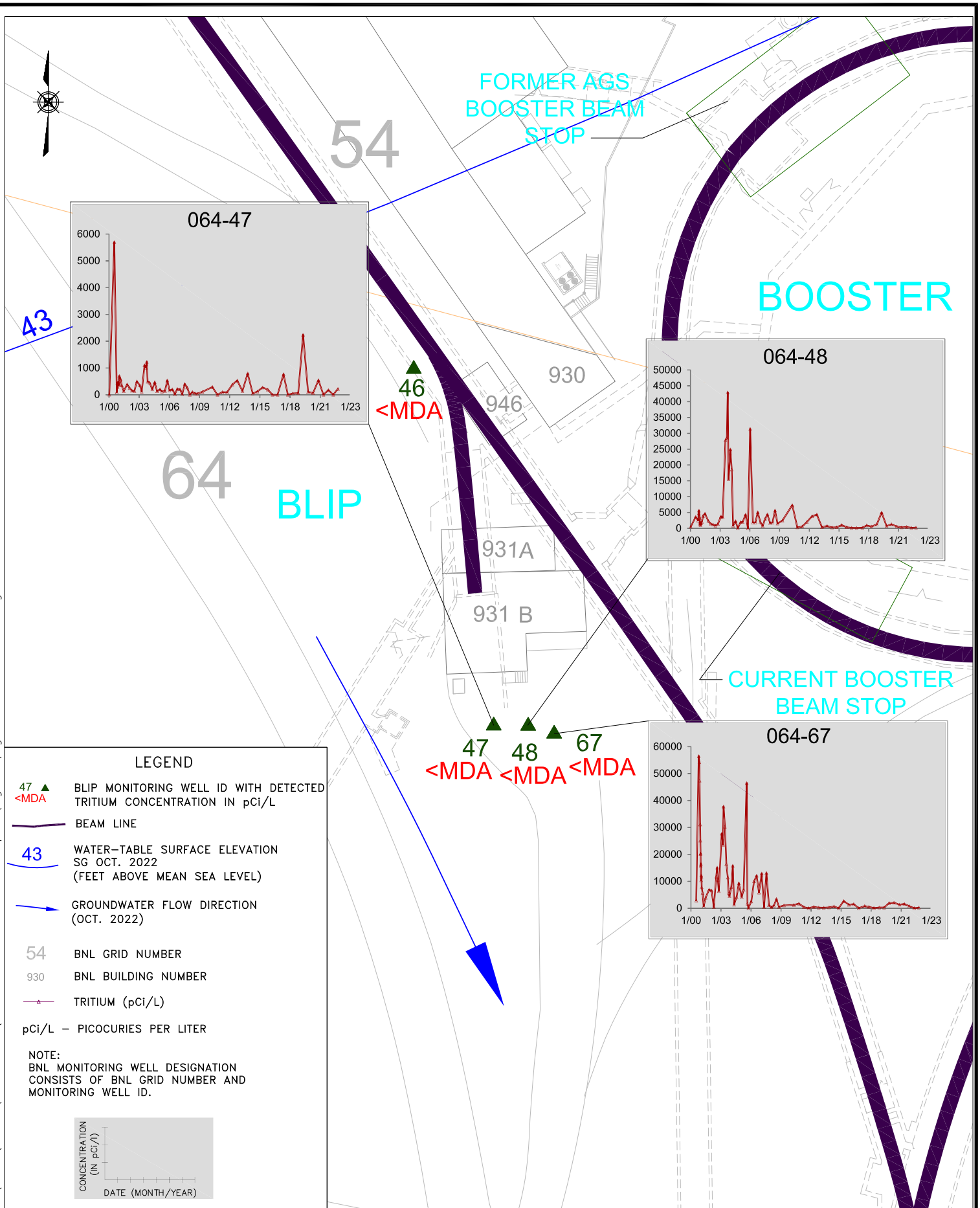


**Figure 3.8-4**
**Facility Monitoring Program**
**AOC 16T g-2 Tritium Plume**
**Comparison to DWS**

2022 BNL Groundwater Status Report



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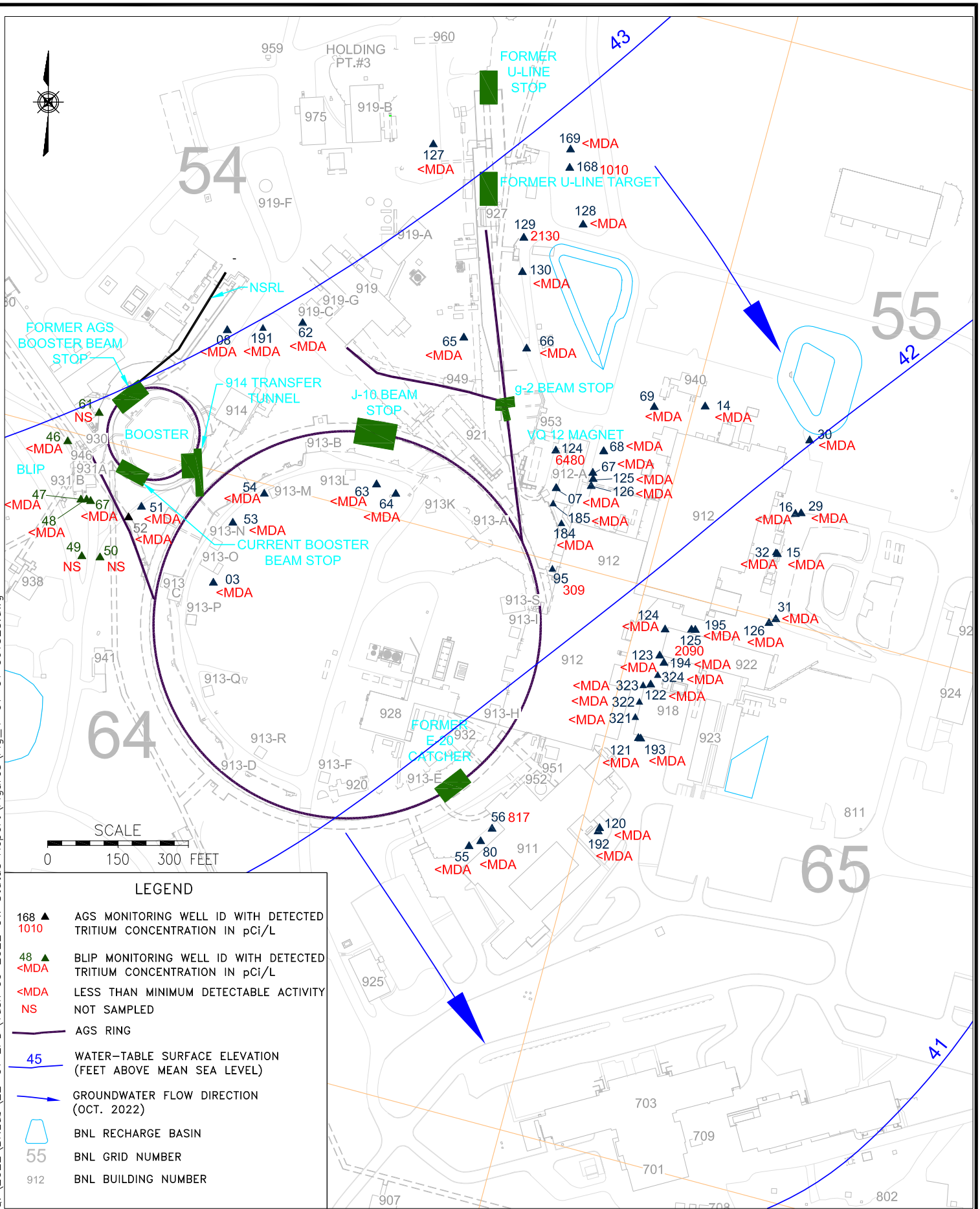
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE: FACILITY MONITORING PROGRAM, BLIP FACILITY AREA MONITORING WELL LOCATIONS AND TRITIUM RESULTS, 2022
2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | DEP | 06/13/23 | – |

FIGURE NO.: 3.9-1

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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, 2022
2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | DEP | 06/13/23 | – |

FIGURE NO.: 4.1-1

**Figure 4.1-2**
**Facility Monitoring Program**
**AGS Facility Area**
**Maximum Tritium Concentrations Downgradient of Booster Stop**

2022 BNL Groundwater Status Report

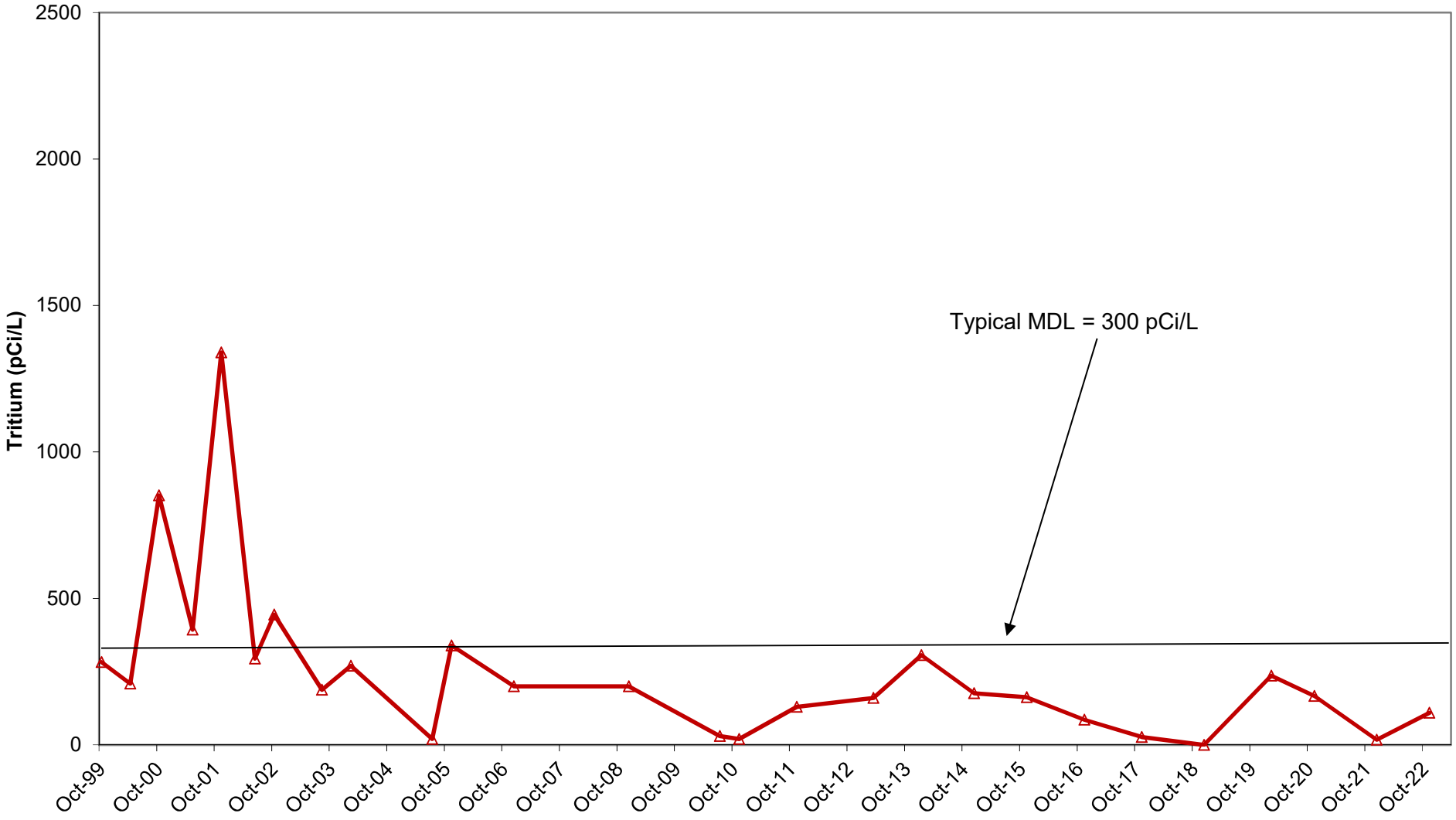


**Figure 4.1-3**
**Facility Monitoring Program**
**AGS Facility Area**
**Maximum Tritium Concentrations**
**Downgradient of Former AGS E-20 Catcher**

2022 BNL Groundwater Status Report

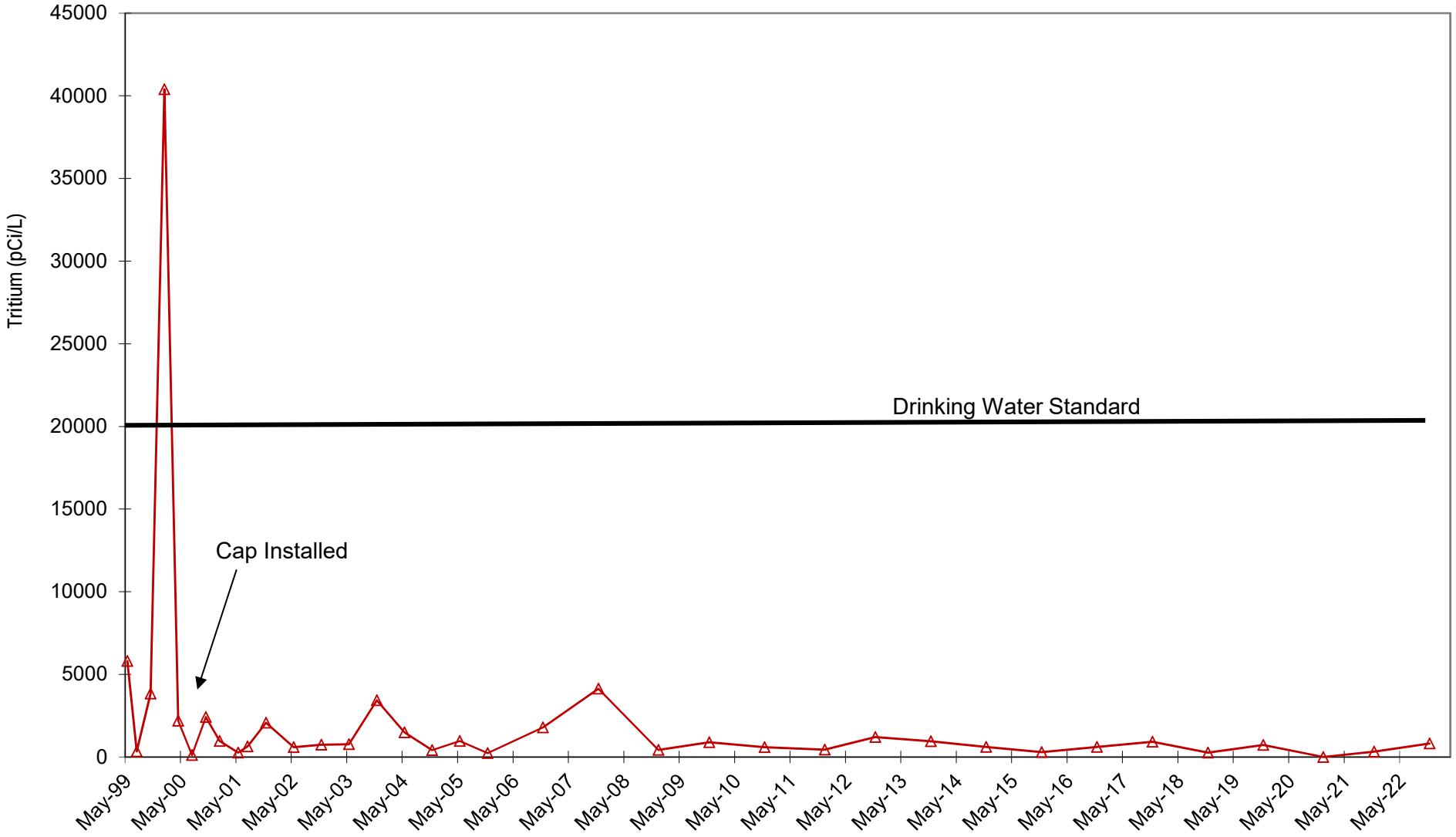


**Figure 4.1-4**
**Facility Monitoring Program**
**AGS FacilityArea**
**Maximum Tritium Concentrations**
**Downgradient of Building 914**

2022 BNL Groundwater Status Report

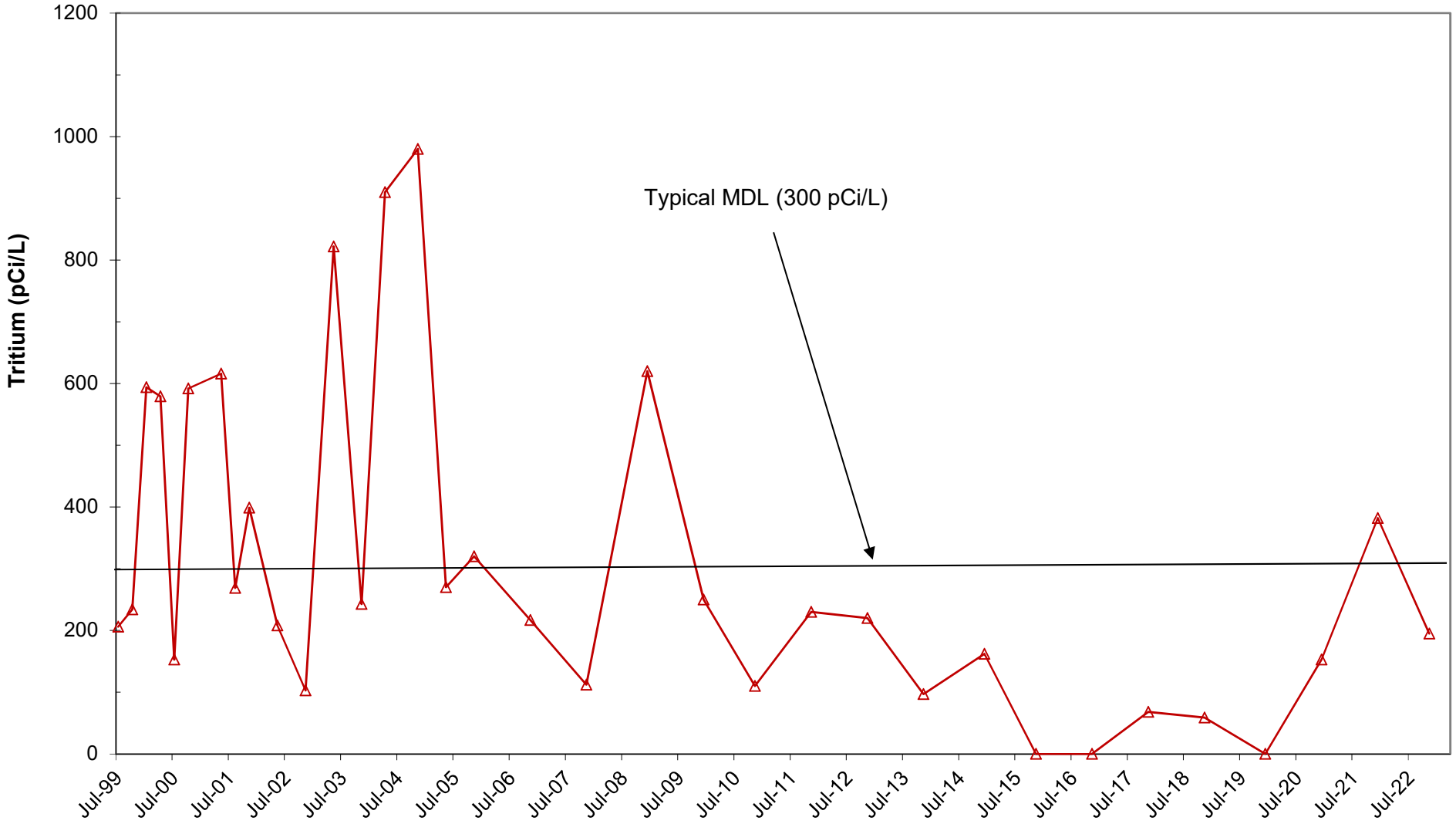


**Figure 4.1-5**
**Facility Monitoring Program**
**AGS Facility Area**
**Maximum Tritium Concentrations**
**Downgradient of J-10 Beam Stop**

2022 BNL Groundwater Status Report

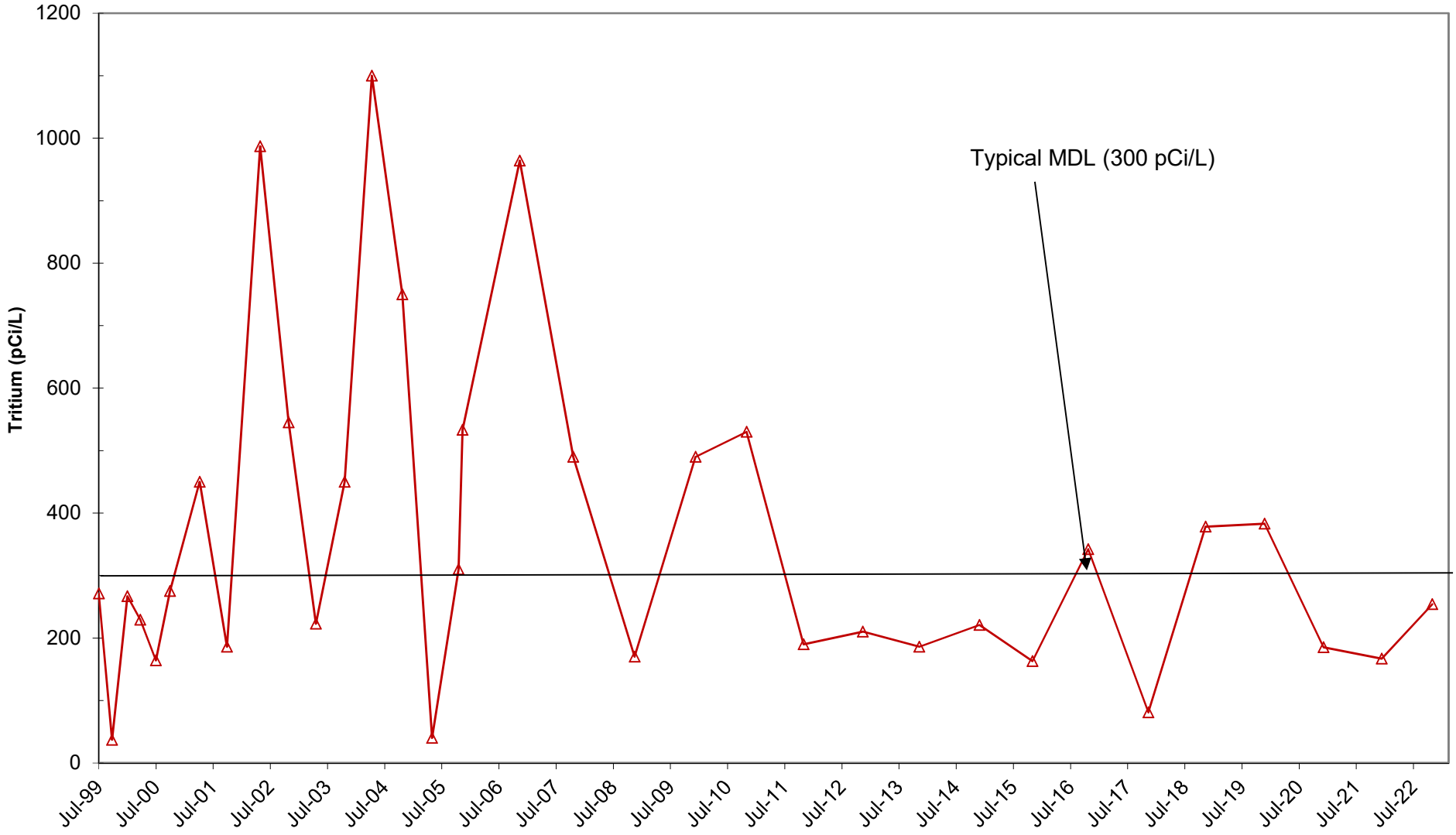


**Figure 4.1-6**
**Facility Monitoring Program**
**AGS Facility Area**
**Maximum Tritium Concentrations**
**Downgradient of Former U-Line Target**

2022 BNL Groundwater Status Report

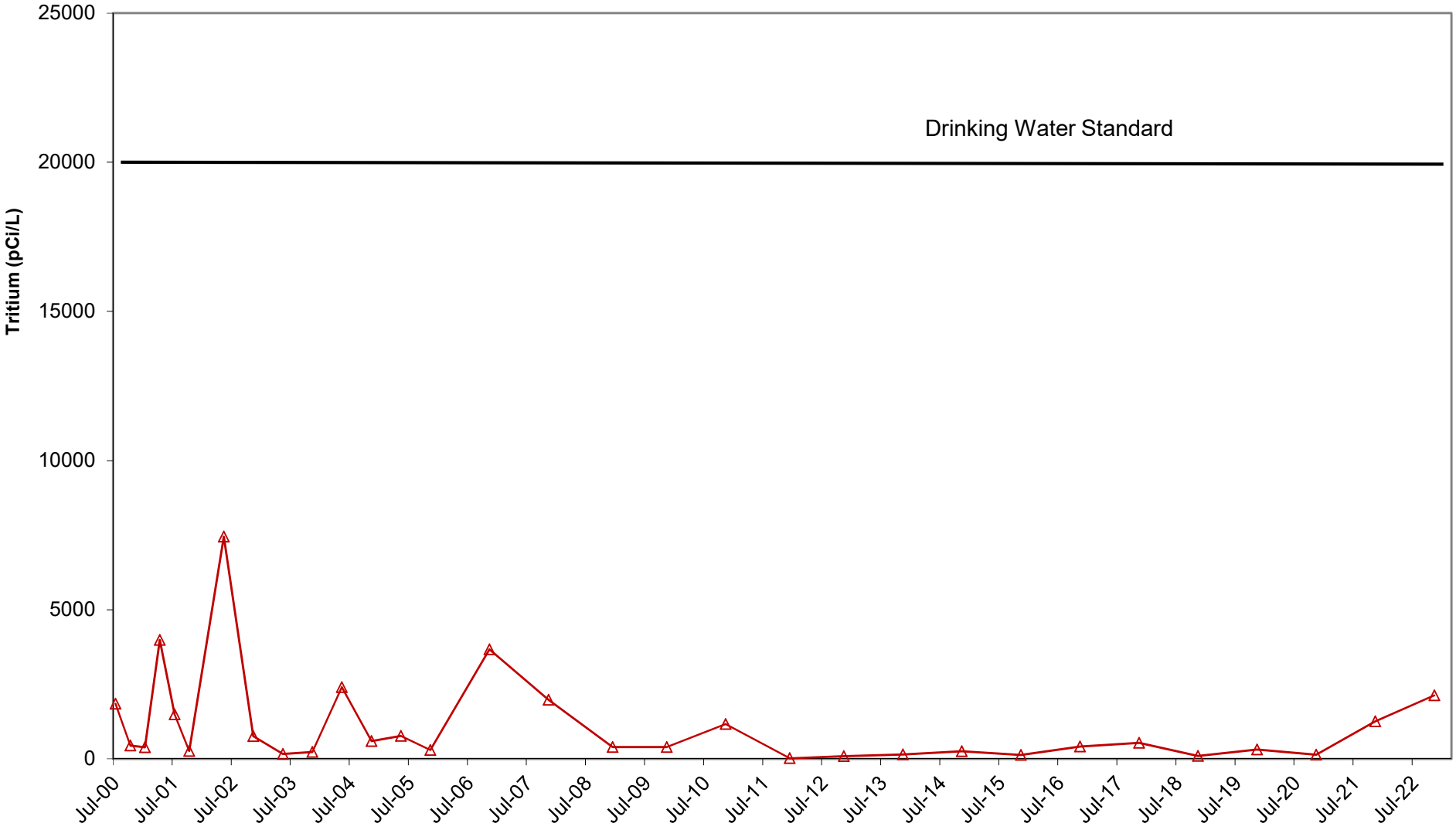
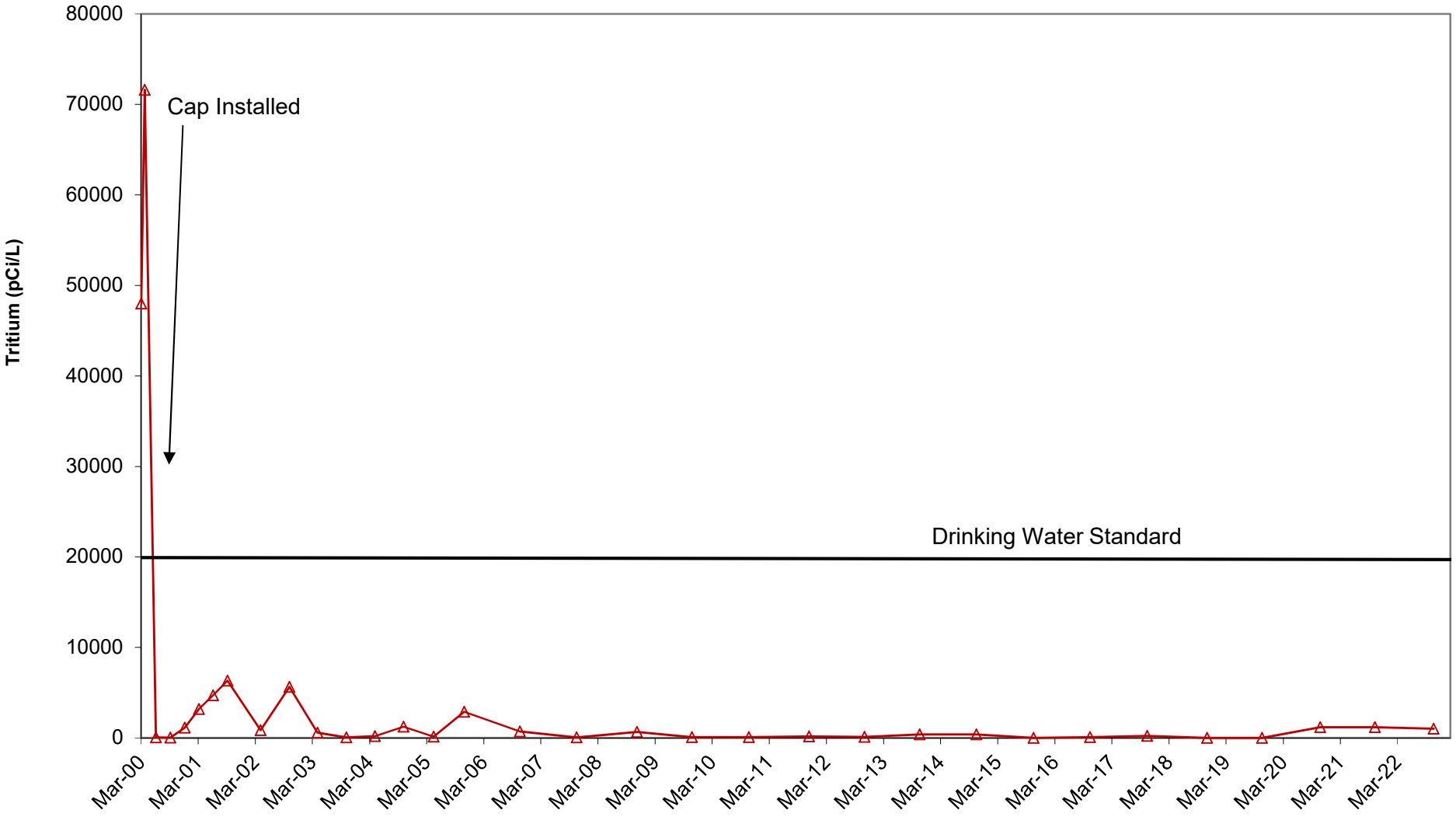
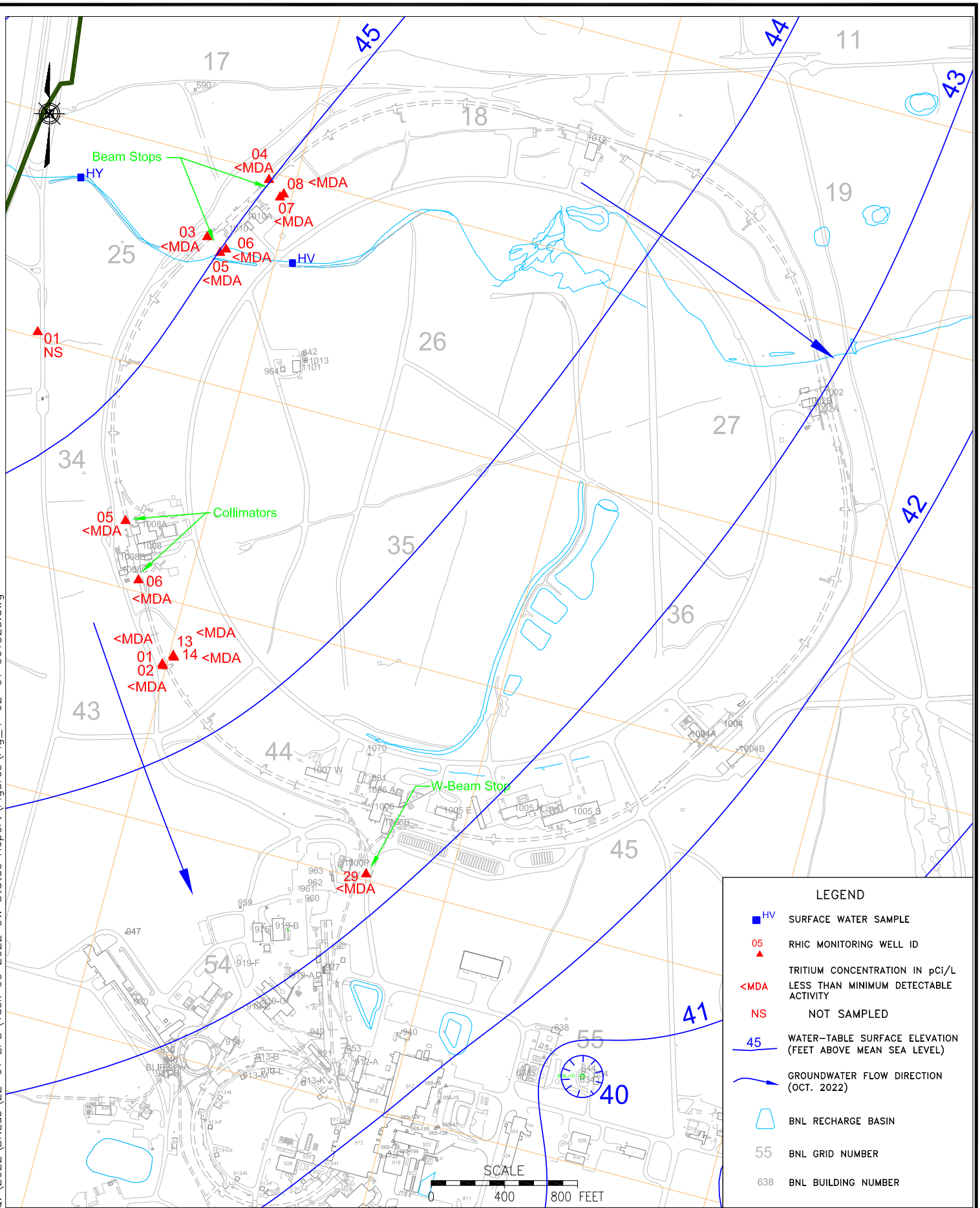


**Figure 4.1-7**
**Facility Monitoring Program**
**AGS Facility Area**
**Maximum Tritium Concentrations**
**Downgradient of Former U-Line Beam Stop Area**

2022 BNL Groundwater Status Report



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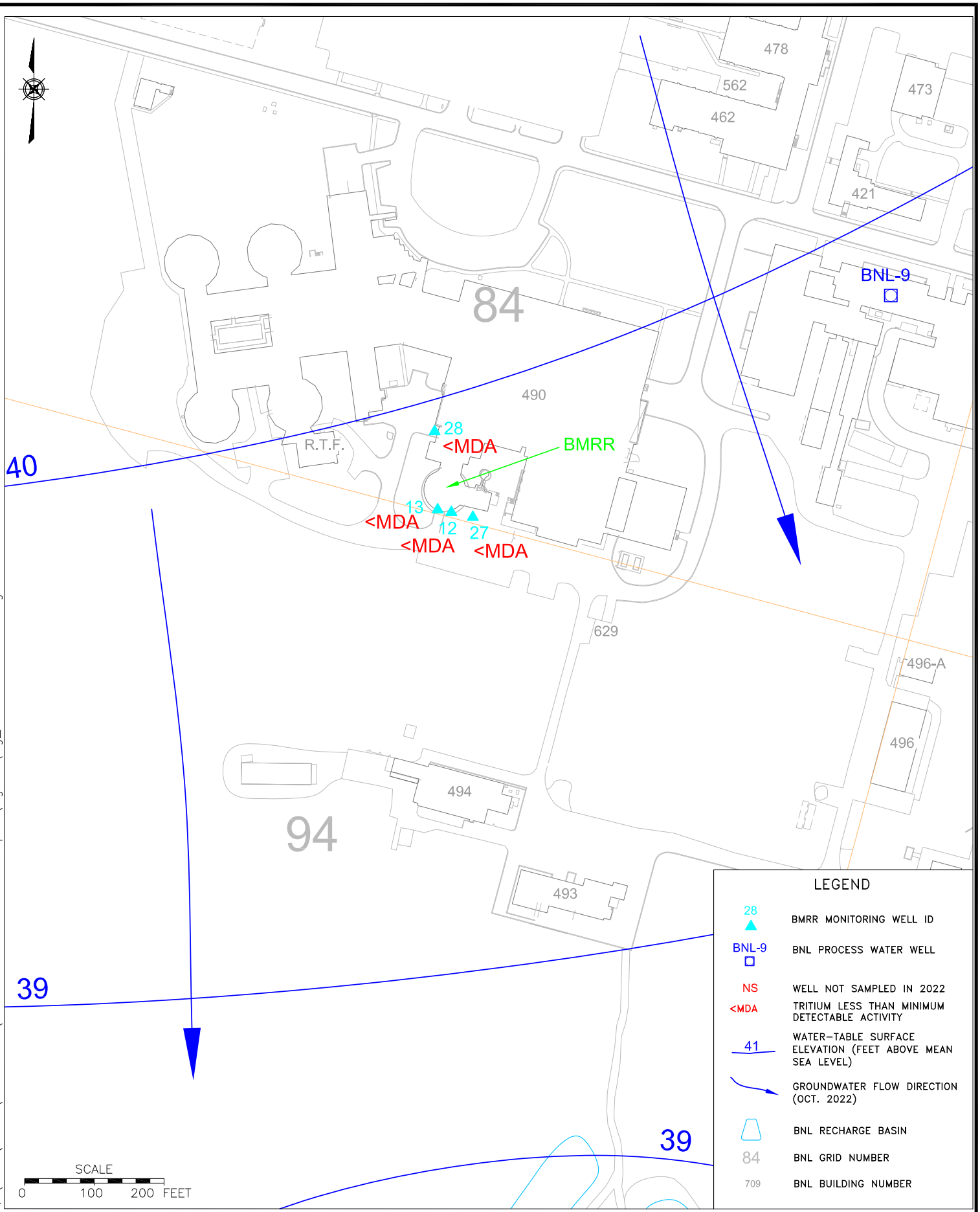
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE: FACILITY MONITORING PROGRAM, RELATIVISTIC HEAVY ION COLLIDER, MONITORING WELL LOCATIONS TRITIUM RESULTS, 3RD QTR 2022
2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | DEP | 06/13/23 | – |

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

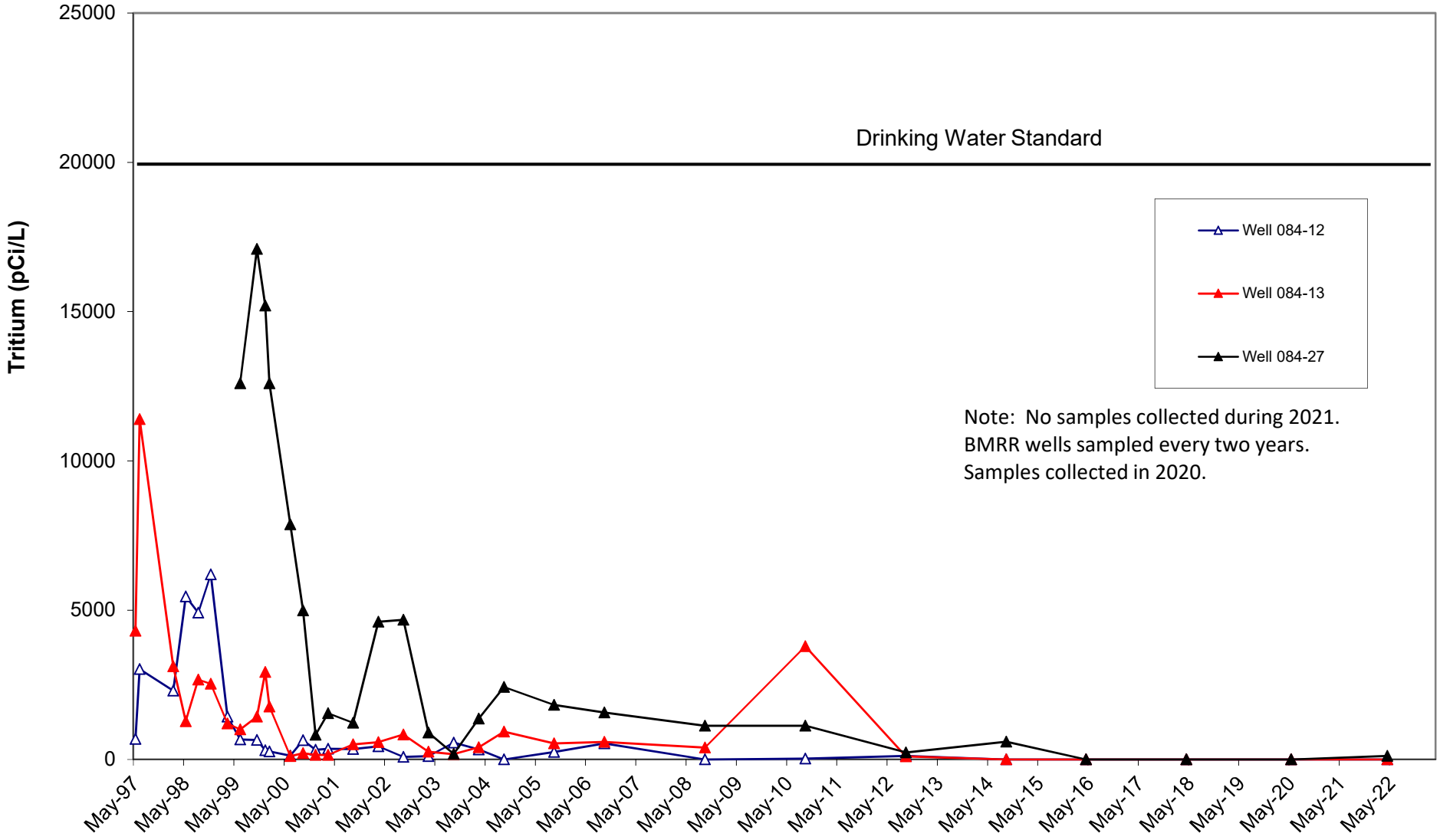
2022 BNL GROUNDWATER STATUS REPORT

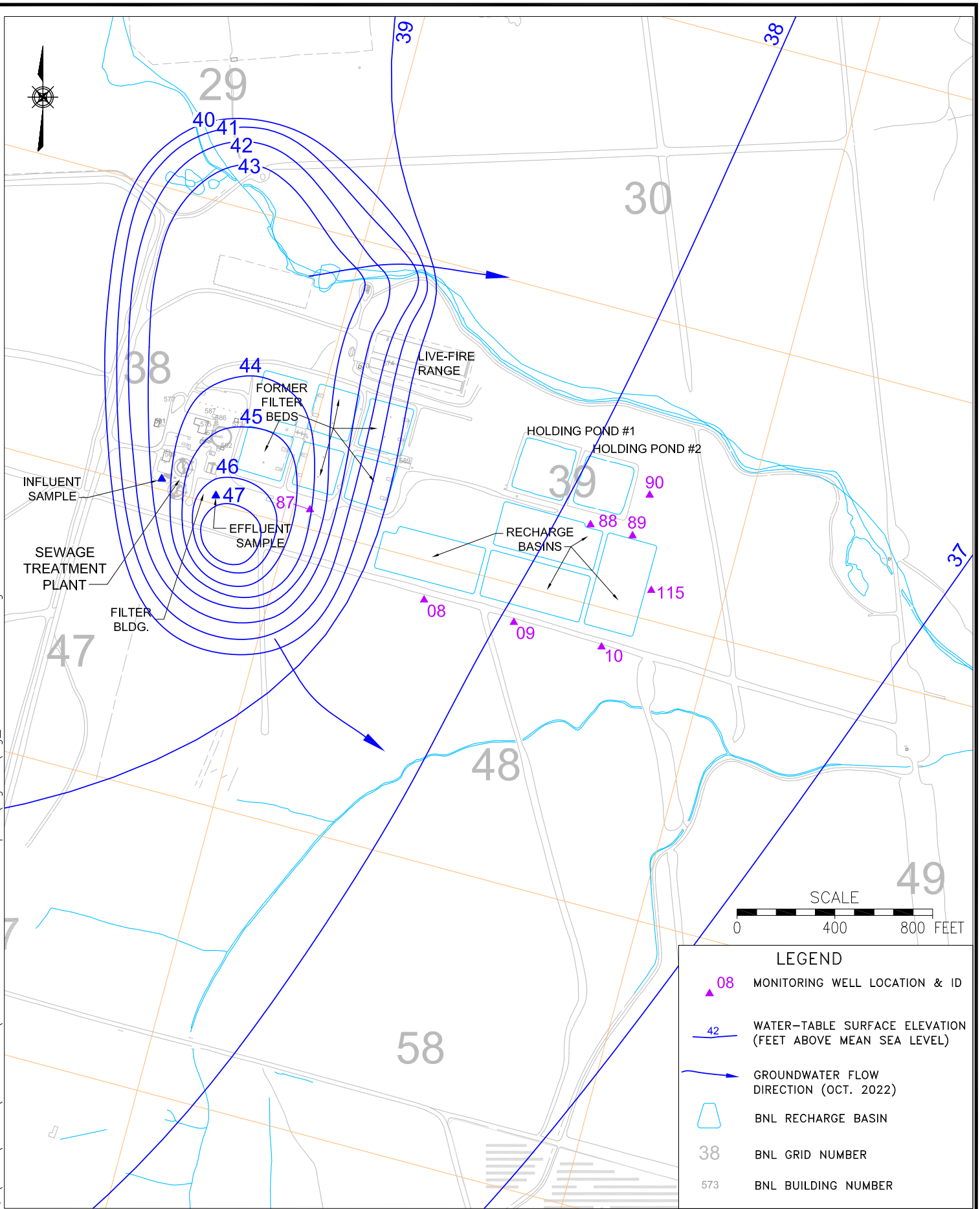
| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | DEP | 06/13/23 | – |

FIGURE NO.: 4.3-1

**Figure 4.3-2**
**Facility Monitoring Program**
**Brookhaven Medical Research Reactor**
**Monitoring Well Tritium Concentrations**

2022 BNL Groundwater Status Report



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

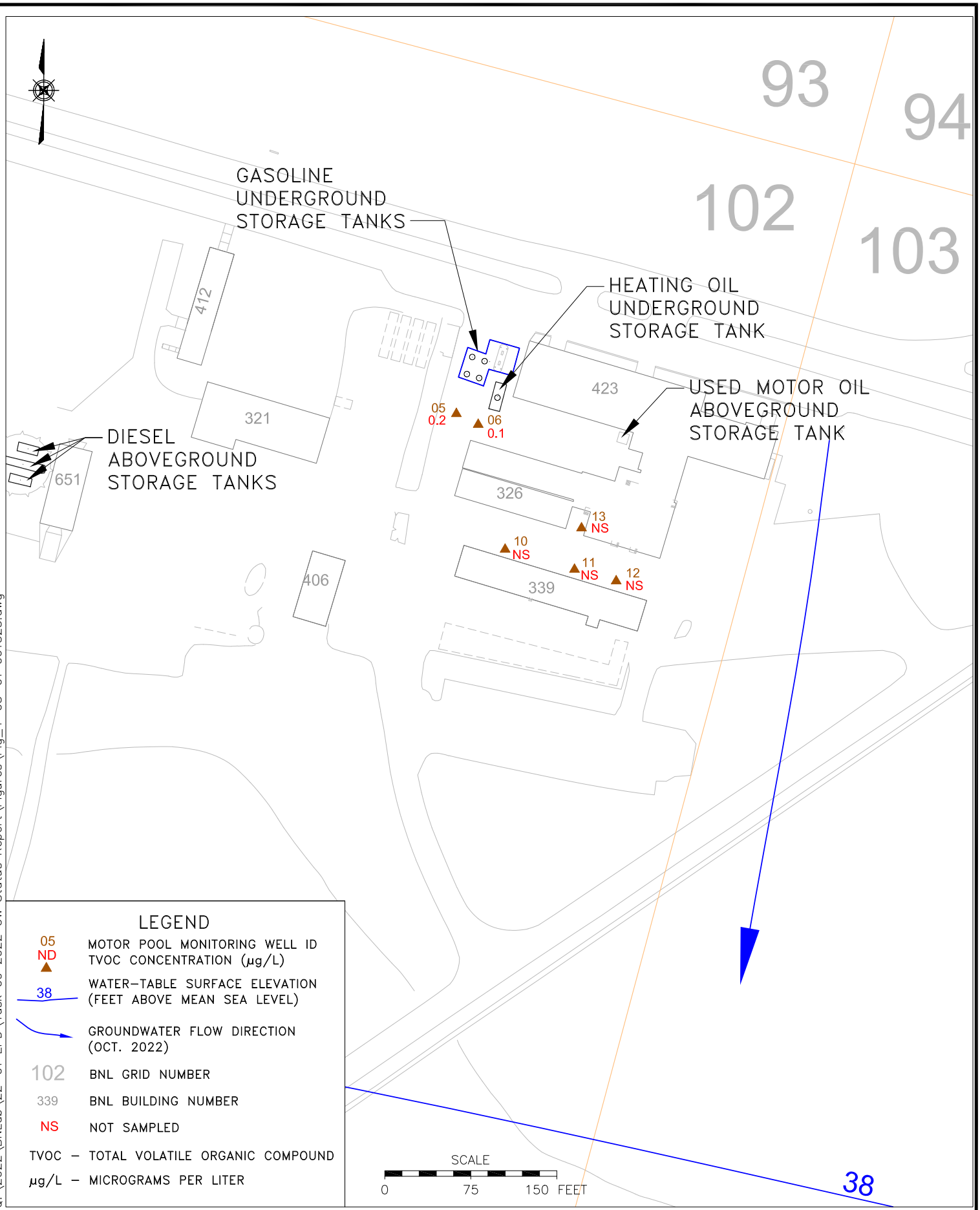
TITLE:

# SEWAGE TREATMENT PLANT SYSTEM SAMPLING AND MONITORING WELL LOCATIONS

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | RFH | 06/13/23 | – |

FIGURE NO.: 4.4-1

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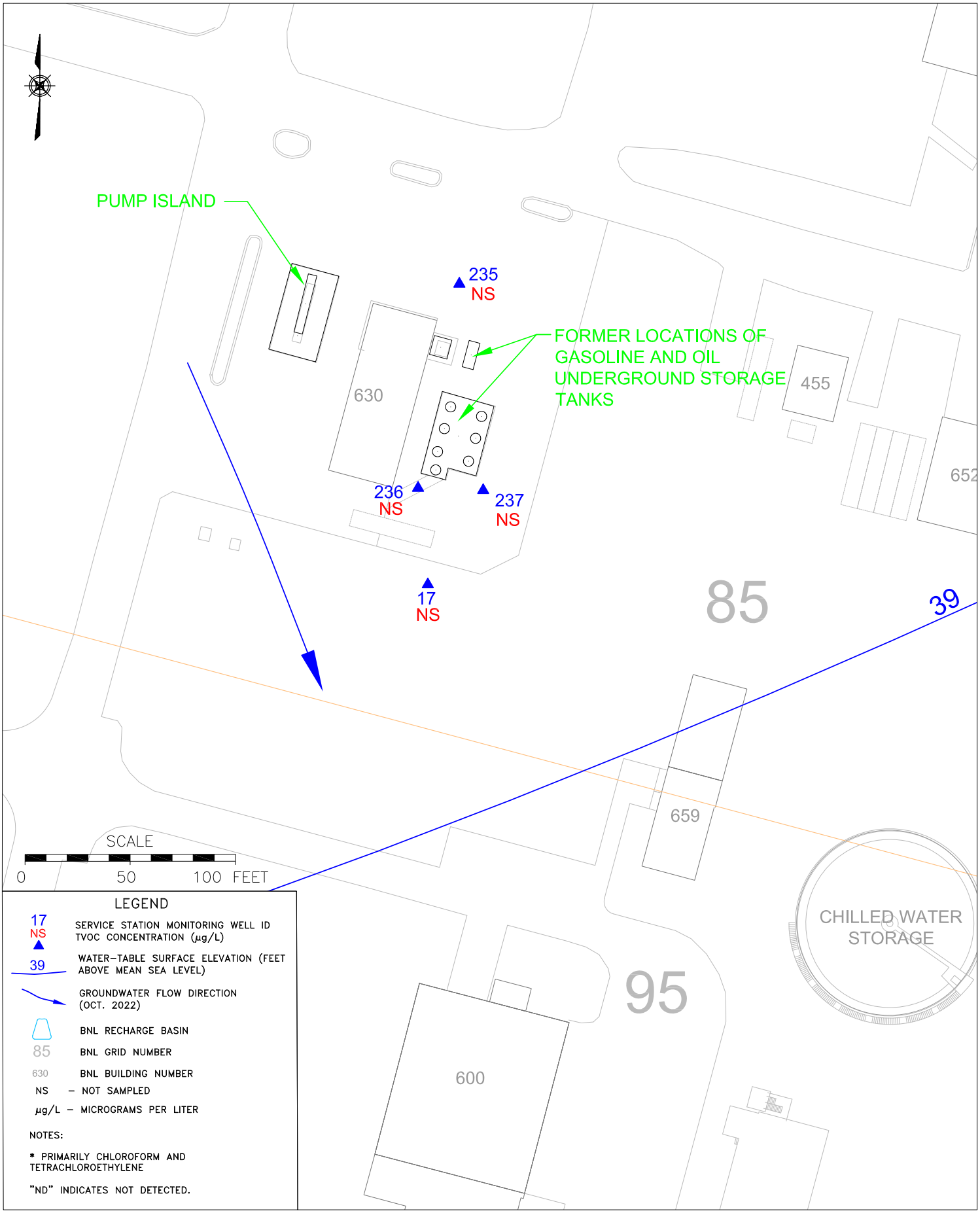
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTON DIVISION

TITLE:
FACILITY MONITORING PROGRAM,
MOTOR POOL
MONITORING WELL LOCATIONS
TVOC RESULTS 4TH QUARTER 2022
2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | DEP | 06/13/23 | – |

FIGURE NO.: 4.5-1

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

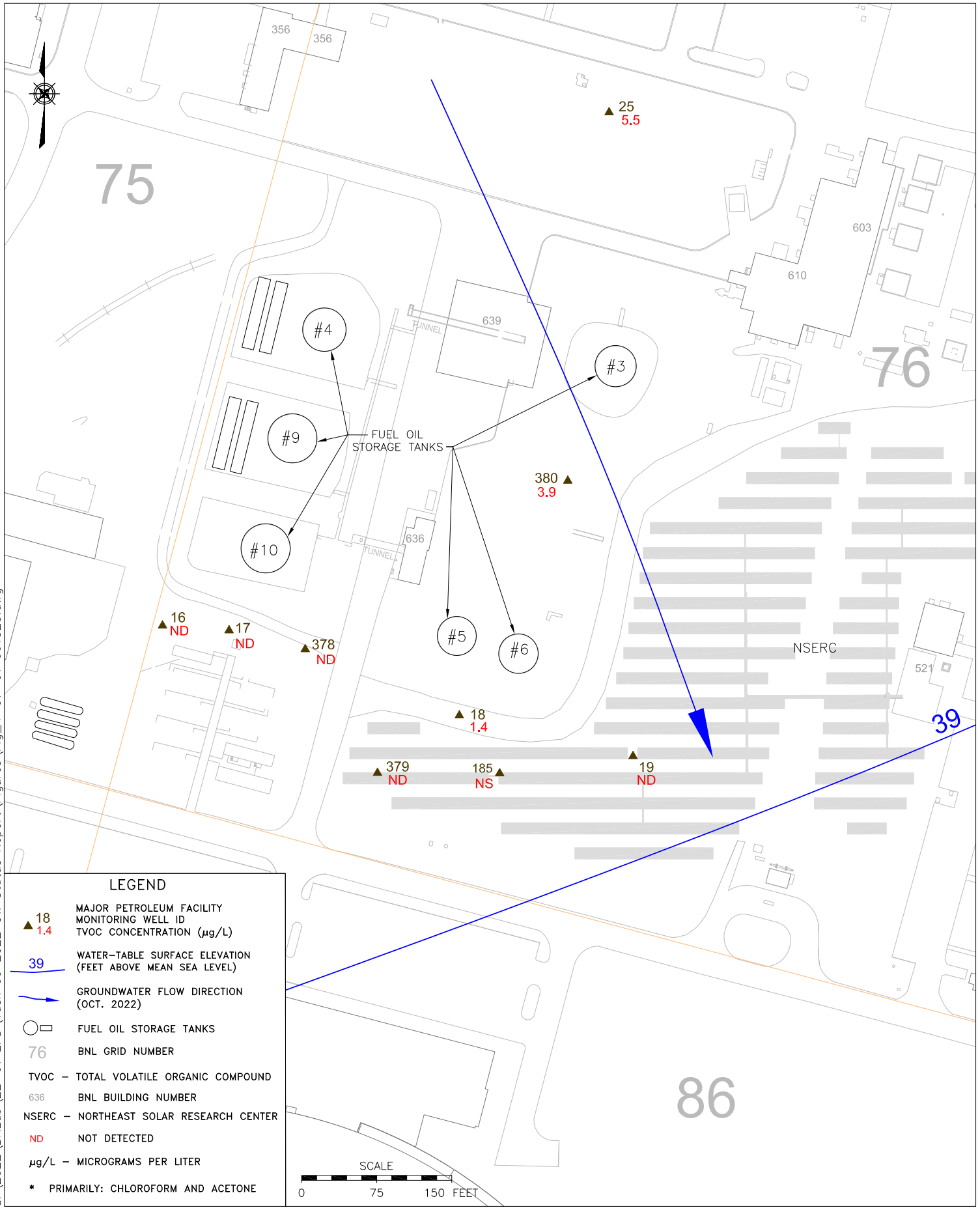
TITLE:

FACILITY MONITORING PROGRAM, SERVICE STATION

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | DEP | 06/13/23 | – |

FIGURE NO.: 4.6-1

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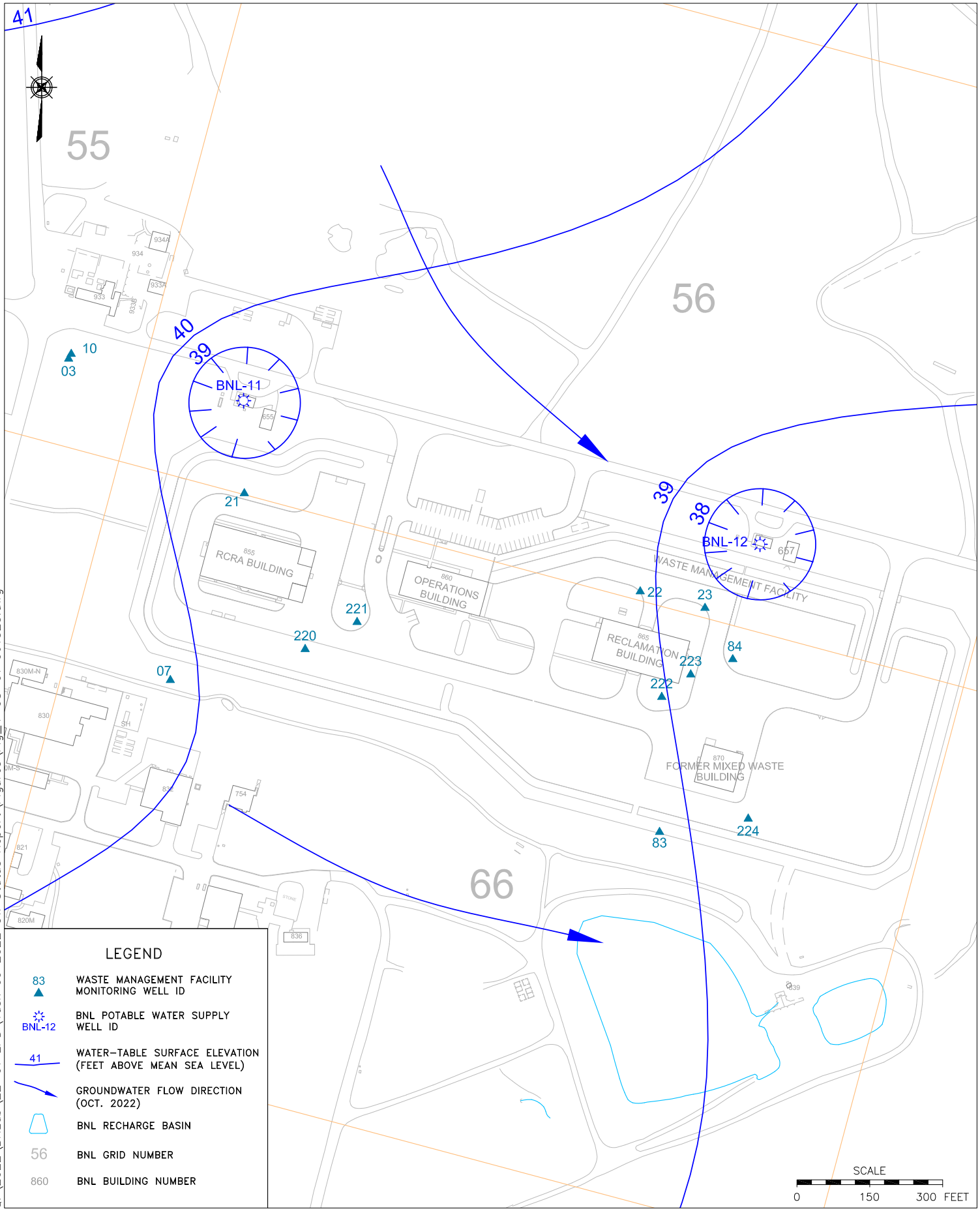
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
FACILITY MONITORING PROGRAM,
MAJOR PETROLEUM FACILITY
MONITORING WELL LOCATIONS
TVOC CONCENTRATIONS, 4th QTR 2022
2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | DEP | 06/13/23 | – |

FIGURE NO.: 4.7-1

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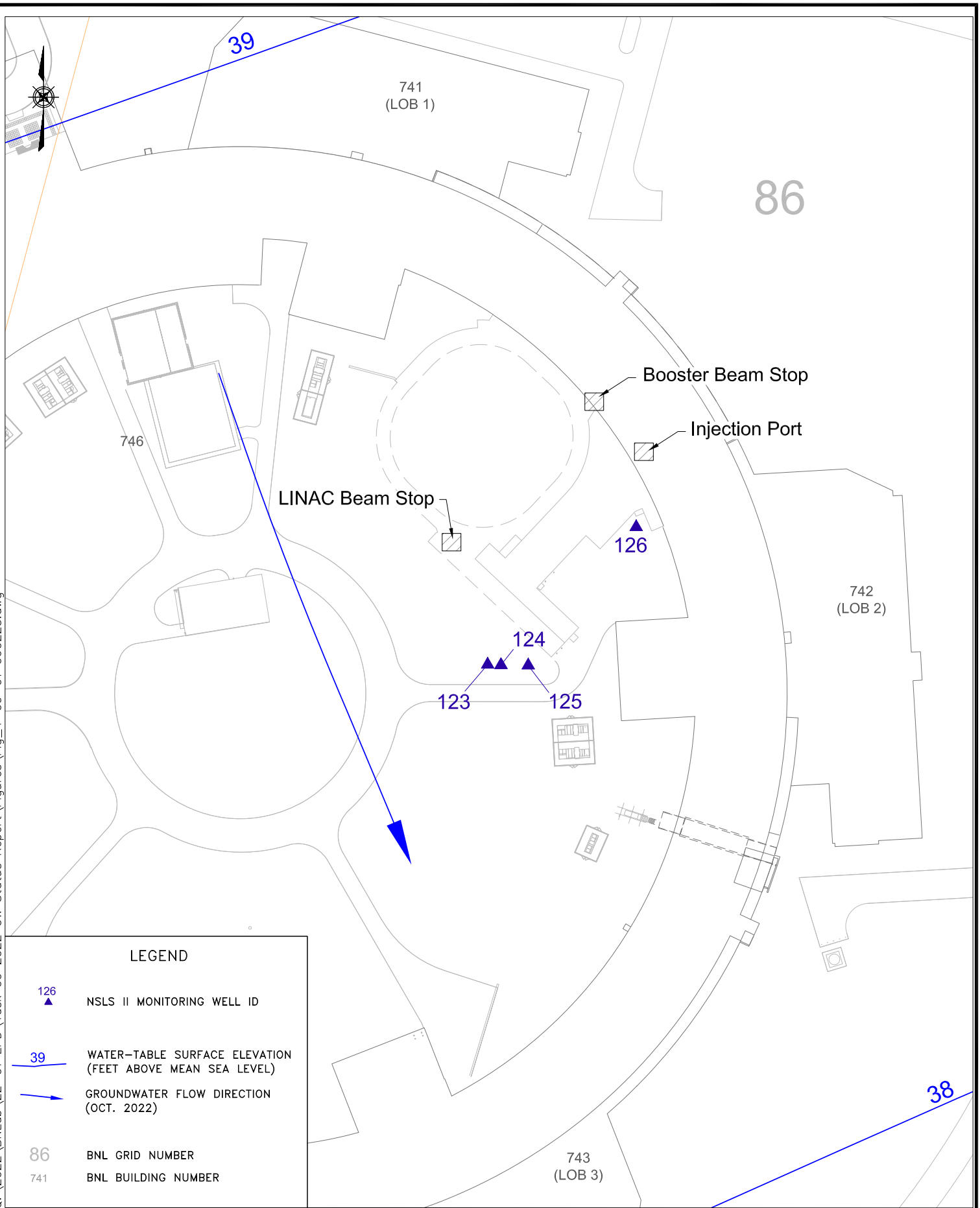
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
FACILITY MONITORING PROGRAM, WASTE MANAGEMENT FACILITY MONITORING WELL LOCATIONS
2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | DEP | 06/13/23 | – |

FIGURE NO.: 4.8-1

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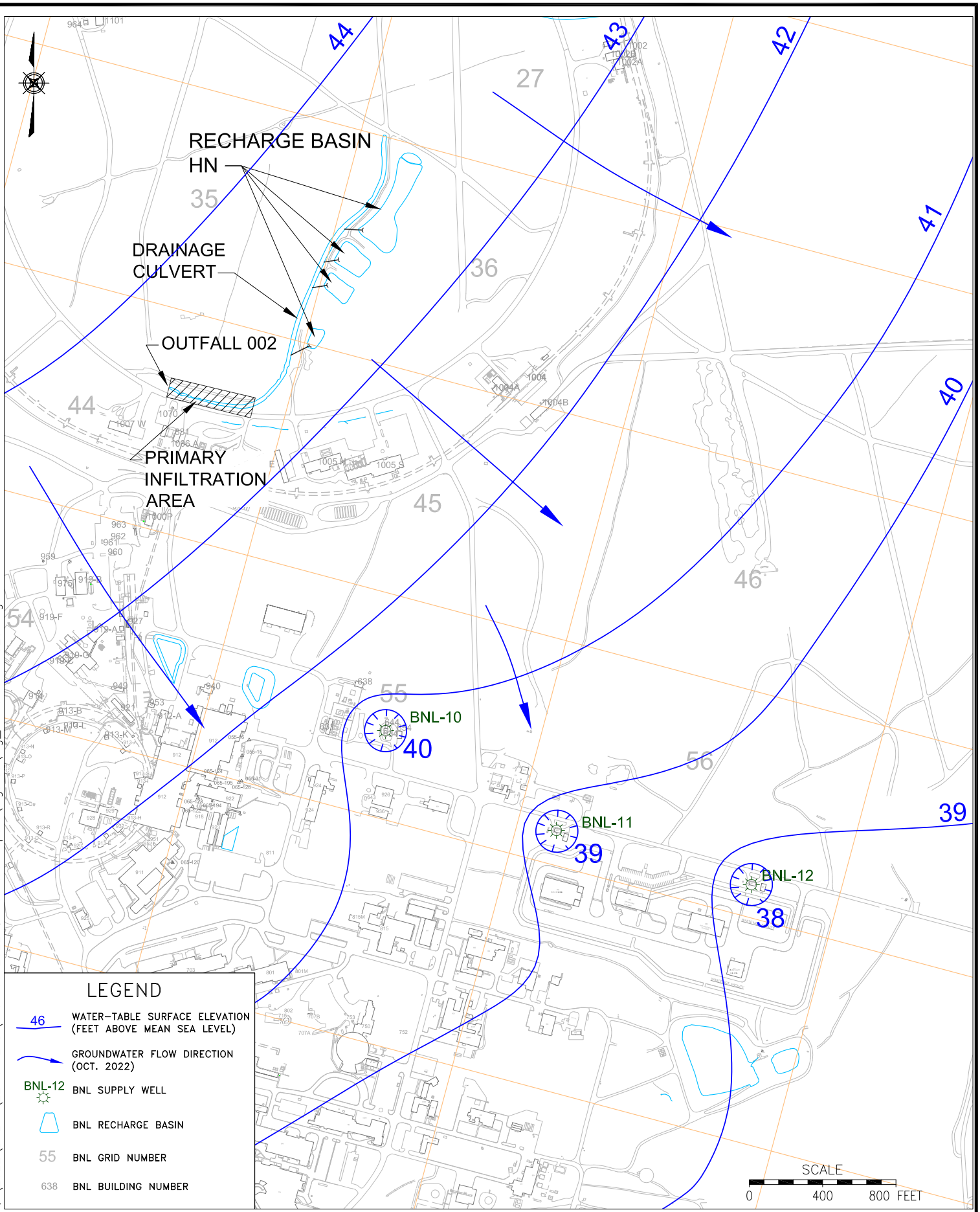
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
FACILITY MONITORING PROGRAM
NATIONAL SYNCHROTRON LIGHT SOURCE II
MONITORING WELL LOCATIONS

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | DEP | 06/13/23 | – |

FIGURE NO.: 4.9-1

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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

# WATER SUPPLY WELL LOCATIONS DOWNGRADIENT OF BASIN HN (SPDES OUTFALL 002)

2022 BNL GROUNDWATER STATUS REPORT

| DWN: | VT: HZ.: | DATE: | PROJECT NO.: |
|---|---|---|---|
| AJZ | – | 05/19/23 | – |
| CHKD: | APPD: | REV.: | NOTES: |
| WRD | DEP | 06/13/23 | – |

FIGURE NO.: 4.10-1

# 2023 Tables Combined

**Table 1-1**
**Groundwater Standards for**
**Inorganic Compounds**

2022 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) | |
|---|---|---|---|---|
| ***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 total | |
| 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 | - | |
| 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**

2022 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) |
|---|---|---|---|
| ***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 | - |
| Chlordane | 57-74-9 | 0.05 | 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 | 3 |
| 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**

2022 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 | 100 |
| 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**

2022 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**

2022 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) |
|---|---|---|---|
| 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 | 0.0027 (g) | - |
| Perfluorooctanesulfonic acid (PFOS) | 1763-23-1 | 0.0067 (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 Guidance Values est. March 15, 2023

(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**

2022 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 | 13981-38-9 | - | 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 | 14391-16-3 | - | 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 | 13966-31-9 | - | 98000 | 3920 | 300 | -- |
| Neptunium-237 | 13994-20-2 | - | 1400 | 56 | -- | -- |
| Potassium-40 | 13966-00-2 | - | 16000 | 640 | -- | -- |
| Protactinium-231 | 7440-13-3 | - | 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 | 14269-63-7 | - | 720 | 28.8 | -- | -- |
| Thorium-232 | 7440-29-1 | - | 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 2022**

2022 BNL Groundwater Status Report

| Well ID | Project 1 | Project 2 | Decision Subunit | EPA 8260 Low Level 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 | PFAS | 1-4, Dioxane 8270 SIM | 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 | | Xd | | | | 2d |
| 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 | | | | | x | 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 | | | | | | 1b |
| 116-05 | OU I (South Boundary) | | Plume Perimeter | | | | | | | | | | | | | | | | | | | | Xb | | | | | | 1b |
| 116-06 | OU I (South Boundary) | | Plume Perimeter | | | | | | | | | | | | | | | | | | | | Xb | | | | | | 1b |
| 107-34 | OU I (South Boundary) | | TBD | | | | | | | | | | | | | | | | | | | | | | X | | | x | 2d |
| 107-35 | OU I (South Boundary) | | TBD | | | | | | | | | | | | | | | | | | | | | | X | | | | 2d |
| 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 |
| 098-103 | OU I (South Boundary) | SB-MW01-2020 | | | | | | | | | | | | | | | | | | | | | | | Xd | | | | 2d |

**Table 1-5**
**BNL CERCLA Groundwater Monitoring Schedule for 2022**

2022 BNL Groundwater Status Report

| Well ID | Project 1 | Project 2 | Decision Subunit | EPA 8260 Low Level 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 | PFAS | 1-4, Dioxane 8270 SIM | Blind Duplicate/MS/MSD | Frequency (events/year) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 098-104 | 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 | | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 095-162 | OU III (Bldg 96) | | Plume Core | X | | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 095-163 | OU III (Bldg 96) | | Bypass Detection | X | | | | | | | | | | | | | | | | | | | | | | | | | 1a |
| 095-165 | OU III (Bldg 96) | | Bypass Detection | X | | | | | | | | | | | | | | | | | | | | | | | | X | 2f |
| 095-166 | OU III (Bldg 96) | | Bypass Detection | X | | | | | | | | | | | | | | | | | | | | | | | | | 2f |
| 095-168 | OU III (Bldg 96) | | Bypass Detection | X | | | | | | | | | | | | | | | | | | | | | | | | | 2f |
| 095-169 | OU III (Bldg 96) | | Bypass Detection | X | | | | | | | | | | | | | | | | | | | | | | | | | 2f |
| 095-170 | OU III (Bldg 96) | | Bypass Detection | X | | | | | | | | | | | | | | | | | | | | | | | | | 2f |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | x | 4 |
| 085-293 | OU III (Bldg 96) (formerly well ID 095-160) | | Plume Core | X | | | | | | | | | | | | | | | | | | | | | | | | | 2f |
| 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 |
| 105-53 | OU III Middle Road | | Plume Core | X | | | | | | | | | | | | | | | | | | | | | | | | | 2f |
| 105-66 | OU III Middle Road | | Plume Core | X | | | | | | | | | | | | | | | | | | | | | | | | | 4 |

**Table 1-5**
**BNL CERCLA Groundwater Monitoring Schedule for 2022**

2022 BNL Groundwater Status Report

| Well ID | Project 1 | Project 2 | Decision Subunit | EPA 8260 Low Level 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 | PFAS | 1-4, Dioxane 8270 SIM | Blind Duplicate/MS/MSD | Frequency (events/year) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | 2f |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | 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 | | | | | | | | | | | | | | | | | | | | | | | | | 2f |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | 2f |
| 121-10 | OU III (South Boundary) | OU III (South Boundary) Radionuclide | Plume Core | Xf | | | | | | | | | | | | | | | | | | | | | | | | | 2f |
| 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 |
| 121-43 | OU III (South Boundary) | OU III Industrial Park | Bypass Detection | Xf | | | | | | | | | | | | | | | | | | | | | | | | | 2f |
| 121-45 | OU III (South Boundary) | OU III Middle Road | Plume Core | Sampled with Middle Road Program | | | | | | | | | | | | | | | | | | | | | | | | | 2f |
| 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 |
| 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 |

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**BNL CERCLA Groundwater Monitoring Schedule for 2022**

2022 BNL Groundwater Status Report

| Well ID | Project 1 | Project 2 | Decision Subunit | EPA 8260 Low Level 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 | PFAS | 1-4, Dioxane 8270 SIM | Blind Duplicate/MS/MSD | Frequency (events/year) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | 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 |
| 126-21 | OU III (Western South Boundary) | WSB-MW06-2018 | Plume Core | X | | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 130-14 | 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 |

**Table 1-5**
**BNL CERCLA Groundwater Monitoring Schedule for 2022**

2022 BNL Groundwater Status Report

| Well ID | Project 1 | Project 2 | Decision Subunit | EPA 8260 Low Level 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 | PFAS | 1-4, Dioxane 8270 SIM | Blind Duplicate/MS/MSD | Frequency (events/year) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | 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 |
| 000-431 | 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 | | | | | | | | | | | | | | | | | | | | | | | | 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 |
| 000-548 | OU III (Industrial Park) | Magothy, IP-MW01-2015 | Bypass Detection | X | | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 000-108 | OU III North Street | | Plume Core | X | | | | | | | | | | | | | | | | | | | | | | | | | 1a |
| 000-154 | OU III North Street | | Plume Core | X | | | | | | | | | | | | | | | | | | | | | | | | | 1a |
| 000-212 | OU III North Street | | Plume Core | X | | | | | | | | | | | | | | | | | | | | | | | | | 1a |
| 000-343 | OU III North Street | OU III Magothy | Plume Core | Sampled with OU III Magothy | | | | | | | | | | | | | | | | | | | | | | | | | 1a |
| 000-465 | OU III North Street | | Plume Core | X | | | | | | | | | | | | | | | | | | | | | | | | | 1a |
| 000-472 | OU III North Street | | Plume Core | X | | | | | | | | | | | | | | | | | | | | | | | | x | 1a |
| 000-474 | OU III North Street | | Plume Core | X | | | | | | | | | | | | | | | | | | | | | | | | | 1a |
| 000-394 | OU 3 NSE EDB | | Plume Perimeter | Xa | X | | | | | | | | | | | | | | | | | | | | | | | | 4 |

**Table 1-5**
**BNL CERCLA Groundwater Monitoring Schedule for 2022**

2022 BNL Groundwater Status Report

| Well ID | Project 1 | Project 2 | Decision Subunit | EPA 8260 Low Level 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 | PFAS | 1-4, Dioxane 8270 SIM | Blind Duplicate/MS/MSD | Frequency (events/year) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 000-138 | OU 3 NSE EDB | | Plume Core | | X | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 000-551 | OU 3 NSE EDB | NSE-MW01-2018 | TBD | Xa | X | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 000-552 | OU 3 NSE EDB | NSE-MW02-2018 | TBD | Xa | X | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 000-553 | OU 3 NSE EDB | NSE-MW03-2018 | TBD | Xa | X | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 000-554 | OU 3 NSE EDB | NSE-MW04-2018 | TBD | Xa | X | | | | | | | | | | | | | | | | | | | | | | | x | 4 |
| 000-555 | OU 3 NSE EDB | NSE-MW05-2018 | TBD | Xa | X | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 115-42 | OU 3 NSE EDB | | Bypass Detection | | x | | | | | | | | | | | | | | | | | | | | | | | | 2f |
| 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 | | | | | | | | | | | | | | | | | | | | | | | 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 |
| 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 |

**Table 1-5**
**BNL CERCLA Groundwater Monitoring Schedule for 2022**

2022 BNL Groundwater Status Report

| Well ID | Project 1 | Project 2 | Decision Subunit | EPA 8260 Low Level 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 | PFAS | 1-4, Dioxane 8270 SIM | Blind Duplicate/MS/MSD | Frequency (events/year) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | 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 | Sampled under OU III (LIPA) | | | | | | | | | | | | | | | | | | | | | | | | | 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 | | | | | | | | | | | | | | | | | | | | | | | | | 1a |
| 000-425 | OU III (Magothy) | OU III LIPA | | Sampled under OU III (LIPA) | | | | | | | | | | | | | | | | | | | | | | | | | 2f |
| 000-428 | OU III (Magothy) | OU III (Airport) | | X | | | | | | | | | | | | | | | | | | | | | | | | | 2f |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | x | 1a |
| 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 |
| 122-05 | OU III (Magothy) | OU III (South Boundary) | | Sampled under OU III ( South Boundary) | | | | | | | | | | | | | | | | | | | | | | | | | 2f |
| 122-20 | OU III (Magothy) | OU III (South Boundary) | | Sampled under OU III ( South Boundary) | | | | | | | | | | | | | | | | | | | | | | | | | 1a |
| 130-04 | OU III (Magothy) | OU III (Western South Boundary) | | Sampled under OU III (Western South Boundary) | | | | | | | | | | | | | | | | | | | | | | | | | 1a |
| 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 | WFWS | Suffolk County Health Services/OUIII central | | X | | | | | | | | | | | | | | | | | | | X | X | X | X | X | | 4e |
| 117-01 | WFWS | | | X | | | | | | | | | | | | | | | | | | | X | X | X | X | X | x | 4e |
| 117-02 | WFWS | | | X | | | | | | | | | | | | | | | | | | | X | X | X | X | X | | 4e |
| 117-04 | WFWS | | | X | | | | | | | | | | | | | | | | | | | X | X | X | X | X | | 4e |
| 117-05 | WFWS | | | X | | | | | | | | | | | | | | | | | | | X | X | X | X | X | | 4e |
| 117-06 | WFWS | | | X | | | | | | | | | | | | | | | | | | | X | X | X | X | X | | 4e |
| 065-06 | OU III (BGRR/WCF Sr-90) | | Background | X | | | | | | | | | | | | | | | | | | | | | X | | | | 1a |
| 065-160 | OU III (BGRR/WCF Sr-90) | | Plume Perimeter | | | | | | | | | | | | | | | | | | | | | | X | | | | 2f |
| 065-162 | OU III (BGRR/WCF Sr-90) | | Outer Plume Perimeter | | | | | | | | | | | | | | | | | | | | | | X | | | | 1a |
| 065-163 | OU III (BGRR/WCF Sr-90) | | Background | | | | | | | | | | | | | | | | | | | | | | X | | | | 1a |

**Table 1-5**
**BNL CERCLA Groundwater Monitoring Schedule for 2022**

2022 BNL Groundwater Status Report

| Well ID | Project 1 | Project 2 | Decision Subunit | EPA 8260 Low Level 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 | PFAS | 1-4, Dioxane 8270 SIM | Blind Duplicate/MS/MSD | Frequency (events/year) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | | | x | 2f |
| 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 | | | | 1a |
| 065-38 | OU III (BGRR/WCF Sr-90) | | Plume Perimeter | | | | | | | | | | | | | | | | | | | | | | 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 |
| 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. | | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 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 | | | | 1a |
| 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 |

**Table 1-5**
**BNL CERCLA Groundwater Monitoring Schedule for 2022**

2022 BNL Groundwater Status Report

| Well ID | Project 1 | Project 2 | Decision Subunit | EPA 8260 Low Level 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 | PFAS | 1-4, Dioxane 8270 SIM | Blind Duplicate/MS/MSD | Frequency (events/year) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | | | | 2f |
| 085-403 | OU III (BGRR/WCF Sr-90) | BGRR-MW01-2015 | Sentinel | | | | | | | | | | | | | | | | | | | | | | X | | | | 2f |
| 095-326 | OU III (BGRR/WCF Sr-90) | BGRR-MW01-2020 | | | | | | | | | | | | | | | | | | | | | | | 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 |
| 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 | | | | 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 |

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2022 BNL Groundwater Status Report

| Well ID | Project 1 | Project 2 | Decision Subunit | EPA 8260 Low Level 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 | PFAS | 1-4, Dioxane 8270 SIM | Blind Duplicate/MS/MSD | Frequency (events/year) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | | | | 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 |
| 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 | | | | 1b |
| 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 |

**Table 1-5**
**BNL CERCLA Groundwater Monitoring Schedule for 2022**

2022 BNL Groundwater Status Report

| Well ID | Project 1 | Project 2 | Decision Subunit | EPA 8260 Low Level 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 | PFAS | 1-4, Dioxane 8270 SIM | Blind Duplicate/MS/MSD | Frequency (events/year) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | | | | | | | | | | | | | | | | | | | | | | | | 2f |
| 000-550 | OU VI EDB | EDB-MW02-2019 | | | X | | | | | | | | | | | | | | | | | | | | | | | | 2f |
| 000-570 | OU VI EDB | | | | X | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 000-571 | OU VI EDB | | | | X | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 000-572 | OU VI EDB | | | | 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 | | | | | | | | | | | | | | | | | | | | | | | | 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 |
| 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 |
| 073-26 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 073-27 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 073-28 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 073-29 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 073-30 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 073-31 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 073-32 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 073-33 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 074-135 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 083-33 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 083-34 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 083-35 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 083-36 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 083-37 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 083-38 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 083-39 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |

**Table 1-5**
**BNL CERCLA Groundwater Monitoring Schedule for 2022**

2022 BNL Groundwater Status Report

| Well ID | Project 1 | Project 2 | Decision Subunit | EPA 8260 Low Level 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 | PFAS | 1-4, Dioxane 8270 SIM | Blind Duplicate/MS/MSD | Frequency (events/year) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 083-40 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 084-86 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 084-87 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 084-88 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 084-89 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 084-90 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 084-91 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 084-92 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 083-44 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 083-41 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 083-42 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 083-43 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 084-93 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 084-94 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 084-95 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 084-96 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 084-97 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 084-98 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 093-88 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 093-89 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | X | 1 |
| 093-90 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 093-91 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 093-92 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 094-275 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 094-276 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 094-277 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 094-278 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 102-26 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 102-27 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 102-28 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 103-30 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 103-31 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 103-32 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 103-33 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | X | 1 |
| 103-34 | OU10 CURRENT FH | CFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 102-29 | OU10 CURRENT FH | CFH Plume | Bypass Detection | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 102-30 | OU10 CURRENT FH | CFH Plume | Bypass Detection | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 102-31 | OU10 CURRENT FH | CFH Plume | Bypass Detection | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 083-47 | OU10 CURRENT FH | B170 Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 093-93 | OU10 CURRENT FH | B170 Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 093-94 | OU10 CURRENT FH | B170 Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 093-95 | OU10 CURRENT FH | B170 Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 093-96 | OU10 CURRENT FH | B170 Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 093-97 | OU10 CURRENT FH | B170 Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 093-98 | OU10 CURRENT FH | B170 Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 102-36 | OU10 CURRENT FH | B170 Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 102-37 | OU10 CURRENT FH | B170 Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 102-38 | OU10 CURRENT FH | B170 Plume | Bypass Detection | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 102-39 | OU10 CURRENT FH | B170 Plume | Bypass Detection | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 102-40 | OU10 CURRENT FH | CFH Plume | Bypass Detection | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 075-809 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | X | X | | | 1 |
| 075-810 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | X | X | | | 1 |
| 075-811 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | X | X | | | 1 |
| 085-404 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 085-405 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 085-406 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | X | X | | | 1 |
| 085-407 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | X | X | | | 1 |
| 085-408 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | X | 1 |
| 085-409 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 085-410 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 085-411 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 085-412 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 096-122 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 096-123 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 096-124 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 096-125 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 096-126 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 096-127 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 096-128 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 096-129 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 096-130 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 096-131 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 105-72 | OU10 FORMER FH | FFH Plume | Bypass Detection | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 105-73 | OU10 FORMER FH | FFH Plume | Bypass Detection | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 105-74 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| 105-75 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 105-76 | OU10 FORMER FH | FFH Plume | Plume Core | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 105-77 | OU10 FORMER FH | FFH Plume | Bypass Detection | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |
| 105-78 | OU10 FORMER FH | FFH Plume | Bypass Detection | | | | | | | | | | | | | | | | | | | | | | | X | X | | 1 |

NOTES:
a: Collect in 4th Quarter only.
b: Collect in 3rd Quarter Only.
c: Collect in 1st Quarter Only
d: Collect in 1st and 3rd Quarters
e: Sample the wells the first week of February, May, August, and November as requested by SCDHS.
f: Collect in 2nd and 4th Quarters.
g: Sample during 4th quarter in even numbered years. Next sampling in CY2024.

**Table 1-6**
**Summary of Environmental Surveillance Samples and Analytical Methods**

2022 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 Source | 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 |
| 054-125 | 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 |
| 065-126 | AGS | B-912/g-2 Tritium Plume | Downgradient | | | | | | | | X | | | 1 |
| 065-195 | AGS | B-912 | Downgradient | | | | | | | | X | | | 1 |

**Table 1-6**
**Summary of Environmental Surveillance Samples and Analytical Methods**

2022 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 055-31 | AGS | B-912/g-2 Tritium Plume | 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 |
| 054-124 | AGS/g-2 | g-2 Source/Beam Stop | 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 |
| 025-08 | RHIC | B/Y Beam Stop Area | Downgradient | | | | | | | | X | | | 2 |

**Table 1-6**
**Summary of Environmental Surveillance Samples and Analytical Methods**

2022 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | | | | | | | | X | | | 1(d) |
| 084-13 | BMRR | | Downgradient | | | | | | | | X | | | 1(d) |
| 084-27 | BMRR | | Downgradient | | | | | | | | X | | | 1(d) |
| 084-28 | BMRR | | Upgradient | | | | | | | | X | | | 1(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 | X(b) | | 2 |
| 055-10 | WMF | Bkgd. | Upgradient | X | | | X(b) | X(b) | X | X | X | X(b) | | 2 |
| 056-21 | WMF | RCRA Bldg. | Downgradient | X | | | X(b) | X(b) | X | X | X | X | | 2(e) |
| 056-22 | WMF | Rad. Bldg. | Downgradient | X | | | X(b) | X(b) | X | X | X | X | | 2(e) |
| 056-23 | WMF | Rad. Bldg. | Downgradient | X | | | X(b) | X(b) | X | X | X | X(b) | | (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 | X | | 2 |
| 066-221 | WMF | RCRA Bldg. | Downgradient | X | | | X(b) | X(b) | X | X | X | X | | 2 |
| 066-222 | WMF | Rad. Bldg. | Downgradient | X | | | X(b) | X(b) | X | X | X | X | | 2 |
| 066-223 | WMF | Rad. Bldg. | Downgradient | X | | | X(b) | X(b) | X | X | X | X | | 2 |
| 066-224 | WMF | Mixed Waste Bldg. | Downgradient | | | | | | | | | | | 0(f) |

**Table 1-6**
**Summary of Environmental Surveillance Samples and Analytical Methods**

2022 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(g) |
| 076-19 | NSLS-II | Linac | Upgradient | | | | | | | | X | | | 1(g) |
| 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, metals, and Sr-90 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 Background).

**Table 1-7**
**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | 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**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | 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**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | 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**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | 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**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | 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**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | 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**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | 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**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | 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**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | 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**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | 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**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | 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 |
| 073-26 | Current Firehouse PFAS | 35-50 | 55 | 84.4 | SG |
| 073-27 | Current Firehouse PFAS | 35-50 | 55 | 84.3 | SG |
| 073-28 | Current Firehouse PFAS | 35-50 | 55 | 84.4 | SG |
| 073-29 | Current Firehouse PFAS | 35-50 | 55 | 85.3 | SG |
| 073-30 | Current Firehouse PFAS | 35-50 | 55 | 84.2 | SG |
| 073-31 | Current Firehouse PFAS | 35-50 | 55 | 86.0 | SG |
| 073-32 | Current Firehouse PFAS | 55-65 | 70 | 86.3 | SG |
| 073-33 | Current Firehouse PFAS | 35-50 | 55 | 88.3 | SG |
| 073-34 | Current Firehouse CF-RW-A | 48-68 | 73 | 86.0 | SG |
| 073-35 | Currenr Firehouse CF-RW-B | 54-74 | 79 | 84.9 | SG |
| 074-135 | Current Firehouse PFAS | 55-65 | 70 | 88.8 | 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 |

**Table 1-7**
**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | Aquifer |
|---|---|---|---|---|---|
| 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 |
| 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 |

**Table 1-7**
**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | Aquifer |
|---|---|---|---|---|---|
| 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 |
| 075-809 | Former Firehouse PFAS | 30-45 | 50 | 73.5 | SG |
| 075-810 | Former Firehouse PFAS | 30-45 | 50 | 73.6 | SG |
| 075-811 | Former Firehouse PFAS | 30-45 | 50 | 74.3 | SG |
| 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 |

**Table 1-7**
**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | Aquifer |
|---|---|---|---|---|---|
| 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 |
| 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 |
| 083-33 | Current Firehouse PFAS | 50-60 | 65 | 90.1 | SG |
| 083-34 | Current Firehouse PFAS | 70-80 | 85 | 91.1 | SG |
| 083-35 | Current Firehouse PFAS | 50-60 | 65 | 90.2 | SG |
| 083-36 | Current Firehouse PFAS | 70-80 | 85 | 90.3 | SG |
| 083-37 | Current Firehouse PFAS | 50-60 | 65 | 91.0 | SG |
| 083-38 | Current Firehouse PFAS | 70-80 | 85 | 92.8 | SG |
| 083-39 | Current Firehouse PFAS | 60-70 | 75 | 93.5 | SG |
| 083-40 | Current Firehouse PFAS | 100-110 | 115 | 93.7 | MG |
| 083-41 | Current Firehouse PFAS | 120-130 | 135 | 107.8 | MG |
| 083-42 | Current Firehouse PFAS | 90-100 | 105 | 106.4 | MG |
| 083-43 | Current Firehouse PFAS | 120-130 | 135 | 106.4 | MG |
| 083-44 | Current Firehouse PFAS | 70-80 | 85 | 107.5 | SG |
| 083-45 | Current Firehouse CF-RW-C | 117-137 | 142 | 99.5 | MG |
| 083-46 | Current Firehouse CF-RW-D | 70-90 | 95 | 101.4 | SG |

**Table 1-7**
**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | Aquifer |
|---|---|---|---|---|---|
| 083-47 | Building 170 PFAS | 50-70 | 75 | 92.3 | 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 |
| 084-86 | Current Firehouse PFAS | 120-130 | 135 | 94.0 | MG |
| 804-87 | Current Firehouse PFAS | 60-70 | 75 | 95.2 | SG |
| 084-88 | Current Firehouse PFAS | 90-100 | 105 | 95.5 | MG |
| 084-89 | Current Firehouse PFAS | 120-130 | 135 | 96.4 | MG |
| 084-90 | Current Firehouse PFAS | 90-100 | 105 | 97.0 | MG |
| 084-91 | Current Firehouse PFAS | 120-130 | 135 | 96.9 | MG |
| 084-92 | Current Firehouse PFAS | 140-150 | 155 | 96.9 | MG |
| 084-93 | Current Firehouse PFAS | 90-100 | 105 | 110.1 | MG |
| 084-94 | Current Firehouse PFAS | 120-130 | 135 | 110.3 | MG |
| 084-95 | Current Firehouse PFAS | 140-150 | 155 | 110.1 | MG |
| 084-96 | Current Firehouse PFAS | 90-100 | 105 | 108.8 | MG |
| 084-97 | Current Firehouse PFAS | 120-130 | 135 | 108.9 | MG |
| 084-98 | Current Firehouse PFAS | 140-150 | 155 | 109.2 | MG |
| 084-102 | Current Firehouse CF-RW-E | 132-152 | 157 | 100.8 | MG |
| 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 |
| 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 |

**Table 1-7**
**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | Aquifer |
|---|---|---|---|---|---|
| 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 |
| 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 |
| 085-404 | Former Firehouse PFAS | 30-45 | 50 | 71.1 | SG |

**Table 1-7**
**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | Aquifer |
|---|---|---|---|---|---|
| 085-405 | Former Firehouse PFAS | 50-60 | 65 | 71.0 | SG |
| 085-406 | Former Firehouse PFAS | 30-45 | 50 | 70.9 | SG |
| 085-407 | Former Firehouse PFAS | 50-60 | 65 | 71.0 | SG |
| 085-408 | Former Firehouse PFAS | 60-70 | 75 | 71.3 | SG |
| 085-409 | Former Firehouse PFAS | 30-45 | 50 | 72.2 | SG |
| 085-410 | Former Firehouse PFAS | 50-60 | 65 | 72.4 | SG |
| 085-411 | Former Firehouse PFAS | 50-60 | 65 | 75.0 | SG |
| 085-412 | Former Firehouse PFAS | 90-100 | 105 | 74.5 | MG |
| 085-414 | Former Firehouse FF-RW-A | 44-64 | 69 | 73.4 | SG |
| 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 |

**Table 1-7**
**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | Aquifer |
|---|---|---|---|---|---|
| 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 |
| 093-88 | Current Firehouse PFAS | 120-130 | 135 | 90.9 | MG |
| 093-89 | Current Firehouse PFAS | 70-80 | 85 | 110-8 | SG |
| 093-90 | Current Firehouse PFAS | 100-110 | 115 | 111.5 | MG |
| 093-91 | Current Firehouse PFAS | 80-90 | 95 | 114-9 | SG |
| 093-92 | Current Firehouse PFAS | 100-110 | 115 | 114-8 | MG |
| 093-93 | Building 170 PFAS | 50-70 | 75 | 91.9 | SG |
| 093-94 | Building 170 PFAS | 40-60 | 65 | 83.6 | SG |
| 093-95 | Building 170 PFAS | 60-70 | 75 | 85.9 | SG |
| 093-96 | Building 170 PFAS | 55-65 | 70 | 87.0 | SG |
| 093-97 | Building 170 PFAS | 58-68 | 73 | 90.6 | SG |
| 093-98 | Building 170 PFAS | 60-70 | 75 | 89.3 | SG |
| 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 |
| 094-275 | Current Firehouse PFAS | 80-90 | 95 | 116.3 | SG |
| 094-276 | Current Firehouse PFAS | 100-110 | 115 | 116.3 | MG |
| 094-277 | Current Firehouse PFAS | 70-80 | 85 | 113.4 | SG |
| 094-278 | Current Firehouse PFAS | 100-110 | 115 | 113.5 | MG |
| 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 |

**Table 1-7**
**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | Aquifer |
|---|---|---|---|---|---|
| 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 |
| 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 |

**Table 1-7**
**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | Aquifer |
|---|---|---|---|---|---|
| 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 |
| 096-122 | Former Firehouse PFAS | 60-70 | 75 | 68.3 | SG |
| 096-123 | Former Firehouse PFAS | 120-130 | 135 | 68.4 | MG |
| 096-124 | Former Firehouse PFAS | 70-80 | 85 | 70.0 | SG |
| 096-125 | Former Firehouse PFAS | 120-130 | 135 | 70.1 | MG |
| 096-126 | Former Firehouse PFAS | 55-65 | 70 | 68.7 | SG |
| 096-127 | Former Firehouse PFAS | 110-120 | 125 | 68.6 | MG |
| 096-128 | Former Firehouse PFAS | 55-65 | 135 | 68.6 | SG |
| 096-129 | Former Firehouse PFAS | 110-120 | 125 | 68.6 | MG |
| 096-130 | Former Firehouse PFAS | 55-65 | 70 | 69.6 | SG |
| 096-131 | Former Firehouse PFAS | 110-120 | 125 | 69.7 | MG |
| 096-132 | Former Firehouse FF-RW-B | 83-103 | 108 | 68.5 | MG |
| 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 |
| 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 |

**Table 1-7**
**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | Aquifer |
|---|---|---|---|---|---|
| 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 |
| 102-26 | Current Firehouse PFAS | 90-100 | 105 | 91.9 | MG |
| 102-27 | Current Firehouse PFAS | 110-120 | 125 | 92.0 | MG |
| 102-28 | Current Firehouse PFAS | 140-150 | 155 | 91.8 | MG |
| 102-29 | Current Firehouse PFAS | 90-100 | 105 | 90.1 | MG |
| 102-30 | Current Firehouse PFAS | 110-120 | 125 | 90.2 | MG |
| 102-31 | Current Firehouse PFAS | 130-140 | 145 | 90.1 | MG |
| 102-32 | Current Firehouse CF-RW-F | 121-141 | 146 | 93.1 | MG |
| 102-33 | Curent Firehouse CF-RW-G | 88-108 | 113 | 95.1 | MG |
| 102-34 | Current Firehouse CF-RW-H | 98-118 | 123 | 104.4 | MG |
| 102-35 | Building 170 CF-RW-I | 70-90 | 95 | 91.8 | SG |
| 102-36 | Building 170 PFAS | 70-80 | 85 | 89.6 | SG |
| 102-37 | Building 170 PFAS | 65-75 | 80 | 92.2 | SG |
| 102-38 | Building 170 PFAS | 70-80 | 85 | 81.7 | SG |
| 102-39 | Building 170 PFAS | 70-80 | 85 | 83.1 | SG |
| 102-40 | Current Firehouse PFAS | 145-155 | 160 | 90.1 | MG |
| 103-01 | Water Levels | -- | 49 | 81.4 | SG |
| 103-02 | Current Firehouse PFAS, 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 |
| 103-30 | Current Firehouse PFAS | 90-100 | 105 | 102.5 | MG |
| 103-31 | Current Firehouse PFAS | 110-120 | 125 | 103.2 | MG |
| 103-32 | Current Firehouse PFAS | 130-140 | 145 | 103.4 | MG |
| 103-33 | Current Firehouse PFAS | 90-100 | 105 | 100.9 | MG |

**Table 1-7**
**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | Aquifer |
|---|---|---|---|---|---|
| 103-34 | Current Firehouse PFAS | 120-130 | 135 | 100.7 | MG |
| 104-01 | Water Levels | 45-65 | 70 | 64.1 | SG |
| 104-11 | OU III Carbon tet, Water Levels | 185-195 | 200 | 64.4 | DG |
| 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 |
| 105-72 | Former Firehouse PFAS | 100-110 | 115 | 62.3 | MG |
| 105-73 | Former Firehouse PFAS | 120-130 | 135 | 63.2 | MG |
| 105-74 | Former Firehouse PFAS | 90-100 | 105 | 65.0 | SG |
| 105-75 | Former Firehouse PFAS | 110-120 | 125 | 64.4 | MG |
| 105-76 | Former Firehouse PFAS | 130-140 | 145 | 63.9 | MG |
| 105-77 | Former Firehouse PFAS | 100-110 | 115 | 60.1 | MG |
| 105-78 | Former Firehouse PFAS | 120-130 | 135 | 60.9 | MG |
| 105-79 | Former Firehouse FF-RW-C | 104-124 | 129 | 64.3 | MG |
| 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 |

**Table 1-7**
**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | Aquifer |
|---|---|---|---|---|---|
| 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 |
| 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 |

**Table 1-7**
**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | Aquifer |
|---|---|---|---|---|---|
| 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 |
| 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 |

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**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | Aquifer |
|---|---|---|---|---|---|
| 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 |
| 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 |

**Table 1-7**
**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | Aquifer |
|---|---|---|---|---|---|
| 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 |
| 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 |

**Table 1-7**
**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | Aquifer |
|---|---|---|---|---|---|
| 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 |
| 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 |

**Table 1-7**
**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | Aquifer |
|---|---|---|---|---|---|
| 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 |
| 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 |

**Table 1-7**
**Summary of Monitoring Wells and Piezometers**

2022 BNL Groundwater Status Report

| Well ID | Project(s) | Screen Interval (Feet BLS) | Total Depth (Feet BLS) | Land Surface Elevation (Feet Above MSL) | Aquifer |
|---|---|---|---|---|---|
| 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 |
| 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 |
| 127-08 | OU3 EM-50 | 235-245 | 250 | 70.9 | MAG |
| 127-09 | OU3 EM-50 | 220-230 | 235 | 70.8 | 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

BLS Below Land Surface

MSL Mean Sea Level

**Table 2-1**
**2022 Water Pumpage Report for Potable Supply Wells**

2022 BNL Groundwater Status Report

| Potable Water Supply Wells<br>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 | 0 | 12,141 | 18,929 | 0 |
| February | 0 | 0 | 0 | 16,725 | 13,458 | 0 |
| March | 0 | 0 | 0 | 14,290 | 18,665 | 0 |
| April | 0 | 0 | 1,710 | 12,898 | 11,577 | 5,185 |
| May | 0 | 0 | 2,691 | 2,802 | 2,763 | 16,560 |
| June | 0 | 0 | 2,191 | 3,334 | 5,289 | 15,842 |
| July | 0 | 0 | 1,763 | 5,849 | 7,541 | 20,701 |
| August | 0 | 0 | 1,881 | 6,567 | 11,212 | 16,512 |
| September | 0 | 0 | 2,153 | 3,372 | 5,061 | 19,700 |
| October | 0 | 0 | 424 | 3,136 | 6,947 | 15,992 |
| November | 0 | 0 | 1,376 | 2,177 | 3,728 | 16,058 |
| December | 0 | 0 | 743 | 2,070 | 2,798 | 13,840 |
| Annual average<br>(K gallons per month) | 0 | 0 | 1,248 | 7,053 | 8,989 | 11,768 |

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**
**2022 Remediation Well Pumpage Report**

2022 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**
**2022 Remediation Well Pumpage Report**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br>MIDDLE ROAD SYSTEM - Groundwater Withdrawal (1,000 gallons per month) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BNL Well No.<br>Extraction Well<br>Screen Int.<br>elevation (ft. msl)<br>depth (feet) | 113-23<br>RW-1<br><br>-17 to -57<br>90 to 130 | 113-24<br>RW-2<br><br>-99 to -129<br>170 to 200 | 113-25<br>RW-3<br><br>-159 to -199<br>228 to 268 | 113-26<br>RW-4<br><br>-98 to -128<br>150 to 180 | 113-27<br>RW-5<br><br>-91 to -121<br>150 to 180 | 106-66<br>RW-6<br><br>-124 to -154<br>188 to 218 | 113-33<br>RW-7<br><br><br>202 to 222 | MIDDLE<br>ROAD<br><br><br>Monthly<br>Total |
| January | 0.00 | 4,802.74 | 4,532.75 | 0.00 | 0.00 | 0.00 | 4,428.20 | 13,763.69 |
| February | 0.00 | 5,173.61 | 4,853.21 | 0.00 | 0.00 | 0.00 | 4,585.18 | 14,612.00 |
| March | 0.00 | 5,632.26 | 5,733.74 | 0.00 | 0.00 | 0.00 | 5,841.45 | 17,207.45 |
| April | 0.00 | 3,846.97 | 3,622.40 | 0.00 | 0.00 | 0.00 | 3,757.93 | 11,227.30 |
| May | 0.00 | 5,993.42 | 5,912.21 | 0.00 | 0.00 | 0.00 | 6,316.32 | 18,221.95 |
| June | 0.00 | 6,051.85 | 2,095.91 | 0.00 | 0.00 | 0.00 | 6,311.88 | 14,459.64 |
| July | 0.00 | 6,092.03 | 0.00 | 0.00 | 0.00 | 0.00 | 6,461.59 | 12,553.62 |
| August | 0.00 | 1,866.16 | 4,109.32 | 0.00 | 0.00 | 0.00 | 6,613.67 | 12,589.15 |
| September | 0.00 | 0.00 | 5,643.22 | 0.00 | 0.00 | 0.00 | 4,921.24 | 10,564.46 |
| October | 0.00 | 3,165.98 | 2,220.03 | 0.00 | 0.00 | 0.00 | 2,458.46 | 7,844.47 |
| November | 0.00 | 5,551.55 | 3,010.35 | 0.00 | 0.00 | 0.00 | 9.73 | 8,571.63 |
| December | 0.00 | 6,170.99 | 6,324.80 | 0.00 | 0.00 | 0.00 | 0.00 | 12,495.79 |
| Annual<br>Average (K gal/month) | 0.00 | 4,530.97 | 4,002.37 | 0.00 | 0.00 | 0.00 | 4,312.65 | 12,845.99 |

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**
**2022 Remediation Well Pumpage Report**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br>SOUTH BOUNDARY SYSTEM - Groundwater Withdrawal (1,000 gallons per month) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BNL Well No. | 121-17 | 121-16 | 121-15 | 122-14 | 122-13 | 122-12 | 121-46 | SOUTH |
| Extraction Well | EW-3 | EW-4 | EW-5 | EW-6 | EW-7 | EW-8 | EW-17 | BOUNDARY |
| Screen Int. elevation (ft. msl) | -79 to -119 | -88 to -108<br>-118 to -128 | -91 to -131 | -105 to -145 | -115 to -155 | -131 to -151<br>-171 to -191 | | |
| depth (feet) | 150 to 190 | 160 to 180<br>190 to 200 | 160 to 200 | 160 to 200 | 170 to 210 | 190 to 210<br>230 to 250 | 207 to 237 | Monthly Total |
| January | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4,679.05 | 4,679.05 |
| February | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4,833.68 | 4,833.68 |
| March | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5,793.78 | 5,793.78 |
| April | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3,492.92 | 3,492.92 |
| May | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5,792.40 | 5,792.40 |
| June | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5,817.59 | 5,817.59 |
| July | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6,011.51 | 6,011.51 |
| August | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6,793.15 | 6,793.15 |
| September | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6,829.76 | 6,829.76 |
| October | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5,878.00 | 5,878.00 |
| November | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6,058.04 | 6,058.04 |
| December | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6,679.56 | 6,679.56 |
| Annual Average (K gal/month) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5,730.80 | 5,730.80 |

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**
**2022 Remediation Well Pumpage Report**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br>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**
**2022 Remediation Well Pumpage Report**

2022 BNL Groundwater Status Report

| **Operable Unit III - Pump and Treat**<br>**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 | 2,490.00 | 0.00 | 0.00 | 0.00 | 2,490.00 |
| February | 2,490.00 | 0.00 | 0.00 | 0.00 | 2,490.00 |
| March | 2,490.00 | 0.00 | 0.00 | 0.00 | 2,490.00 |
| April | 2,490.00 | 0.00 | 0.00 | 0.00 | 2,490.00 |
| May | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| June | 2,490.00 | 0.00 | 0.00 | 0.00 | 2,490.00 |
| July | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| August | 2,490.00 | 0.00 | 0.00 | 0.00 | 2,490.00 |
| September | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| October | 2,490.00 | 0.00 | 0.00 | 0.00 | 2,490.00 |
| November | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| December | 2,490.00 | 0.00 | 0.00 | 0.00 | 2,490.00 |
| Annual<br>Average (K gal/month) | 1,660 | stand-by | stand-by | stand-by | 1,660 |

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

**Table 2-2**
**2022 Remediation Well Pumpage Report**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br>WESTERN SOUTH BOUNDARY SYSTEM (1,000 gallons per month) | | | | | | | |
|---|---|---|---|---|---|---|---|
| BNL Well No.<br>Extraction Well<br>Screen Int.<br>elevation (ft. msl)<br>depth (feet) | 126-12<br>WSB-1<br><br>-60 to -80<br>140 to 160 | 127-05<br>WSB-2<br><br>-80 to -100<br>150 to 170 | 111-17<br>WSB-3<br><br>-97.2 to -117.2<br>168 to 188 | 119-13<br>WSB-4<br><br>-91.7 to 111.7<br>170 to 190 | 130-12<br>WSB-5<br><br>-84.5 to -114.50<br>160 to 190 | 130-13<br>WSB-6<br><br>-120.6 to 140.6<br>196 to 216 | WESTERN SOUTH<br>BOUNDARY<br><br>Monthly<br><br>Total |
| January | 2,781.00 | 0.00 | 3,548.00 | 3,796.00 | 3,141.00 | 3,218.00 | 16,484.00 |
| February | 3,456.00 | 0.00 | 3,645.00 | 4,152.00 | 3,385.00 | 3,376.00 | 18,014.00 |
| March | 4,160.00 | 0.00 | 4,459.00 | 5,053.00 | 4,038.00 | 4,131.00 | 21,841.00 |
| April | 2,584.00 | 0.00 | 2,866.00 | 3,067.00 | 2,525.00 | 2,630.00 | 13,672.00 |
| May | 4,591.00 | 0.00 | 4,598.00 | 5,062.00 | 4,215.00 | 4,460.00 | 22,926.00 |
| June | 4,980.00 | 0.00 | 0.00 | 4,935.00 | 4,199.00 | 4,510.00 | 18,624.00 |
| July | 5,212.00 | 0.00 | 303.00 | 3,196.00 | 4,457.00 | 4,513.00 | 17,681.00 |
| August | 5,109.00 | 0.00 | 1,727.00 | 3,916.00 | 4,549.00 | 4,615.00 | 19,916.00 |
| September | 4,836.00 | 0.00 | 3,777.00 | 4,207.00 | 4,506.00 | 4,743.00 | 22,069.00 |
| October | 3,548.00 | 0.00 | 3,706.00 | 3,196.00 | 3,407.00 | 3,809.00 | 17,666.00 |
| November | 4,231.00 | 0.00 | 4,546.00 | 275.00 | 3,971.00 | 4,434.00 | 17,457.00 |
| December | 4,413.00 | 0.00 | 5,353.00 | 1,529.00 | 4,398.00 | 4,991.00 | 20,684.00 |
| Annual<br>Average (K gal/month) | 4,164.20 | 0.00 | 3,211.63 | 3,531.41 | 3,904.56 | 4,125.71 | 18,937.51 |

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**
**2022 Remediation Well Pumpage Report**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br>CHEM HOLES STRONTIUM 90 SYSTEM (1,000 gallons per month) | | | | |
|---|---|---|---|---|
| BNL Well No.<br>Extraction Well<br>Screen Int.<br>elevation (ft. msl)<br>depth (feet) | 106-92<br>SR-90 EW-1<br><br>+40.5 to +25.5<br>23.5 to 38.5 | 106-23<br>SR-90 EW-2<br><br>+32.6 to 22.6<br>35 to 45 | 106-24<br>SR-90 EW-3<br><br>+27.6 to +17.6<br>35 to 45 | Chem Holes<br><br><br>Monthly<br><br>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<br>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**
**2022 Remediation Well Pumpage Report**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br>LIPA SYSTEM - Groundwater Withdrawal (1,000 gallons per month) | | | | | |
|---|---|---|---|---|---|
| BNL Well No.<br>Extraction Well<br>Screen Int.<br>elevation (ft. msl)<br>depth (feet) | 000-453<br>EW-1L<br><br>-111 to -131<br>217 to 237 | 000-455<br>EW-2L<br><br>-115 to -135<br>224 to 244 | 000-457<br>EW-3L<br><br>-104 to -124<br>216 to 236 | 000-461<br>EW-4L<br><br>-192 to -212<br>304 to 324 | LIPA<br><br><br>Monthly<br>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<br>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**
**2022 Remediation Well Pumpage Report**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br>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 | | |
| depth (feet) | 188 to 208 | 188 to 208 | 210 to 230 | 268 to 288 | 220 to 240 | 165 to 185 | |
| 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 | 4,322.36 | 0.00 | 0.00 | 6,209.80 | 0.00 | 6,483.54 | 17,015.70 |
| February | 4,195.72 | 0.00 | 0.00 | 5,666.09 | 0.00 | 6,293.58 | 16,155.39 |
| March | 5,458.68 | 0.00 | 0.00 | 7,174.36 | 0.00 | 8,188.02 | 20,821.06 |
| April | 4,783.92 | 0.00 | 0.00 | 6,318.15 | 0.00 | 7,175.88 | 18,277.95 |
| May | 4,672.16 | 0.00 | 0.00 | 6,668.92 | 0.00 | 7,008.24 | 18,349.32 |
| June | 4,255.20 | 0.00 | 0.00 | 1,999.88 | 0.00 | 6,382.80 | 12,637.88 |
| July | 4,739.72 | 0.00 | 0.00 | 0.00 | 0.00 | 7,109.58 | 11,849.30 |
| August | 4,360.36 | 0.00 | 0.00 | 0.00 | 0.00 | 6,540.54 | 10,900.90 |
| September | 4,264.32 | 0.00 | 0.00 | 226.92 | 0.00 | 6,396.48 | 10,887.72 |
| October | 4,052.12 | 0.00 | 0.00 | 6,396.41 | 0.00 | 6,078.18 | 16,526.71 |
| November | 4,158.48 | 0.00 | 0.00 | 6,506.09 | 0.00 | 6,237.72 | 16,902.29 |
| December | 4,850.72 | 0.00 | 0.00 | 7,643.18 | 0.00 | 7,276.08 | 19,769.98 |
| Annual<br>Average (K gal/month)* | 4,513.64 | 0.00 | 0.00 | 4,567.27 | 0.00 | 6,770.46 | 15,851.36 |

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**
**2022 Remediation Well Pumpage Report**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br>NORTH STREET SYSTEM - Groundwater Withdrawal (1,000 gallons per month) | | | |
|---|---|---|---|
| BNL Well No. | 000-471 | 000-473 | NORTH STREET |
| Extraction Well | NS-1 | NS-2 | |
| Screen Int. | | | |
| elevation (ft. msl) | -64 to-104 | -96 to -126 | Monthly |
| depth (feet) | 165 to 205 | 190 to 220 | 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<br>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**
**2022 Remediation Well Pumpage Report**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br>NORTH STREET EAST SYSTEM - Groundwater Withdrawal (1,000 gallons per month) | | | | | |
|---|---|---|---|---|---|
| BNL Well No.<br>Extraction Well<br>Screen Int.<br>elevation (ft. msl)<br>depth (feet) | 000-487<br>NSE-1<br><br>-71 to -101<br>161 to 191 | 000-488<br>NSE-2<br><br>-71 to -101<br>152 to 182 | 000-561<br>NSE-EDB-EW-3<br><br>-111 to -131<br>195 to 215 | 000-562<br>NSE-EDB-EW-4<br><br>-112 to -132<br>182 to 202 | NORTH<br>STREET<br>EAST<br>Monthly<br>Total |
| January | 0.00 | 0.00 | 5,081.00 | 5,139.00 | 10,220.00 |
| February | 0.00 | 0.00 | 3,365.00 | 3,056.00 | 6,421.00 |
| March | 0.00 | 0.00 | 5,246.00 | 4,664.00 | 9,910.00 |
| April | 0.00 | 0.00 | 4,614.00 | 4,061.00 | 8,675.00 |
| May | 0.00 | 0.00 | 4,465.00 | 4,505.00 | 8,970.00 |
| June | 0.00 | 0.00 | 2,825.00 | 3,006.00 | 5,831.00 |
| July | 0.00 | 0.00 | 4,476.00 | 4,814.00 | 9,290.00 |
| August | 0.00 | 0.00 | 4,162.00 | 4,514.00 | 8,676.00 |
| September | 0.00 | 0.00 | 4,408.00 | 4,776.00 | 9,184.00 |
| October | 0.00 | 0.00 | 4,045.00 | 4,363.00 | 8,408.00 |
| November | 0.00 | 0.00 | 4,573.00 | 4,605.00 | 9,178.00 |
| December | 0.00 | 0.00 | 5,014.00 | 4,648.00 | 9,662.00 |
| Annual<br>Average (K gal/month) | 0.00 | 0.00 | 4,367.07 | 4,359.08 | 8,726.15 |

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**
**2022 Remediation Well Pumpage Report**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br>BGRR/WCF STRONTIUM-90 SYSTEM - 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 | 185.36 | 185.36 | 185.36 | 0.00 | 0.00 | 0.00 | 0.00 | 399.15 | 357.00 | 1,312.23 |
| February | 232.35 | 232.35 | 202.24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 420.00 | 1,086.94 |
| March | 232.35 | 232.35 | 239.84 | 0.00 | 0.00 | 0.00 | 0.00 | 479.64 | 420.00 | 1,604.18 |
| April | 232.35 | 232.35 | 242.53 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 420.00 | 1,127.23 |
| May | 232.35 | 232.35 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 464.70 |
| June | 232.35 | 232.35 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 420.00 | 884.70 |
| July | 232.35 | 232.35 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 464.70 |
| August | 297.52 | 120.52 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 418.04 |
| September | 294.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 294.32 |
| October | 332.57 | 77.45 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 142.84 | 552.86 |
| November | 296.81 | 232.35 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 529.16 |
| December | 296.81 | 232.35 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 420.00 | 949.16 |
| Annual Average (K gal/month) | 258 | 187 | 72 | stand-by | stand-by | stand-by | stand by | 73 | 217 | 807 |

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**
**2022 Remediation Well Pumpage Report**

2022 BNL Groundwater Status Report

| Operable Unit VI - Pump and Treat<br>EDB SYSTEM- Groundwater Withdrawal (1,000 gallons per month) | | | |
|---|---|---|---|
| BNL Well No.<br>Extraction Well<br>Screen Int.<br>elevation (ft. msl)<br>depth (feet) | 000-503<br>EW-1E<br><br>-41 to -61<br>115 to 135 | 000-504<br>EW-2E<br><br>-45 to -65<br>115 to 135 | OU VI EDB<br><br><br>Monthly<br>Total |
| January | 6,152.00 | 6,924.00 | 13,076.00 |
| February | 6,958.20 | 7,769.20 | 14,727.40 |
| March | 5,566.50 | 8,693.30 | 14,259.80 |
| April | 4,304.50 | 9,190.80 | 13,495.30 |
| May | 7,126.90 | 7,484.50 | 14,611.40 |
| June | 6,784.10 | 7,684.50 | 14,468.60 |
| July | 6,418.40 | 7,655.00 | 14,073.40 |
| August | 6,921.80 | 7,684.80 | 14,606.60 |
| September | 4,930.10 | 7,760.10 | 12,690.20 |
| October | 7,222.80 | 8,212.20 | 15,435.00 |
| November | 7,041.60 | 8,078.40 | 15,120.00 |
| December | 7,276.30 | 8,436.50 | 15,712.80 |
| Annual<br>Average (K gal/month) | 6,392 | 7,964 | 14,356 |

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**
**2022 Remediation Well Pumpage Report**

2022 BNL Groundwater Status Report

| **Operable Unit III - Pump and Treat**<br>**BUILDING 452 FREON SYSTEM - Groundwater Withdrawal (1,000 gallons per month)** | | |
|---|---|---|
| BNL Well No.<br>Extraction Well<br>Screen Int.<br>elevation (ft. msl)<br>depth (feet) | 085-839<br>EW-18<br><br><br>55-65 | Building 452 Freon<br><br><br>Monthly<br>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<br>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 2-2**
**2022 Remediation Well Pumpage Report**

2022 BNL Groundwater Status Report

| Operable Unit X - Pump and Treat<br>CURRENT FIREHOUSE SYSTEM - Groundwater Withdrawal (1,000 gallons per month) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| BNL Well No.<br>Extraction Well<br>Screen Int.<br>elevation<br>(ft. msl)<br>depth (feet) | 073-34<br>CF-RW-A<br><br><br><br>38 to 18<br>48 to 68 | 073-35<br>CF-RW-B<br><br><br><br>30.9 to 10.9<br>54 to 74 | 083-45<br>CF-RW-C<br><br><br><br>-17.5 to -37.5<br>117 to 137 | 083-46<br>CF-RW-D<br><br><br><br>31 to 11.4<br>70 to 90 | 084-102<br>CF-RW-E<br><br><br><br>-31.2 to -51.2<br>132 to 152 | 102-32<br>CF-RW-F<br><br><br><br>-27.9 to -47.9<br>121 to 141 | 102-33<br>CF-RW-G<br><br><br><br>7.1 to -12.9<br>88 to 108 | 102-34<br>CF-RW-H<br><br><br><br>6.4 to -13.6<br>98 to 118 | 102-35<br>CF-RW-I<br><br><br><br>21.8 to 1.8<br>70 to 90 | CURRENT<br>FIREHOUSE<br><br><br><br>Monthly<br>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 | 532.15 | 521.20 | 633.56 | 466.71 | 573.21 | 527.89 | 516.54 | 517.99 | 978.51 | 5,267.76 |
| November | 1,252.57 | 1,378.48 | 1,630.88 | 1,395.18 | 1,248.63 | 1,280.35 | 1,217.53 | 1,277.08 | 2,319.14 | 12,999.84 |
| December | 2,690.98 | 2,279.10 | 741.80 | 1,296.24 | 1,153.95 | 846.16 | 1,404.56 | 1,537.73 | 2,930.26 | 14,880.78 |
| Annual<br>Average<br>(K gal/month) | 1,491.90 | 1,392.93 | 1,002.08 | 1,052.71 | 991.93 | 884.80 | 1,046.21 | 1,110.93 | 2,075.97 | 11,049.46 |

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

CFH began operating October 2022. Average for 2022 based on three months of operation.

**Table 2-3**
**2022 Recharge Basin Flow Report**

2022 BNL Groundwater Status Report

| Monthly Water Recharge (in 1,000 gallons/month) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BNL Basin No. | HN | HO | HS | HT-W | HT-E | HX | RA V | OU III | HP | HZ | WSB |
| January | 8,184 | 8,622 | 10,974 | 4,774 | 713 | 1,240 | 15,234 | 12,314 | 0 | 155 | 0 |
| February | 6,612 | 8,061 | 11,716 | 3,915 | 6,554 | 1,120 | 12,528 | 15,218 | 0 | 626 | 0 |
| March | 7,285 | 8,265 | 10,571 | 4,836 | 620 | 4,960 | 18,289 | 14,853 | 0 | 526 | 0 |
| April | 6,960 | 7,227 | 8,460 | 6,900 | 480 | 1,200 | 12,046 | 12,037 | 0 | 509 | 0 |
| May | 6,014 | 4,203 | 6,169 | 9,424 | 589 | 1,240 | 10,515 | 29,502 | 0 | 142 | 0 |
| June | 5,670 | 4,186 | 6,780 | 10,770 | 450 | 1,200 | 16,697 | 19,377 | 0 | 191 | 0 |
| July | 5,766 | 6,237 | 4,092 | 12,338 | 310 | 2,480 | 16,383 | 18,888 | 0 | 552 | 0 |
| August | 5,363 | 6,288 | 5,208 | 10,571 | 248 | 1,240 | 16,763 | 19,744 | 0 | 301 | 0 |
| September | 6,210 | 5,942 | 4,440 | 4,050 | 780 | 1,200 | 16,596 | 19,600 | 0 | 25 | 0 |
| October | 7,192 | 5,553 | 9,579 | 3,162 | 1,178 | 1,240 | 5,878 | 23,635 | 5,268 | 168 | 0 |
| November | 5,580 | 4,587 | 10,080 | 2,490 | 480 | 1,200 | 26,214 | 8,262 | 13,000 | 137 | 0 |
| December | 7,161 | 3,440 | 10,106 | 5,580 | 1,395 | 1,240 | 35,681 | 4,374 | 14,881 | 168 | 0 |
| Basin Average | 6,500 | 6,051 | 8,181 | 6,568 | 1,150 | 1,630 | 16,902 | 16,484 | 11,050 | 292 | 0 |

Notes:

- Sources: BNL Environmental Protection Division (HN, HO, HS, HT, HX, HZ)
  BNL Groundwater Protection Division (RA V, WSB, OU III, New HP pair)
- Monthly recharge values reported in 1,000s 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.
- HP basins became operational with the Current Firehouse Groundwaster Treatment System in October 2022. Average based on three months of operation.
- WSB basin stopped receiving water during WSB system modification in November of 2018.

**Table 2-4**
**BNL Monthly Precipitation Summary (1949–2022)**

2022 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 (1949–2022)**

2022 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 |
| **2022** | 4.08 | 4.51 | 4.26 | 3.41 | 4.35 | 3.45 | 2.27 | 1.9 | 4.29 | 5.38 | 2.81 | 5.53 | 46.24 |
| **Average*** | 4.03 | 3.81 | 4.80 | 4.23 | 3.88 | 3.64 | 3.50 | 4.31 | 3.68 | 4.21 | 4.27 | 4.68 | 49.00 |
| **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 23 Through May 8, 2023**

2022 BNL Groundwater Status Report

| Sample Interval (bls) | Geoprobe ID: / Sample Date: / Analysis: | Units | OU1-SR-90-GP-69 05/04/23 | OU1-SR-90-GP-70 05/02/23 | OU1-SR-90-GP-71 04/20/23 | OU1-SR-90-GP-72 04/26/23 | OU1-SR-90-GP-73 04/27/23 | OU1-SR-90-GP-74 5/5-8/2023 |
|---|---|---|---|---|---|---|---|---|
| 24'-28' | Strontium-90 | pCi/L | <MDA | 1.65 | 3.9 | 0.621JN2 | 1.78 | <MDA |
| 28'-32' | Strontium-90 | pCi/L | 1.01 | 3.41 | 4.74 | 1.2N2 | 1.03N2 | 1.7 |
| 32'-36' | Strontium-90 | pCi/L | 1.69 | 4.79 | 13.5 | 1.18N2 | 0.971N2 | 4.61 |
| 36'-40' | Strontium-90 | pCi/L | 9.29 | 14.5 | 84.1 | 6.98 | 6.13 | 16.5 |
| 40'-44' | Strontium-90 | pCi/L | 3.45 | 11.4 | 144 | 10.8 | 7.53 | 8.64 |
| 44'-48' | Strontium-90 | pCi/L | 0.772J | 7.84 | 49.6 | 6.74 | 6.28 | 9.15 |
| 48'-52' | Strontium-90 | pCi/L | 0.653J | 2.49 | 47 | 2.93 | 4.26 | 4.33 |
| 52'-56' | Strontium-90 | pCi/L | 1.26 | 1.45 | 1.18N2 | 0.828N2 | 0.98N2 | 2.75 |
| 56'-60' | Strontium-90 | pCi/L | <MDA | 1.21 | 0.832N2 | <MDA | <MDA | 1.69 |
| 60'-64' | Strontium-90 | pCi/L | 1.08 | 1.26 | <MDA | <MDA | <MDA | <MDA |
| 64-68' | Strontium-90 | pCi/L | <MDA | 0.836 | <MDA | <MDA | <MDA | <MDA |
| 68'-72' | Strontium-90 | pCi/L | <MDA | <MDA | <MDA | <MDA | <MDA | <MDA |
| 72'-76' | Strontium-90 | pCi/L | 0.380J | <MDA | <MDA | <MDA | <MDA | <MDA |
| 76'-80' | Strontium-90 | pCi/L | 1.09 | 1.13 | <MDA | <MDA | <MDA | <MDA |

<MDA: Minimum Detectable Activity

J: denotes analyte detected above MDA but below the reporting limit, result 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.

NS: No sample

**Table 3.1-1**
**OU I South Boundary**
**Summary of Strontium-90 Results From Vertical Profile Wells,**
**March 23 Through May 8, 2023**

2022 BNL Groundwater Status Report

| Sample Interval (bls) | Geoprobe ID: / Sample Date: / Analysis: | Units | OU1-SR-90-GP-97 3/23-24/2023 | OU1-SR-90-GP-98 3/24-30/2023 | OU1-SR-90-GP-99 3/31-4/3/2023 | OU1-SR-90-GP-100 04/05/23 |
|---|---|---|---|---|---|---|
| 24'-28' | Strontium-90 | pCi/L | NS | NS | NS | 1.71 |
| 28'-32' | Strontium-90 | pCi/L | NS | 0.620U | 1.36 | 0.802N2 |
| 32'-36' | Strontium-90 | pCi/L | N2 | 13.5 | 1.74 | 3.21 |
| 36'-40' | Strontium-90 | pCi/L | 0.0423 | 1.58 | 1.90 | 9.22 |
| 40'-44' | Strontium-90 | pCi/L | N2 | 2.65 | 1.45 | 1.48 |
| 44'-48' | Strontium-90 | pCi/L | 1.87 | 3.22 | 1.15N2 | 2.71 |
| 48'-52' | Strontium-90 | pCi/L | 1.70 | 3.04 | 2.83 | 4.07 |
| 52'-56' | Strontium-90 | pCi/L | 4.55 | 3.44 | 7.63 | 4.87 |
| 56'-60' | Strontium-90 | pCi/L | 3.66 | 1.12N2 | 4.40 | 3.51 |
| 60'-64' | Strontium-90 | pCi/L | 1.72 | 3.04 | 1.42 | 2.34 |
| 64'-68' | Strontium-90 | pCi/L | 1.45 | 0.996N2 | 1.70 | 3.07 |
| 68'-72' | Strontium-90 | pCi/L | <MDA | 1.43 | 2.45 | 2.75 |
| 72'-76' | Strontium-90 | pCi/L | <MDA | 1.21N2 | 1.97 | 3.18 |
| 76'-80' | Strontium-90 | pCi/L | <MDA | 2.37 | 2.57 | 2.18 |
| 80'-84' | Strontium-90 | pCi/L | 1.95 | 2.64 | 2.72 | 0.823N2 |
| 84'-88' | Strontium-90 | pCi/L | 1.33 | 2.90 | 1.76 | <MDA |
| 88'-92' | Strontium-90 | pCi/L | <MDA | 2.83 | 1.66 | 1.34 |
| 92'-96' | Strontium-90 | pCi/L | 1.94 | 1.22N2 | 1.82 | <MDA |
| 96'-100' | Strontium-90 | pCi/L | 2.46 | 1.70 | 1.16N2 | 1.50 |

<MDA: Minimum Detectable Activity

U: denotes the analyte was not detected above the MDA.

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.

NS: No sample

**Table 3.1-1**
**OU I South Boundary**
**Summary of Strontium-90 Results From Vertical Profile Wells,**
**March 23 Through May 8, 2023**

2022 BNL Groundwater Status Report

| Sample Interval (bls) | Geoprobe ID: / Sample Date: / Analysis: | Units | OU1-SR-90-GP-101 2/18-19/2023 | OU1-SR-90-GP-102 4/10-11/2023 |
|---|---|---|---|---|
| 24'-28' | Strontium-90 | pCi/L | NS | 0.188U |
| 28'-32' | Strontium-90 | pCi/L | NS | 1.06 |
| 32'-36' | Strontium-90 | pCi/L | 1.87 | 1.48 |
| 36'-40' | Strontium-90 | pCi/L | 1.9 | 1.42 |
| 40'-44' | Strontium-90 | pCi/L | 2.74 | 0.807 |
| 44'-48' | Strontium-90 | pCi/L | 1.62 | 1.36 |
| 48'-52' | Strontium-90 | pCi/L | -2.26U-DL | 2.57 |
| 52'-56' | Strontium-90 | pCi/L | 5.52 | 2.59 |
| 56'-60' | Strontium-90 | pCi/L | 4.88 | 2.75 |
| 60'-64' | Strontium-90 | pCi/L | 1.68U-DL | 2.4 |
| 64'-68' | Strontium-90 | pCi/L | 2.11 | 2.88 |
| 68'-72' | Strontium-90 | pCi/L | <MDA | 1.09 |
| 72'-76' | Strontium-90 | pCi/L | <MDA | 0.794J |
| 76'-80' | Strontium-90 | pCi/L | 0.735U-DL | 0.543U |
| 80'-84' | Strontium-90 | pCi/L | 1.11N2 | 0.718U |
| 84'-88' | Strontium-90 | pCi/L | <MDA | 0.718U |
| 88'-92' | Strontium-90 | pCi/L | 0.408U-DL | 0.320U |
| 92'-96' | Strontium-90 | pCi/L | -1.45U-DL | -0.362U |
| 96'-100' | Strontium-90 | pCi/L | <MDA | 0.580U-DL |

<MDA: Minimum Detectable Activity

J: denotes analyte detected above MDA but below the reporting limit, result estimated.

U: denotes the analyte was not detected above the MDA.

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.

DL: Failed required detection limit.

NS: No sample

**Table 3.2.1-3**
**OU III Building 96 2022 Extraction Well Pumping Rates**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br><br>BUILDING 96 SYSTEM - Groundwater Withdrawal and Reinjection (gpm) | | | | | |
|---|---|---|---|---|---|
| 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 | 58 | 0 | 0 | 0 | 58 |
| February | 58 | 0 | 0 | 0 | 58 |
| March | 58 | 0 | 0 | 0 | 58 |
| April | 58 | 0 | 0 | 0 | 58 |
| May | 0 | 0 | 0 | 0 | 0 |
| June | 58 | 0 | 0 | 0 | 58 |
| July | 0 | 0 | 0 | 0 | 0 |
| August | 58 | 0 | 0 | 0 | 58 |
| September | 0 | 0 | 0 | 0 | 0 |
| October | 58 | 0 | 0 | 0 | 58 |
| November | 0 | 0 | 0 | 0 | 0 |
| December | 58 | 0 | 0 | 0 | 58 |
| Annual Average (gpm) | 39 | 0 | 0 | 0 | 39 |

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 2022 Extraction Well Pumping Rates**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br><br>MIDDLE ROAD SYSTEM - Groundwater Withdrawal (GPM) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BNL Well No.<br>Extraction Well<br>Screen Int.<br>elevation (ft. msl)<br>depth (feet) | 113-23<br>RW-1<br><br>-17 to -57<br>90 to 130 | 113-24<br>RW-2<br><br>-99 to -129<br>170 to 200 | 113-25<br>RW-3<br><br>-159 to -199<br>228 to 268 | 113-26<br>RW-4<br><br>-98 to -128<br>150 to 180 | 113-27<br>RW-5<br><br>-91 to -121<br>150 to 180 | 106-66<br>RW-6<br><br>-124 to -154<br>188 to 218 | 113-33<br>RW-7<br><br><br>202 to 222 | MIDDLE<br>ROAD<br><br><br>Monthly<br>Total |
| January | 0 | 111 | 105 | 0 | 0 | 0 | 103 | 319 |
| February | 0 | 120 | 112 | 0 | 0 | 0 | 106 | 338 |
| March | 0 | 130 | 133 | 0 | 0 | 0 | 135 | 398 |
| April | 0 | 89 | 84 | 0 | 0 | 0 | 87 | 260 |
| May | 0 | 139 | 137 | 0 | 0 | 0 | 146 | 422 |
| June | 0 | 140 | 49 | 0 | 0 | 0 | 146 | 335 |
| July | 0 | 141 | 0 | 0 | 0 | 0 | 150 | 291 |
| August | 0 | 43 | 95 | 0 | 0 | 0 | 153 | 291 |
| September | 0 | 0 | 131 | 0 | 0 | 0 | 114 | 245 |
| October | 0 | 73 | 51 | 0 | 0 | 0 | 57 | 182 |
| November | 0 | 129 | 70 | 0 | 0 | 0 | 0 | 198 |
| December | 0 | 143 | 146 | 0 | 0 | 0 | 0 | 289 |
| Annual<br><br>Average (gpm) | 0 | 105 | 93 | 0 | 0 | 0 | 100 | 297 |

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

**Table 3.2.3-3**
**OU III South Boundary 2022 Extraction Well Pumping Rates**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br><br>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 | 0 | 0 | 0 | 0 | 0 | 108 | 108 |
| February | 0 | 0 | 0 | 0 | 0 | 0 | 112 | 112 |
| March | 0 | 0 | 0 | 0 | 0 | 0 | 134 | 134 |
| April | 0 | 0 | 0 | 0 | 0 | 0 | 81 | 81 |
| May | 0 | 0 | 0 | 0 | 0 | 0 | 134 | 134 |
| June | 0 | 0 | 0 | 0 | 0 | 0 | 135 | 135 |
| July | 0 | 0 | 0 | 0 | 0 | 0 | 139 | 139 |
| August | 0 | 0 | 0 | 0 | 0 | 0 | 157 | 157 |
| September | 0 | 0 | 0 | 0 | 0 | 0 | 158 | 158 |
| October | 0 | 0 | 0 | 0 | 0 | 0 | 136 | 136 |
| November | 0 | 0 | 0 | 0 | 0 | 0 | 140 | 140 |
| December | 0 | 0 | 0 | 0 | 0 | 0 | 155 | 155 |
| Annual Average (gpm) | 0 | 0 | 0 | 0 | 0 | 0 | 132 | 132 |

Notes:

Source: Groundwater Protection Group Field Engineer

ft. msl = Elevation in feet referenced to mean sea level.

Elevations rounded to nearest foot

**Table 3.2.4-2**
**OU III Western South Boundary 2022 Extraction Well Pumping Rates**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br><br>WESTERN SOUTH BOUNDARY System (gpm) | | | | | | | |
|---|---|---|---|---|---|---|---|
| BNL Well No.<br>Extraction Well<br>Screen Int.<br>elevation (ft. msl)<br>depth (feet) | 126-12<br>WSB-1<br><br>-60 to -80<br>140 to 160 | 127-05<br>WSB-2<br><br>-80 to -100<br>150 to 170 | 111-17<br>WSB-3<br><br>-97.2 to -117.2<br>168 to 188 | 119-13<br>WSB-4<br><br>-91.7 to 111.7<br>170 to 190 | 130-12<br>WSB-5<br><br>-84.5 to -114.50<br>160 to 190 | 130-13<br>WSB-6<br><br>-120.6 to 140.6<br>196 to 216 | Western South Boundary<br><br><br><br>Monthly Total |
| January | 62 | 0 | 79 | 85 | 70 | 72 | 369 |
| February | 77 | 0 | 82 | 92 | 76 | 76 | 403 |
| March | 93 | 0 | 100 | 113 | 90 | 93 | 489 |
| April | 58 | 0 | 64 | 69 | 57 | 59 | 306 |
| May | 103 | 0 | 103 | 113 | 94 | 100 | 513 |
| June | 112 | 0 | 0 | 111 | 94 | 101 | 417 |
| July | 117 | 0 | 7 | 72 | 100 | 101 | 396 |
| August | 114 | 0 | 39 | 88 | 102 | 103 | 446 |
| September | 108 | 0 | 85 | 94 | 101 | 106 | 494 |
| October | 79 | 0 | 83 | 72 | 76 | 85 | 395 |
| November | 95 | 0 | 102 | 6 | 89 | 99 | 391 |
| December | 99 | 0 | 120 | 34 | 99 | 112 | 463 |
| Annual<br>Average (gpm) | 93 | 0 | 72 | 79 | 87 | 92 | 424 |

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 2022 Extraction Well Pumping Rates**

2022 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 3.2.7-2**
**OU III North Street East 2022 Extraction Well Pumping Rates**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br><br>NORTH STREET EAST- Groundwater Withdrawal (gpm) | | | | | |
|---|---|---|---|---|---|
| BNL Well No. | 000-487 | 000-488 | 000-561 | 000-562 | NORTH |
| Extraction Well | NSE-1 | NSE-2 | NSE-EDB-EW-3 | NSE-EDB-EW-4 | STREET |
| Screen Int. | | | | | EAST |
| elevation (ft. msl) | -71 to -101 | -71 to -101 | -111 to -131 | -112 to -132 | Monthly |
| depth (feet) | 161 to 191 | 152 to 182 | 195 to 215 | 182 to 202 | Total |
| January | 0 | 0 | 114 | 115 | 229 |
| February | 0 | 0 | 75 | 68 | 144 |
| March | 0 | 0 | 118 | 104 | 222 |
| April | 0 | 0 | 103 | 91 | 194 |
| May | 0 | 0 | 100 | 101 | 201 |
| June | 0 | 0 | 63 | 67 | 131 |
| July | 0 | 0 | 100 | 108 | 208 |
| August | 0 | 0 | 93 | 101 | 194 |
| September | 0 | 0 | 99 | 107 | 206 |
| October | 0 | 0 | 91 | 98 | 188 |
| November | 0 | 0 | 102 | 103 | 206 |
| December | 0 | 0 | 112 | 104 | 216 |
| Annual<br>Average (gpm) | 0 | 0 | 98 | 97 | 195 |

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 2022 Extraction Well Pumping Rates**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br><br>LIPA SYSTEM - Groundwater Withdrawal (gpm) | | | | | |
|---|---|---|---|---|---|
| Extraction Well<br>Screen Int.<br>elevation (ft. msl)<br>depth (feet) | 000-453<br>EW-1L<br>-111 to -131<br>217 to 237 | 000-455<br>EW-2L<br>-115 to -135<br>224 to 244 | 000-457<br>EW-3L<br>-104 to -124<br>216 to 236 | 000-461<br>EW-4L<br>-192 to -212<br>304 to 324 | LIPA<br><br>Monthly<br>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<br>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 2022 Extraction Well Pumping Rates**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br><br>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 | 97 | 0 | 0 | 139 | 0 | 145 | 381 |
| February | 94 | 0 | 0 | 127 | 0 | 140 | 361 |
| March | 122 | 0 | 0 | 161 | 0 | 183 | 466 |
| April | 107 | 0 | 0 | 142 | 0 | 161 | 409 |
| May | 105 | 0 | 0 | 149 | 0 | 157 | 411 |
| June | 95 | 0 | 0 | 45 | 0 | 143 | 283 |
| July | 106 | 0 | 0 | 0 | 0 | 159 | 265 |
| August | 98 | 0 | 0 | 0 | 0 | 147 | 244 |
| September | 96 | 0 | 0 | 5 | 0 | 142 | 243 |
| October | 91 | 0 | 0 | 143 | 0 | 136 | 370 |
| November | 93 | 0 | 0 | 146 | 0 | 139 | 378 |
| December | 109 | 0 | 0 | 171 | 0 | 162 | 442 |
| Annual Average (gpm)* | 101 | 0 | 0 | 102 | 0 | 151 | 355 |

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 3.2.11-1**
**OU III BGRR**
**Strontium-90 Results from Geoprobe Temporary Wells**

2022 BNL Groundwater Status Report

| Sample Interval (bls) | Geoprobe ID: / Sample Date: / Analysis: | BGRR-GP-140 05/24-26/2022 | BGRR-GP-141 05/23-24/2022 | BGRR-GP-143 05/18-20/2022 | BGRR-GP-144 05/18-20/2022 |
|---|---|---|---|---|---|
| 60-64 | Strontium-90 | 28.5 | 2.83 | <MDA | <MDA |
| 65-69 | Strontium-90 | 23 | 41 | <MDA | 1.51 |
| 70-74 | Strontium-90 | 13.2 | 20.7 | <MDA | <MDA |
| 75-79 | Strontium-90 | 4.47 | 4.67 | <MDA | 2.3 |
| 80-84 | Strontium-90 | <MDA | 2.52 | 4.55 | 2.96 |
| 85-89 | Strontium-90 | 1.4 | <MDA | 14 | 7.25 |
| 90-94 | Strontium-90 | <MDA | <MDA | 26.3 | 13.2 |
| 95-99 | Strontium-90 | <MDA | <MDA | 40.8 | 23.5 |
| 100-104 | Strontium-90 | <MDA | <MDA | 21.7 | 26.9 |
| 105-109 | Strontium-90 | <MDA | <MDA | 8.97 | 14.9 |
| 110-114 | Strontium-90 | <MDA | <MDA | <MDA | 10.9 |
| 115-119 | Strontium-90 | <MDA | <MDA | <MDA | 1.24N2 |

<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 3.2.11-1**
**OU III BGRR**
**Strontium-90 Results from Geoprobe Temporary Wells**

2022 BNL Groundwater Status Report

| Sample Interval (bls) | Geoprobe ID: / Sample Date: / Analysis: | BGRR-GP-84 05/31-06/1/2022 | BGRR-GP-86 06/01-03/2022 | BGRR-GP-87 06/15-17/2022 | BGRR-GP-91 06/17-22/2022 | BGRR-GP-107 06/27-28/2022 |
|---|---|---|---|---|---|---|
| 60-64 | Strontium-90 | <MDA | 1.38 | <MDA | 1.24 | 2.14 |
| 65-69 | Strontium-90 | 8.91 | 3.4 | 1.28 | 1.34 | 1.39 |
| 70-74 | Strontium-90 | 9.93 | 7.59 | 5.39 | 2.4 | 4.18 |
| 75-79 | Strontium-90 | 16.2 | 11.2 | 20 | 6.12 | 5.83 |
| 80-84 | Strontium-90 | 6.65 | 21.8 | 40.8 | 4.77 | 9.73 |
| 85-89 | Strontium-90 | 5.36 | 24.3 | 38.7 | 21.9 | 6.73 |
| 90-94 | Strontium-90 | 5.19 | 11.3 | 25.4 | 16.6 | 21 |
| 95-99 | Strontium-90 | 2.91N2 | 3.96 | 5.34 | 9.24 | 26 |
| 100-104 | Strontium-90 | 3.3 | 1.3 | 4.69 | 13.9 | 39.7 |
| 105-109 | Strontium-90 | 2.79 | 1.58 | 1.67 | 2.88 | 14.3 |
| 110-114 | Strontium-90 | 1.72N2 | <MDA | <MDA | 1.03 | 6.32 |
| 115-119 | Strontium-90 | 3.68 | 2.5 | <MDA | 78.3 | 3.85 |

<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 3.2.11-1**
**OU III BGRR**
**Strontium-90 Results from Geoprobe Temporary Wells**

2022 BNL Groundwater Status Report

| Sample Interval (bls) | Geoprobe ID: / Sample Date: / Analysis: | BGRR-GP-108 06/29-07/01/2022 | BGRR-GP-133 06/23-24/2022 | BGRR-GP-134 07/01-06/2022 | BGRR-GP-135 7/06-08/2022 |
|---|---|---|---|---|---|
| 60-64 | Strontium-90 | <MDA | <MDA | <MDA | <MDA |
| 65-69 | Strontium-90 | 1.02 | 8.52 | 1.17 | 1.19 |
| 70-74 | Strontium-90 | 1.64 | 6.31 | 2.54 | <MDA |
| 75-79 | Strontium-90 | 2.05 | 4.36 | 2.78 | 0.951 |
| 80-84 | Strontium-90 | 4.4 | 4.02 | 14.5 | 4.96 |
| 85-89 | Strontium-90 | 11.5 | 19.8 | 23.8 | 14.7 |
| 90-94 | Strontium-90 | 12.4 | 23.4 | 25.4 | 12.1 |
| 95-99 | Strontium-90 | 24.7 | 46 | 16.1 | 9.6 |
| 100-104 | Strontium-90 | 16.2 | 29.6 | 11.6 | 3.62 |
| 105-109 | Strontium-90 | 11 | 13.6 | 7.84 | 1.44 |
| 110-114 | Strontium-90 | 5.19 | 6.19 | 4.93 | 1.41 |
| 115-119 | Strontium-90 | 3.47 | 2.62 | 1.59 | 4.3 |

<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 3.2.11-2**
**BGRR Sr-90 Treatment System 2022 Extraction Well Pumping Rates**

2022 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 | 4.3 | 4.3 | 4.3 | 0.0 | 0.0 | 0.0 | 0.0 | 9.2 | 8.5 | 30.6 |
| February | 5.4 | 5.4 | 4.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.0 | 25.5 |
| March | 5.4 | 5.4 | 5.6 | 0.0 | 0.0 | 0.0 | 0.0 | 11.1 | 10.0 | 37.5 |
| April | 5.4 | 5.4 | 5.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.0 | 26.4 |
| May | 5.4 | 5.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.8 |
| June | 5.4 | 5.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.0 | 20.8 |
| July | 5.4 | 5.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.8 |
| August | 6.9 | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 9.6 |
| September | 6.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 6.8 |
| October | 7.7 | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.3 | 12.8 |
| November | 6.9 | 5.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 12.3 |
| December | 6.9 | 5.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.0 | 22.3 |
| Annual Average (gpm) | 6.0 | 4.3 | 1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7 | 5.2 | 18.9 |

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 2022 Extraction Well Pumping Rates**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br><br>Chem/Animal Holes Strontium-90 Remediation System (gpm) | | | | |
|---|---|---|---|---|
| BNL Well No.<br>Extraction Well<br>Screen Int.<br>elevation (ft. msl)<br>depth (feet) | 106-92<br>SR-90 EW-1<br><br>+40.5 to +25.5<br>23.5 to 38.5 | 106-123<br>SR-90 EW-2<br><br>+32.6 to +22.6<br>35 to 45 | 106-124<br>SR-90 EW-3<br><br>+27.6 to +17.6<br>35 to 45 | Chemical/Animal Holes<br><br><br><br>Monthly<br>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<br>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 2022 Extraction Well Pumping Rates**

2022 BNL Groundwater Status Report

| Operable Unit VI - Pump and Treat<br><br>EDB SYSTEM- Groundwater Withdrawal (gpm) | | | |
|---|---|---|---|
| BNL Well No.<br>Extraction Well<br>Screen Int.<br>elevation (ft. msl)<br>depth (feet) | 000-503<br>EW-1E<br><br>-41 to -61<br>115 to 135 | 000-504<br>EW-2E<br><br>-45 to -65<br>115 to 135 | OU VI EDB<br><br><br>Monthly<br>Total |
| January | 145 | 164 | 309 |
| February | 165 | 184 | 349 |
| March | 132 | 206 | 338 |
| April | 102 | 217 | 319 |
| May | 168 | 176 | 344 |
| June | 160 | 181 | 341 |
| July | 151 | 181 | 332 |
| August | 163 | 182 | 345 |
| September | 116 | 183 | 299 |
| October | 161 | 184 | 345 |
| November | 163 | 187 | 350 |
| December | 163 | 189 | 352 |
| Annual<br>Average (gpm) | 149 | 186 | 335 |

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 3.5.1-2
## Current Firehouse Treatment System 2022 Extraction Well Pumping Rates

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br><br>Current Firehouse - Groundwater Withdrawal (gpm) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| BNL Well No. | 073-34 | 073-35 | 083-45 | 083-46 | 084-102 | 102-32 | 102-33 | 102-34 | 102-35 | CFH |
| Extraction Well | CF-RW-A | CF-RW-B | CF-RW-C | CF-RW-D | CF-RW-E | CF-RW-F | CF-RW-G | CF-RW-H | CF-RW-I | |
| Screen Int. | | | | | | | | | | |
| elevation (ft. msl) | 38 to 18 | 30.9 to 10.9 | -17.5 to -37.5 | 31 to 11.4 | -31.2 to -51.2 | -27.9 to -47.9 | 7.1 to -12.9 | 6.4 to -13.6 | 21.8 to 1.8 | Monthly |
| depth (feet) | 48-68 | 54-74 | 117-137 | 70-90 | 132-152 | 121-141 | 88-108 | 98-118 | 70-90 | 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 | 12 | 12 | 15 | 11 | 13 | 12 | 12 | 12 | 23 | 122 |
| November | 29 | 32 | 38 | 32 | 29 | 30 | 28 | 30 | 54 | 302 |
| December | 62 | 53 | 17 | 30 | 27 | 20 | 33 | 36 | 68 | 346 |
| Annual Average (gpm) | 9 | 8 | 6 | 6 | 6 | 5 | 6 | 7 | 12 | 64 |

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 3.5.1-3**

**Current Firehouse and Building 170 Permanent Monitoring Wells**
**Samples Analyzed by EPA Methods 537.1 (PFAS) and 8270D SIM (1,4-Dioxane)**
**Samples Collected: May-September 2022**

2022 Groundwater Status Report

| Temp Well ID | Perm ID | Screen (BLS) | Sample Date | 1,4-D (µg/L) | PFOS (ng/L) | PFOA (ng/L) | PFBS (ng/L) | PFBA (ng/L) | PFDA (ng/L) | PFHpS (ng/L) | PFHpA (ng/L) | PFHxS (ng/L) | PFHxA (ng/L) | PFNS (ng/L) | PFNA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CFH-MW-01 | 073-26 | 35-50 | 06/13/22 | NA | **1,560D** | 6.6 | 2.68 | 5.76 | 1.78U | 8.92 | 4.31 | 129 | 11 | 1.71U | 3.99 |
| CFH-MW-02 | 073-27 | 35-50 | 06/13/22 | NA | **212D** | 2.85 | 3.26 | 3.49 | 1.73U | 1.24J | 1.21J | 61.5 | 6.86 | 1.66U | 1.73U |
| CFH-MW-03 | 073-28 | 35-50 | 06/14/22 | NA | **3,110D** | **70.9** | 47.5 | 17.89 | 1.83U | 68.6 | 44 | 1,020D | 112 | 1.76U | 1J |
| CFH-MW-04 | 073-29 | 35-50 | 06/14/22 | NA | 2.66 | 1.31J | 15.1 | 19.6 | 1.78U | 1.69U | 12.3 | 73.8 | 39.6 | 1.71U | 1.78U |
| CFH-MW-05 | 073-30 | 35-50 | 06/13/22 | NA | **752D** | 2.21 | 2.05 | 2.42 | 1.85U | 2.41 | 2.55 | 21.5 | 4.56 | 1.78U | 1.29J |
| CFH-MW-06 | 073-31 | 35-50 | 05/25/22 | NA | **5,550D** | **222D** | 142D | 74.8 | 2.65 | 52.1D | 163 | 2,510D | 571D | 17D | 3.65 |
| CFH-MW-07 | 073-32 | 55-65 | 05/31/22 | NA | **2,190D** | **66.3** | 32.4 | 15.8 | 2.12 | 24.5 | 42.7 | 489D | 97.3 | 2.24 | 8.16 |
| CFH-MW-08 | 073-33 | 45-50 | 05/25/22 | NA | **1,140D** | 4.17 | 36.4 | 5.27 | 1.73U | 1.85 | 5.36 | 119 | 28.6 | 1.66U | 0.59J |
| CFH-MW-09 | 074-135 | 55-65 | 05/25/22 | NA | **615D** | 8.76 | 22.9 | 7.07 | 1.35J | 4.63 | 8.7 | 151 | 27.5 | 1.09J | 1.36J |
| CFH-MW-10 | 083-33 | 50-60 | 06/13/22 | NA | **14.1** | 2.26 | 0.81J | 1.38J | 1.68U | 1.59U | 0.8J | 1.35J | 0.69J | 1.61U | 0.55J |
| CFH-MW-11 | 083-34 | 70-80 | 06/13/22 | NA | **55.8** | 1.76U | 1.12J | 1.56J | 1.76U | 1.68U | 1.76U | 3.8 | 1.76U | 1.69U | 1.76U |
| CFH-MW-12 | 083-35 | 50-60 | 06/10/22 | NA | **441D** | 2.69 | 1.31J | 1.33J | 1.77U | 0.88J | 0.9J | 11.5 | 1.69J | 1.70U | 3.54 |
| CFH-MW-13 | 083-36 | 70-80 | 06/10/22 | NA | **77.2** | 1.9 | 0.93J | 0.99J | 1.79U | 1.70U | 0.64J | 37.1 | 2.2 | 1.72U | 0.62 |
| CFH-MW-14 | 083-37 | 50-60 | 06/10/22 | NA | **748D** | 9.01 | 4.71 | 3.05 | 1.77U | 5.72 | 2.12 | 62.9 | 5.9 | 1.70U | 46.9 |
| CFH-MW-15 | 083-38 | 70-80 | 06/10/22 | NA | **55.1** | 0.91J | 1.16U | 0.76J | 1.81U | 1.72U | 1.81U | 6.27 | 1.78J | 1.74U | 2.62 |
| CFH-MW-16 | 083-39 | 60-70 | 05/27/22 | NA | **95.1** | 1.44J | 1.65U | 1.85U | 1.85U | 1.02J | 1.85U | 11.2 | 1.28J | 1.78U | 22.8 |
| CFH-MW-17 | 083-40 | 100-110 | 05/27/22 | NA | **30.2** | 1.22J | 0.94J | 1.28J | 1.81U | 1.72U | 1.81U | 10.3 | 3.1 | 1.74U | 1.86 |
| CFH-MW-18 | 084-86 | 120-130 | 05/17/22 | NA | **11.8** | 0.8J | 1.58U | 1.77U | 1.77U | 1.68U | 1.77U | 4.79 | 1J | 1.70U | 1.77U |
| CFH-MW-19 | 084-87 | 60-70 | 05/26/22 | NA | **284D** | **14.2** | 3.93 | 3.54 | 1.85U | 3.84 | 3.79 | 58.9 | 10.1 | 1.78U | 1.31J |
| CFH-MW-20 | 084-88 | 90-100 | 05/26/22 | NA | **293D** | 7.69 | 3.94 | 2.64 | 1.70U | 3.09 | 3.52 | 60.7 | 10 | 1.64U | 1.07J |
| CFH-MW-21 | 084-89 | 120-130 | 05/26/22 | NA | 98.2 | 2.68 | 2.24 | 1.90U | 1.90U | 1.81J | 1.2J | 53.2 | 3.91 | 1.83U | 1.90U |
| CFH-MW-22 | 084-90 | 90-100 | 06/09/22 | NA | **161** | **11.3** | 3.48 | 2.28 | 0.63J | 3.39 | 3.23 | 81.4 | 8.42 | 1.78U | 321D |
| CFH-MW-23 | 084-91 | 120-130 | 06/09/22 | NA | **56.5** | 9.26 | 2.71 | 2.63 | 1.80U | 1.45J | 3.16 | 50.9 | 7.63 | 1.73U | 0.68J |
| CFH-MW-24 | 084-92 | 140-150 | 06/09/22 | NA | **814D** | **51.7** | 47.5 | 12 | 1.81U | 15.6 | 14.7 | 441D | 104 | 1.73U | 1.43J |
| CFH-MW-25 | 083-44 | 70-80 | 06/03/22 | NA | 2.27 | 1.02J | 1.58U | 0.83J | 1.78U | 1.69U | 1.78U | 0.99J | 1.78U | 1.70U | 1.78U |
| CFH-MW-26 | 083-41 | 120-130 | 06/03/22 | 1.3 | 3.13 | 1.15J | 1.59U | 1.79U | 10.79U | 1.70U | 1.79U | 2.15 | 1.79U | 1.72U | 1.79U |
| CFH-MW-27 | 083-42 | 90-100 | 06/03/22 | NA | 1.68U | 1.68U | 1.49U | 1.68U | 1.68U | 1.59U | 1.68U | 1.53U | 1.68U | 1.61U | 1.68U |
| CFH-MW-28 | 083-43 | 120-130 | 06/03/22 | 0.2U | **82.2** | 2.16 | 0.81J | 2.42 | 1.75U | 0.65J | 1.8 | 19.2 | 9.23 | 1.68U | 5.08 |
| CFH-MW-29 | 084-93 | 90-100 | 05/31/22 | NA | **58.3** | 4.74 | 3.18 | 1.58J | 1.77U | 1.17J | 2.15 | 34.8 | 5.58 | 1.70U | 59.9 |
| CFH-MW-30 | 084-94 | 120-130 | 05/31/22 | 0.2U | **155** | 9.32 | 8.81 | 3.64 | 1.83U | 2.74 | 4.38 | 89.3 | 17.2 | 1.76U | 0.96J |

**Table 3.5.1-3**

**Current Firehouse and Building 170 Permanent Monitoring Wells**
**Samples Analyzed by EPA Methods 537.1 (PFAS) and 8270D SIM (1,4-Dioxane)**
**Samples Collected: May-September 2022**

2022 Groundwater Status Report

| Temp Well ID | Perm ID | Screen (BLS) | Sample Date | PFOSAm (ng/L) | PFPeS (ng/L) | PFPeA (ng/L) | 6:2 FTS (ng/L) | 8:2 FTS (ng/L) | FBSA (ng/L) | PFUnDA (ng/L) | PFTrDA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CFH-MW-01 | 073-26 | 35-50 | 06/13/22 | 1.78U | 4.85 | 5.71 | 3.38U | 3.42U | 3.56U | 16.6 | 1.18J |
| CFH-MW-02 | 073-27 | 35-50 | 06/13/22 | 1.73U | 5.15 | 1.64J | 3.29U | 3.32U | 3.46U | 1.73U | 1.73U |
| CFH-MW-03 | 073-28 | 35-50 | 06/14/22 | 1.83U | 116 | 62.4 | 29.8 | 3.51U | 38.8 | 1.83U | 1.83U |
| CFH-MW-04 | 073-29 | 35-50 | 06/14/22 | 1.78U | 18 | 42.5 | 3.38U | 3.41U | 3.56U | 1.78U | 1.78U |
| CFH-MW-05 | 073-30 | 35-50 | 06/13/22 | 1.85U | 1.70U | 2.91 | 3.52U | 3.56U | 3.71U | 1.56J | 0.72J |
| CFH-MW-06 | 073-31 | 35-50 | 05/25/22 | 13.5 | 236D | 296D | 117 | 19.9 | 186D | 1.70U | 1.70U |
| CFH-MW-07 | 073-32 | 55-65 | 05/31/22 | 0.79J | 45.8 | 50 | 20.1 | 10.2 | 26.4 | 1.74U | 1.74U |
| CFH-MW-08 | 073-33 | 45-50 | 05/25/22 | 1.73U | 30.9 | 23.8 | 3.29U | 3.32U | 8.39 | 1.73U | 1.73U |
| CFH-MW-09 | 074-135 | 55-65 | 05/25/22 | 1.69U | 24.4 | 28.1 | 2.94J | 13.2 | 4.44 | 1.69U | 1.69U |
| CFH-MW-10 | 083-33 | 50-60 | 06/13/22 | 1.68U | 1.58U | 1.68U | 3.18U | 3.22U | 3.35U | 1.68U | 0.86J |
| CFH-MW-11 | 083-34 | 70-80 | 06/13/22 | 1.76U | 1.66U | 0.67J | 3.35U | 3.39U | 3.53U | 1.76U | 1.76U |
| CFH-MW-12 | 083-35 | 50-60 | 06/10/22 | 1.77U | 0.76J | 0.94J | 3.36U | 3.39U | 3.60U | 0.81J | 1.77U |
| CFH-MW-13 | 083-36 | 70-80 | 06/10/22 | 1.79U | 1.99 | 0.98J | 3.40U | 3.44U | 3.71U | 0.81J | 1.79U |
| CFH-MW-14 | 083-37 | 50-60 | 06/10/22 | 1.77U | 1.86 | 2.77 | 3.36U | 3.39U | 1.26J | 2.52 | 1.77U |
| CFH-MW-15 | 083-38 | 70-80 | 06/10/22 | 1.81U | 1.70U | 1.81U | 3.44U | 3.47U | 3.77U | 1.81U | 1.81U |
| CFH-MW-16 | 083-39 | 60-70 | 05/27/22 | 0.64J | 0.67J | 1.85U | 3.51U | 3.55U | 3.74U | 1.85U | 1.85U |
| CFH-MW-17 | 083-40 | 100-110 | 05/27/22 | 1.81U | 1.25J | 1.21J | 3.45U | 3.48U | 3.53U | 1.81U | 1.81U |
| CFH-MW-18 | 084-86 | 120-130 | 05/17/22 | 1.77U | 1.67U | 1.77U | 3.37U | 3.40U | 3.48U | 1.77U | 1.77U |
| CFH-MW-19 | 084-87 | 60-70 | 05/26/22 | 8.95 | 4.25 | 6.45 | 3.52U | 3.55U | 3.74 | 1.85U | 1.85U |
| CFH-MW-20 | 084-88 | 90-100 | 05/26/22 | 2.84 | 6.39 | 6.06 | 3.24U | 3.27U | 3.31U | 1.70U | 1.70U |
| CFH-MW-21 | 084-89 | 120-130 | 05/26/22 | 1.90U | 4.24 | 2.2 | 3.62U | 3.66U | 2.04J | 1.90U | 1.90U |
| CFH-MW-22 | 084-90 | 90-100 | 06/09/22 | 1.87 | 5.75 | 4.7 | 3.53U | 3.57U | 2.56J | 1.86U | 1.86U |
| CFH-MW-23 | 084-91 | 120-130 | 06/09/22 | 1.80U | 5.87 | 4.79 | 3.42U | 3.45U | 1.58J | 1.80U | 1.80U |
| CFH-MW-24 | 084-92 | 140-150 | 06/09/22 | 1.81U | 60.4 | 48.9 | 3.11J | 3.47U | 27.1 | 1.81U | 1.81U |
| CFH-MW-25 | 083-44 | 70-80 | 06/03/22 | 1.78U | 1.67U | 1.78U | 3.37U | 3.41U | 3.63U | 1.78U | 1.78U |
| CFH-MW-26 | 083-41 | 120-130 | 06/03/22 | 1.79U | 1.68U | 1.79U | 3.40U | 3.44U | 3.48U | 1.79U | 1.79U |
| CFH-MW-27 | 083-42 | 90-100 | 06/03/22 | 1.68U | 1.58U | 1.68U | 3.19U | 3.22U | 3.54U | 1.68U | 1.68U |
| CFH-MW-28 | 083-43 | 120-130 | 06/03/22 | 1.75U | 0.77J | 4.56 | 3.32U | 3.36U | 3.37U | 1.75U | 1.75U |
| CFH-MW-29 | 084-93 | 90-100 | 05/31/22 | 0.96J | 3.8 | 3.17 | 3.37U | 3.40U | 1.36J | 1.77U | 1.77U |
| CFH-MW-30 | 084-94 | 120-130 | 05/31/22 | 0.82J | 12.1 | 10 | 3.48U | 3.52U | 6.47 | 1.83U | 1.83U |

**Table 3.5.1-3**

**Current Firehouse and Building 170 Permanent Monitoring Wells**
**Samples Analyzed by EPA Methods 537.1 (PFAS) and 8270D SIM (1,4-Dioxane)**
**Samples Collected: May-September 2022**

2022 Groundwater Status Report

| Temp Well ID | Perm ID | Screen (BLS) | Sample Date | 1,4-D (µg/L) | PFOS (ng/L) | PFOA (ng/L) | PFBS (ng/L) | PFBA (ng/L) | PFDA (ng/L) | PFHpS (ng/L) | PFHpA (ng/L) | PFHxS (ng/L) | PFHxA (ng/L) | PFNS (ng/L) | PFNA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CFH-MW-31 | 084-95 | 140-150 | 05/31/22 | 1.9 | 1.82U | 1.82U | 1.51J | 1.82U | 1.82U | 1.73U | 1.82U | 6.65 | 1.82U | 1.75U | 1.82U |
| CFH-MW-32 | 084-96 | 90-100 | 06/01/22 | NA | **776D** | **16.6** | 11 | 4.85 | 1.76U | 12.1 | 7.25 | 174D | 28.5 | 1.69U | 1.71J |
| CFH-MW-33 | 084-97 | 120-130 | 06/01/22 | 0.2U | **692D** | **13.7** | 13.5 | 6.06 | 1.76U | 11.6 | 7.35 | 178D | 34.9 | 1.69U | 1.81 |
| CFH-MW-34 | 084-98 | 140-150 | 06/01/22 | 1.8 | 1.75U | 1.75U | 2.53 | 1.75U | 1.75U | 1.66U | 1.75U | 2.38 | 1.75U | 1.68U | 1.75U |
| CFH-MW-35 | 093-88 | 120-130 | 06/08/22 | NA | 0.93J | 1.12J | 1.67U | 1.88U | 1.88U | 1.79U | 1.88U | 1.71U | 1.88U | 1.81U | 1.88U |
| CFH-MW-36 | 093-89 | 70-80 | 06/02/22 | NA | 2.07 | 1.74U | 10.55U | 0.73J | 1.74U | 1.65U | 1.74U | 1.58U | 1.74U | 1.67U | 1.74U |
| " (BD) | " | " | " | NA | 1.97 | 1.74U | 1.55U | 0.78J | 1.74U | 1.65U | 1.74U | 1.58U | 1.74U | 1.67U | 1.74U |
| CFH-MW-37 | 093-90 | 100-110 | 06/02/22 | 0.2U | **10.4** | 1.76U | 1.57U | 1.76U | 1.76U | 1.67U | 1.76U | 2.41 | 0.87J | 1.68U | 1.76U |
| CFH-MW-38 | 093-91 | 80-90 | 06/06/22 | NA | **33.4** | 0.84J | 0.76J | 0.8J | 1.74U | 1.66U | 1.74U | 9.12 | 1.16J | 1.67U | 2.85 |
| CFH-MW-39 | 093-92 | 100-110 | 06/06/22 | NA | **164** | 1.50J | 0.96J | 0.84J | 1.79U | 1.47J | 1.79U | 31.3 | 1.41J | 1.72U | 4.26 |
| CFH-MW-40 | 094-275 | 80-90 | 06/06/22 | NA | **22** | 1.56J | 1.57U | 1.38J | 1.77U | 1.68U | 1.77U | 5.02 | 1.34J | 1.70U | 4.77 |
| CFH-MW-41 | 094-276 | 100-110 | 06/06/22 | NA | **82** | 2.78 | 1.79 | 1.08J | 1.79U | 0.99J | 0.83J | 23.5 | 2.48 | 1.72U | 33.5 |
| CFH-MW-42 | 094-277 | 70-80 | 06/30/22 | NA | **43.2** | 5.34 | 3.53 | 4.62 | 1.69U | 0.84J | 2.39 | 36.6 | 3.95 | 1.62U | 2.43 |
| CFH-MW-43 | 094-278 | 100-110 | 06/30/22 | 0.25 | **176** | 8.8 | 13.2 | 7.38 | 1.83U | 3.03 | 5.64 | 125 | 24.2 | 1.76U | 1.76U |
| CFH-MW-44 | 102-26 | 90-100 | 06/07/22 | NA | **20.5** | 1.22J | 1.60U | 0.77J | 1.80U | 1.71U | 1.80U | 9.87 | 1.10J | 1.73U | 1.80U |
| CFH-MW-45 | 102-27 | 110-120 | 06/07/22 | NA | 7.46 | 0.73J | 1.66U | 1.86U | 1.86U | 1.77U | 1.86U | 1.02J | 0.77J | 1.79U | 1.86U |
| CFH-MW-46 | 102-28 | 140-150 | 06/07/22 | 0.2U | 1.81U | 1.81U | 1.61U | 1.81U | 1.81U | 1.72U | 1.81U | 0.9J | 1.81U | 1.74U | 1.81U |
| CFH-MW-47 | 103-30 | 90-100 | 06/02/22 | NA | **89** | 5.42 | 4.92 | 2.25 | 1.82U | 1.63J | 1.73J | 48.9 | 11.2 | 1.74U | 18.2 |
| CFH-MW-48 | 103-31 | 110-120 | 06/02/22 | 0.12J | **319D** | **10.4** | 13.3 | 4.91 | 1.72U | 4.9 | 4.5 | 175D | 25.1 | 1.65U | 3.07 |
| CFH-MW-49 | 103-32 | 130-140 | 06/02/22 | 1.2 | **94.4** | 3.51 | 14.7 | 0.85J | 1.73U | 0.96J | 0.96J | 137 | 3.44 | 1.66U | 1.73U |
| CFH-MW-50 | 103-33 | 90-100 | 06/08/22 | NA | **17** | 4.28 | 3.63 | 2.26 | 1.84U | 1.75U | 1.04J | 19.1 | 2.67 | 1.77U | 0.69J |
| " (BD) | " | " | " | NA | **17.1** | 4.66 | 3.71 | 2.44 | 1.84U | 1.75U | 1.18J | 18.4 | 2.64 | 1.77U | 0.66J |
| CFH-MW-51 | 103-34 | 120-130 | 06/08/22 | 0.2 | **20.9** | 2.71 | 2.85 | 1.36J | 1.78U | 1.69U | 0.85J | 22 | 3.08 | 1.71U | 1.78U |
| CFH-MW-52 | 102-29 | 90-100 | 06/07/22 | NA | **88.4** | 2.67 | 1.84 | 1.49J | 1.94U | 1.36J | 1.49J | 26.9 | 7.3 | 1.86U | 10.5 |
| CFH-MW-53 | 102-30 | 110-120 | 06/07/22 | NA | **164** | 3.07 | 2.03 | 1.25J | 1.68U | 1.63 | 1.27J | 32.3 | 6.63 | 1.62U | 9.76 |
| CFH-MW-54 | 102-31 | 130-140 | 06/30/22 | 0.23 | **410D** | **11** | 20.2 | 5.42 | 1.70U | 7.8 | 4.52 | 213D | 21.4 | 1.64U | 0.97J |
| CFH-MW-55 | 083-47 | 50-70 | 09/07/22 | 0.2U | 8.24 | 1.72U | 1.53U | 1.72U | 1.72U | 1.64U | 1.72U | 5.37 | 1.72U | 1.65U | 1.72U |
| CFH-MW-56 | 093-93 | 50-70 | 09/07/22 | 0.2U | **310D** | 2.46 | 1.54 | 1.06J | 1.67U | 2.8 | 0.62J | 28.6 | 2.31 | 1.61U | 1.67U |
| CFH-MW-57 | 093-94 | 40-60 | 09/08/22 | 0.2U | **4,090D** | **39.1** | 18.1 | 3.63 | 1.65U | 139D | 4.09 | 392D | 15.3 | 1.57U | 1.22J |
| CFH-MW-58 | 093-95 | 60-70 | 09/08/22 | 0.2U | **355D** | 1.12J | 1.36J | 1.33J | 1.79U | 0.7J | 1.06J | 26.2 | 3.03 | 1.72U | 1.79U |

**Table 3.5.1-3**

**Current Firehouse and Building 170 Permanent Monitoring Wells**
**Samples Analyzed by EPA Methods 537.1 (PFAS) and 8270D SIM (1,4-Dioxane)**
**Samples Collected: May-September 2022**

2022 Groundwater Status Report

| Temp Well ID | Perm ID | Screen (BLS) | Sample Date | PFOSAm (ng/L) | PFPeS (ng/L) | PFPeA (ng/L) | 6:2 FTS (ng/L) | 8:2 FTS (ng/L) | FBSA (ng/L) | PFUnDA (ng/L) | PFTrDA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CFH-MW-31 | 084-95 | 140-150 | 05/31/22 | 1.82U | 1.81 | 1.82U | 3.47U | 3.50U | 3.36U | 1.82U | 1.82U |
| CFH-MW-32 | 084-96 | 90-100 | 06/01/22 | 1.76U | 16.7 | 16.5 | 1.97U | 1.44J | 7.44 | 1.76U | 1.76U |
| CFH-MW-33 | 084-97 | 120-130 | 06/01/22 | 1.76U | 19 | 20.8 | 2.47J | 3.38U | 7.75 | 1.76U | 1.76U |
| CFH-MW-34 | 084-98 | 140-150 | 06/01/22 | 1.75U | 1.88 | 1.75U | 3.33U | 3.36U | 3.89U | 1.75U | 1.75U |
| CFH-MW-35 | 093-88 | 120-130 | 06/08/22 | 1.88U | 1.77U | 1.88U | 3.57U | 3.61U | 3.51U | 1.88U | 1.88U |
| CFH-MW-36 | 093-89 | 70-80 | 06/02/22 | 1.74U | 1.64U | 1.74U | 3.31U | 3.34U | 3.41U | 1.74U | 1.74U |
| " (BD) | " | " | " | 1.74U | 1.63U | 1.74U | 3.30U | 3.34U | 3.60U | 1.74U | 1.74U |
| CFH-MW-37 | 093-90 | 100-110 | 06/02/22 | 1.76U | 1.65U | 1.76U | 3.34U | 3.38U | 3.57U | 1.76U | 1.76U |
| CFH-MW-38 | 093-91 | 80-90 | 06/06/22 | 1.74U | 0.77J | 0.69J | 3.31U | 3.35U | 17.2DU | 1.74U | 1.74U |
| CFH-MW-39 | 093-92 | 100-110 | 06/06/22 | 1.79U | 2.14 | 0.74J | 3.41U | 3.45U | 2.09J | 1.79U | 1.79U |
| CFH-MW-40 | 094-275 | 80-90 | 06/06/22 | 1.77U | 1.66U | 0.84J | 3.36U | 3.40U | 3.41U | 1.77U | 1.77U |
| CFH-MW-41 | 094-276 | 100-110 | 06/06/22 | 1.79U | 2.27 | 1.63J | 3.41U | 3.44U | 1.21J | 1.79U | 1.79U |
| CFH-MW-42 | 094-277 | 70-80 | 06/30/22 | 1.69U | 5.57 | 3.98 | 3.21U | 3.24U | 2.2J | 1.69U | 1.69U |
| CFH-MW-43 | 094-278 | 100-110 | 06/30/22 | 1.83U | 19.5 | 15.6 | 3.47U | 3.51U | 11 | 1.83U | 1.83U |
| CFH-MW-44 | 102-26 | 90-100 | 06/07/22 | 1.80U | 0.85J | 0.61J | 3.42U | 3.45U | 3.75U | 1.80U | 1.80U |
| CFH-MW-45 | 102-27 | 110-120 | 06/07/22 | 1.86U | 1.75U | 1.86U | 3.54U | 3.58U | 3.63U | 1.86U | 1.86U |
| CFH-MW-46 | 102-28 | 140-150 | 06/07/22 | 1.81U | 1.70U | 1.81U | 3.44U | 3.48U | 3.86U | 1.81U | 1.81U |
| CFH-MW-47 | 103-30 | 90-100 | 06/02/22 | 1.82U | 6.28 | 4.86 | 3.45U | 3.49U | 4.92 | 1.82U | 1.82U |
| CFH-MW-48 | 103-31 | 110-120 | 06/02/22 | 1.72U | 17 | 12.4 | 3.27U | 3.30U | 12.9 | 1.72U | 1.72U |
| CFH-MW-49 | 103-32 | 130-140 | 06/02/22 | 1.73U | 18.2 | 0.96J | 3.29U | 3.33U | 18.2 | 1.73U | 1.73U |
| CFH-MW-50 | 103-33 | 90-100 | 06/08/22 | 1.84U | 3.38 | 1.40J | 3.50U | 3.53U | 1.29J | 1.84U | 1.84U |
| " (BD) | " | " | " | 1.84U | 2.78 | 1.53J | 3.49U | 3.53U | 1.31J | 1.84U | 1.84U |
| CFH-MW-51 | 103-34 | 120-130 | 06/08/22 | 1.78U | 3.3 | 0.86J | 3.38U | 3.41U | 2.05J | 1.78U | 1.78U |
| CFH-MW-52 | 102-29 | 90-100 | 06/07/22 | 1.94U | 2.02 | 2.89 | 3.68U | 3.72U | 1.58J | 1.94U | 1.94U |
| CFH-MW-53 | 102-30 | 110-120 | 06/07/22 | 1.68U | 2.63 | 2.77 | 3.20U | 3.23U | 2.09J | 1.68U | 1.68U |
| CFH-MW-54 | 102-31 | 130-140 | 06/30/22 | 1.70U | 27 | 10.3 | 3.24U | 3.27U | 14.5 | 1.70U | 1.70U |
| CFH-MW-55 | 083-47 | 50-70 | 09/07/22 | 1.72U | 0.67J | 1.72U | 3.29U | 3.31U | 3.44U | 1.72U | 1.72U |
| CFH-MW-56 | 093-93 | 50-70 | 09/07/22 | 1.67U | 2.38 | 1.14J | 3.18U | 3.21U | 3.35U | 1.67U | 1.67U |
| CFH-MW-57 | 093-94 | 40-60 | 09/08/22 | 1.65U | 37 | 4.42 | 3.13U | 3.16U | 42.9 | 1.65U | 1.65U |
| CFH-MW-58 | 093-95 | 60-70 | 09/08/22 | 1.79U | 2.08 | 1.54J | 3.40U | 3.44U | 3.58U | 1.79U | 1.79U |

**Table 3.5.1-3**

**Current Firehouse and Building 170 Permanent Monitoring Wells**
**Samples Analyzed by EPA Methods 537.1 (PFAS) and 8270D SIM (1,4-Dioxane)**
**Samples Collected: May-September 2022**

2022 Groundwater Status Report

| Temp Well ID | Perm ID | Screen (BLS) | Sample Date | 1,4-D (µg/L) | PFOS (ng/L) | PFOA (ng/L) | PFBS (ng/L) | PFBA (ng/L) | PFDA (ng/L) | PFHpS (ng/L) | PFHpA (ng/L) | PFHxS (ng/L) | PFHxA (ng/L) | PFNS (ng/L) | PFNA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CFH-MW-59 | 093-96 | 55-65 | 09/08/22 | 0.2U | **127** | 4.92 | 4.75 | 0.88J | 1.67U | 3.49 | 0.63J | 60.3 | 1.84 | 1.61U | 1.67U |
| CFH-MW-60 | 093-97 | 58-68 | 09/07/22 | 0.2U | **420D** | **14.2** | 12.2 | 3.64 | 1.66U | 14.1 | 4.1 | 313D | 16 | 1.59U | 1.66U |
| CFH-MW-61 | 093-98 | 60-70 | 09/07/22 | 0.2U | **1,870D** | **44.2** | 17.6 | 10.1 | 1.67 | 61 | 13.5 | 774D | 50 | 1.66U | 2.06 |
| CFH-MW-62 | 102-36 | 70-80 | 09/18/22 | 0.2U | **27.1** | 1.94 | 0.8J | 1.66U | 1.66U | 1.06J | 1.66U | 15.4 | 1.73 | 1.59U | 1.66U |
| CFH-MW-63 | 102-37 | 65-75 | 09/08/22 | 0.2U | **590D** | 9.93 | 4.2 | 4.63 | 1.66U | 11 | 3.51 | 181D | 10.6 | 1.59U | 1.66U |
| CFH-MW-64 | 102-38 | 70-80 | 09/08/22 | 0.2U | 8.1 | 0.89J | 3.12 | 1.72U | 1.72U | 0.71J | 1.72U | 28.5 | 1.72U | 1.66U | 1.72U |
| CFH-MW-65 | 102-39 | 70-80 | 09/08/22 | 0.2U | **471D** | 7.6 | 11.3 | 4.22 | 1.58U | 7.83 | 3.14 | 250D | 21.3 | 1.52U | 1.58U |
| CFH-MW-66 | 102-40 | 145-155 | 06/30/22 | **5.1** | **84.9** | 7.44 | 7.35 | 2.35 | 1.91U | 1.97 | 1.38J | 83.6 | 8.91 | 1.84U | 1.91U |

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

BD: Blind Duplicate Sample.

NA: Not analyzed for this chemical.

µg/L: Micrograms per liter

ng/L: Nanograms per liter

**Table 3.5.1-3**

**Current Firehouse and Building 170 Permanent Monitoring Wells**
**Samples Analyzed by EPA Methods 537.1 (PFAS) and 8270D SIM (1,4-Dioxane)**
**Samples Collected: May-September 2022**

2022 Groundwater Status Report

| Temp Well ID | Perm ID | Screen (BLS) | Sample Date | PFOSAm (ng/L) | PFPeS (ng/L) | PFPeA (ng/L) | 6:2 FTS (ng/L) | 8:2 FTS (ng/L) | FBSA (ng/L) | PFUnDA (ng/L) | PFTrDA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CFH-MW-59 | 093-96 | 55-65 | 09/08/22 | 1.67U | 6.03 | 0.98J | 3.18U | 3.21U | 6.35 | 1.67U | 1.67U |
| CFH-MW-60 | 093-97 | 58-68 | 09/07/22 | 1.66U | 28.2 | 5.73 | 1.54J | 3.18U | 11.9 | 1.66U | 1.66U |
| CFH-MW-61 | 093-98 | 60-70 | 09/07/22 | 1.67U | 48.6 | 18.3 | 3.27 | 3.22U | 20.6 | 1.67U | 1.67U |
| CFH-MW-62 | 102-36 | 70-80 | 09/18/22 | 1.66U | 1.25J | 1.66U | 3.15U | 3.19U | 3.32U | 1.66U | 1.66U |
| CFH-MW-63 | 102-37 | 65-75 | 09/08/22 | 1.66U | 9.18 | 3.98 | 2.24J | 3.18U | 3.05J | 1.66U | 1.66U |
| CFH-MW-64 | 102-38 | 70-80 | 09/08/22 | 1.72U | 3.82 | 1.72U | 3.28U | 3.31U | 3.45U | 1.72U | 1.72U |
| CFH-MW-65 | 102-39 | 70-80 | 09/08/22 | 1.58U | 28.2 | 8.07 | 3.00U | 3.04U | 18.8 | 1.58U | 1.58U |
| CFH-MW-66 | 102-40 | 145-155 | 06/30/22 | 1.91U | 9.55 | 1.89J | 3.64U | 3.68U | 6.57 | 1.91U | 1.91U |

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

BD: Blind Duplicate Sample.

NA: Not analyzed for this chemical.

µg/L: Micrograms per liter

ng/L: Nanograms per liter

**Table 3.5.1-4**

**Current Firehouse Permanent Monitoring Wells**
**Samples Analyzed by EPA Method 533 (PFAS)**
**Samples Collected: May-September 2022**

2022 Groundwater Status Report

| Temp Well ID | Perm ID | Screen (BLS) | Sample Date | PFOS (ng/L) | PFOA (ng/L) | PFBS (ng/L) | PFBA (ng/L) | PFDA (ng/L) | PFHpS (ng/L) | PFHpA (ng/L) | PFHxS (ng/L) | PFHxA (ng/L) | PFNA (ng/L) | PFPeS (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CFH-MW-06 | 073-31 | 35-50 | 05/25/22 | **9,500D** | **323D** | 141 | 116 | 2.54 | 142 | 320D | 3,090D | 845D | 6.94 | 264D |
| CFH-MW-07(a) | 073-32 | 55-65 | 05/31/22 | 2.04U | 2.04U | 1.81U | 2.04U | 2.04U | 1.94U | 2.04U | 1.86U | 2.04U | 2.04U | 1.92U |
| CFH-MW-08 | 073-33 | 45-50 | 05/25/22 | **1,790D** | 4.2 | 32 | 10.9 | 1.74U | 2.11 | 6.8 | 91.5 | 34.9 | 0.91J | 24.8 |
| CFH-MW-09 | 074-135 | 55-65 | 05/25/22 | **798D** | 7.61 | 19.8 | 9.9 | 1.02J | 4.24 | 9.49 | 116 | 30.5 | 1.56J | 19.9 |
| CFH-MW-12 | 083-35 | 50-60 | 06/10/22 | **412D** | 2.59 | 1.36J | 1.61J | 1.74U | 0.97J | 0.97J | 11.2 | 1.77 | 4.06 | 0.72J |
| CFH-MW-13 | 083-36 | 70-80 | 06/10/22 | **83.8** | 1.76J | 0.95J | 1.17J | 1.77U | 1.68U | 0.8J | 30.9 | 2.03 | 1.77U | 1.52J |
| CFH-MW-14 | 083-37 | 50-60 | 06/10/22 | **744D** | 8.79 | 4.13 | 3.58 | 1.84U | 5.26 | 2.38 | 54.2 | 5.81 | 58.1 | 1.58J |
| CFH-MW-15 | 083-38 | 70-80 | 06/10/22 | **62** | 0.66J | 1.62U | 0.63J | 1.82U | 1.72U | 1.82U | 5.47 | 1.62J | 2.68 | 1.71U |
| CFH-MW-16 | 083-39 | 60-70 | 05/27/22 | **96.8** | 1.54J | 1.50U | 1.68U | 1.68U | 0.93J | 1.68U | 10.9 | 1.56J | 29.6 | 0.66J |
| CFH-MW-17 | 083-40 | 100-110 | 05/27/22 | **34.7** | 1.19J | 0.92J | 1.66J | 1.80U | 1.71U | 1.80U | 8.47 | 3.51 | 2.2 | 1.16J |
| CFH-MW-18 | 084-86 | 120-130 | 05/17/22 | **12.1** | 0.78J | 1.55U | 1.74U | 1.74U | 1.66U | 1.74U | 4.51 | 0.96J | 1.74U | 1.64U |
| CFH-MW-19 | 084-87 | 60-70 | 05/26/22 | **400D** | **11.9** | 3.57DJ | 4.1DJ | 9.38DU | 4.46DJ | 4.19DJ | 58.8D | 9.18DJ | 9.38DU | 4.56DJ |
| CFH-MW-20 | 084-88 | 90-100 | 05/26/22 | **369D** | 7.81 | 3.76 | 3.56 | 1.96U | 2.84 | 3.97 | 62 | 10.1 | 1.17J | 6.39 |
| CFH-MW-21 | 084-89 | 120-130 | 05/26/22 | **133D** | 3.59 | 2.32 | 1.06J | 1.89U | 2.41 | 1.89 | 69.6 | 4.61 | 1.89U | 5.6 |
| CFH-MW-22 | 084-90 | 90-100 | 06/09/22 | **169** | **11.5** | 3.41 | 2.66 | 1.81U | 3.57 | 3.56 | 73.7 | 7.91 | 360D | 5.07 |
| CFH-MW-23 | 084-91 | 120-130 | 06/09/22 | **41.4** | 7.57 | 2.35 | 2.39 | 1.90U | 1.04J | 2.92 | 38.1 | 6.01 | 1.90U | 4.18 |
| CFH-MW-24 | 084-92 | 140-150 | 06/09/22 | **760D** | **42.3** | 33.8 | 11.6 | 1.80U | 11.3 | 12.8 | 390D | 79 | 1.33J | 32.9 |
| CFH-MW-25 | 083-44 | 70-80 | 06/03/22 | 3.27 | 0.76J | 1.58U | 2.13 | 1.77U | 1.68U | 1.77U | 1.06J | 1.77U | 1.77U | 1.66U |
| CFH-MW-26 | 083-41 | 120-130 | 06/03/22 | 3.77 | 1.78U | 1.62U | 1.82U | 1.82U | 1.73U | 1.82U | 2.26 | 1.82U | 1.82U | 1.71U |
| CFH-MW-27 | 083-42 | 90-100 | 06/03/22 | 6.88 | 1.85U | 1.65U | 0.88J | 1.85U | 1.76U | 1.85U | 1.97 | 1.79U | 1.85U | 1.74U |
| CFH-MW-28 | 083-43 | 120-130 | 06/03/22 | **145** | 3.16 | 0.99J | 3.9 | 1.69U | 1.08J | 2.64 | 24.9 | 12.9 | 8.16 | 1.15J |
| CFH-MW-29 | 084-93 | 90-100 | 05/31/22 | **70.4** | 6.77 | 3.47 | 2.64 | 2.01U | 1.18J | 2.74 | 43.6 | 7.38 | 98.1 | 4.94 |
| CFH-MW-30 | 084-94 | 120-130 | 05/31/22 | **155D** | 12.2 | 10.2 | 7.65 | 2.00U | 2.94 | 6.25 | 93.1 | 23.5 | 1.54J | 14 |
| CFH-MW-31 | 084-95 | 140-150 | 05/31/22 | 1.89 | 1.82U | 1.31J | 0.63J | 1.72U | 1.63U | 1.72U | 6.31 | 1.72U | 1.72U | 1.64 |
| CFH-MW-32 | 084-96 | 90-100 | 06/01/22 | **1,070D** | **17.4** | 10.5 | 6.49 | 1.86U | 11.9 | 9.29 | 184 | 29.1 | 2.2 | 14.2 |
| CFH-MW-33 | 084-97 | 120-130 | 06/01/22 | **991D** | **14.8** | 11.9 | 7.87 | 1.77U | 11.3 | 10.2 | 199D | 34.6 | 2.25 | 21.6 |
| CFH-MW-34 | 084-98 | 140-150 | 06/01/22 | 1.84U | 1.84U | 3.26 | 1.84U | 1.84U | 1.75U | 1.84U | 2.74 | 1.84U | 1.84U | 2.52 |
| CFH-MW-35 | 093-88 | 120-130 | 06/08/22 | 0.98J | 0.6J | 1.55U | 1.74U | 1.74U | 1.65U | 1.74U | 1.58U | 1.74U | 1.74U | 1.64U |
| CFH-MW-36 | 093-89 | 70-80 | 06/02/22 | 3.53 | 0.72J | 0.72J | 1.30J | 1.85U | 1.76U | 1.85U | 0.78J | 1.85U | 1.85U | 1.74U |
| " (BD) | " | " | " | 4.38 | 0.84J | 0.77J | 1.36J | 2.04U | 1.94U | 2.04U | 0.79J | 2.04U | 2.04U | 1.92U |

**Table 3.5.1-4**

**Current Firehouse Permanent Monitoring Wells**
**Samples Analyzed by EPA Method 533 (PFAS)**
**Samples Collected: May-September 2022**

2022 Groundwater Status Report

| Temp Well ID | Perm ID | Screen (BLS) | Sample Date | PFPeA (ng/L) | 4:2 FTS (ng/L) | 6:2 FTS (ng/L) | 8:2 FTS (ng/L) | Gen-X (ng/L) | DONA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|
| CFH-MW-06 | 073-31 | 35-50 | 05/25/22 | 467D | 3.49U | 60.7 | 9.09 | 1.86U | 1.86U |
| CFH-MW-07(a) | 073-32 | 55-65 | 05/31/22 | 2.04U | 3.83U | 3.87U | 3.91U | 2.04U | 2.04U |
| CFH-MW-08 | 073-33 | 45-50 | 05/25/22 | 33.9 | 3.26U | 3.30U | 3.33U | 1.74U | 1.74U |
| CFH-MW-09 | 074-135 | 55-65 | 05/25/22 | 27.8 | 3.35U | 2.69J | 9.78 | 1.78U | 1.78U |
| CFH-MW-12 | 083-35 | 50-60 | 06/10/22 | 1.04J | 3.28U | 3.31U | 3.35U | 1.74U | 1.74U |
| CFH-MW-13 | 083-36 | 70-80 | 06/10/22 | 1.09J | 3.32U | 3.36U | 3.40U | 1.77U | 1.77U |
| CFH-MW-14 | 083-37 | 50-60 | 06/10/22 | 3.16 | 17.3DU | 3.51U | 3.54U | 1.84U | 1.84U |
| CFH-MW-15 | 083-38 | 70-80 | 06/10/22 | 1.82U | 3.41U | 3.45U | 3.48U | 1.82U | 1.82U |
| CFH-MW-16 | 083-39 | 60-70 | 05/27/22 | 1.68U | 3.17U | 3.20U | 3.23U | 1.68U | 1.68U |
| CFH-MW-17 | 083-40 | 100-110 | 05/27/22 | 1.12J | 3.38U | 3.42U | 3.45U | 1.80U | 1.80U |
| CFH-MW-18 | 084-86 | 120-130 | 05/17/22 | 1.74U | 3.28U | 3.31U | 3.35U | 1.74U | 1.74U |
| CFH-MW-19 | 084-87 | 60-70 | 05/26/22 | 6.42DJ | 17.6DU | 17.8DU | 18DU | 9.38DU | 9.38DU |
| CFH-MW-20 | 084-88 | 90-100 | 05/26/22 | 6.34 | 3.68U | 3.73U | 3.77U | 1.96U | 1.96U |
| CFH-MW-21 | 084-89 | 120-130 | 05/26/22 | 2.99 | 3.56U | 3.60U | 3.63U | 1.89U | 1.89U |
| CFH-MW-22 | 084-90 | 90-100 | 06/09/22 | 4.93 | 3.40U | 3.43U | 3.47U | 1.81U | 1.81U |
| CFH-MW-23 | 084-91 | 120-130 | 06/09/22 | 3.81 | 17.9DU | 3.61U | 3.65U | 1.90U | 1.90U |
| CFH-MW-24 | 084-92 | 140-150 | 06/09/22 | 40.7 | 3.39U | 1.91J | 3.46U | 1.80U | 1.80U |
| CFH-MW-25 | 083-44 | 70-80 | 06/03/22 | 1.77U | 3.33U | 3.36U | 3.40U | 1.77U | 1.77U |
| CFH-MW-26 | 083-41 | 120-130 | 06/03/22 | 1.82U | 3.41U | 3.45U | 3.55U | 1.85U | 1.85U |
| CFH-MW-27 | 083-42 | 90-100 | 06/03/22 | 0.99J | 3.48U | 3.52U | 3.55U | 1.85U | 1.85U |
| CFH-MW-28 | 083-43 | 120-130 | 06/03/22 | 6.48 | 3.18U | 3.22U | 3.25U | 1.69U | 1.69U |
| CFH-MW-29 | 084-93 | 90-100 | 05/31/22 | 4.69 | 3.77U | 3.81U | 3.85U | 2.01U | 2.01U |
| CFH-MW-30 | 084-94 | 120-130 | 05/31/22 | 15.3 | 3.75U | 2.00J | 3.83U | 2.00U | 2.00U |
| CFH-MW-31 | 084-95 | 140-150 | 05/31/22 | 1.72U | 3.23U | 3.26U | 3.29U | 1.72U | 1.72U |
| CFH-MW-32 | 084-96 | 90-100 | 06/01/22 | 20 | 3.49U | 1.81J | 3.57U | 1.86U | 1.86U |
| CFH-MW-33 | 084-97 | 120-130 | 06/01/22 | 21.8 | 3.33U | 2.33J | 3.40U | 1.77U | 1.77U |
| CFH-MW-34 | 084-98 | 140-150 | 06/01/22 | 1.84U | 3.45U | 3.49U | 3.53U | 1.84U | 1.84U |
| CFH-MW-35 | 093-88 | 120-130 | 06/08/22 | 1.74U | 3.27U | 3.31U | 3.34U | 1.74U | 1.74U |
| CFH-MW-36 | 093-89 | 70-80 | 06/02/22 | 1.85U | 3.48U | 3.52U | 3.56U | 1.85U | 1.85U |
| " (BD) | " | " | " | 2.04U | 3.38U | 3.87U | 3.92U | 2.04U | 2.04U |

**Table 3.5.1-4**

**Current Firehouse Permanent Monitoring Wells**
**Samples Analyzed by EPA Method 533 (PFAS)**
**Samples Collected: May-September 2022**

2022 Groundwater Status Report

| Temp Well ID | Perm ID | Screen (BLS) | Sample Date | PFOS (ng/L) | PFOA (ng/L) | PFBS (ng/L) | PFBA (ng/L) | PFDA (ng/L) | PFHpS (ng/L) | PFHpA (ng/L) | PFHxS (ng/L) | PFHxA (ng/L) | PFNA (ng/L) | PFPeS (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CFH-MW-37 | 093-90 | 100-110 | 06/02/22 | **18.6** | 1.77U | 0.93J | 1.19J | 1.77U | 1.68U | 1.77U | 3.47 | 0.88J | 1.77U | 1.67U |
| CFH-MW-38 | 093-91 | 80-90 | 06/06/22 | **36.2** | 0.62J | 0.8J | 0.98J | 1.78U | 1.69U | 1.78U | 10.7 | 1.19J | 3.45 | 0.96J |
| CFH-MW-39 | 093-92 | 100-110 | 06/06/22 | **227D** | 1.29J | 1.13J | 1.18J | 1.80U | 1.59J | 1.80U | 29.7 | 1.39J | 4.74 | 2.01 |
| CFH-MW-40 | 094-275 | 80-90 | 06/06/22 | **27** | 1.31J | 1.65U | 1.66J | 1.85U | 1.76U | 0.68J | 6.39 | 1.60J | 5.39 | 0.82J |
| CFH-MW-41 | 094-276 | 100-110 | 06/06/22 | **101** | 2.92 | 1.72 | 1.39J | 1.86U | 1.17J | 1.11J | 24.3 | 2.37 | 40.3 | 2.34 |
| CFH-MW-44 | 102-26 | 90-100 | 06/07/22 | **24.5** | 1.40J | 1.59U | 0.64J | 1.79U | 0.66J | 1.79U | 9.71 | 1.18J | 1.79U | 0.85J |
| CFH-MW-45 | 102-27 | 110-120 | 06/07/22 | 8.54 | 0.66J | 1.63U | 1.83U | 1.83U | 1.74U | 1.83U | 1.08J | 0.84J | 1.83U | 1.72U |
| CFH-MW-46 | 102-28 | 140-150 | 06/07/22 | 1.81J | 1.87U | 1.67U | 1.87U | 1.87U | 1.78U | 1.87U | 0.97J | 1.87U | 1.87U | 1.76U |
| CFH-MW-47 | 103-30 | 90-100 | 06/02/22 | **120** | 7.57 | 5.07 | 3.49 | 1.78U | 1.75 | 3.37 | 55 | 14 | 29 | 6.64 |
| CFH-MW-48 | 103-31 | 110-120 | 06/02/22 | **335D** | **11.5** | 14.2 | 6.78 | 1.82U | 4.99 | 7.72 | 121 | 31 | 3.62 | 17.8 |
| CFH-MW-49 | 103-32 | 130-140 | 06/02/22 | **132** | 4.34 | 20.7 | 1.48J | 1.83U | 1.06J | 1.81J | 164D | 5.49 | 1.83U | 26.6 |
| CFH-MW-50 | 103-33 | 90-100 | 06/08/22 | **19.3** | 5.11 | 3.71 | 3.11 | 1.79U | 1.70U | 1.47J | 21.8 | 2.8 | 1.04J | 3.72 |
| " (BD) | " | " | " | **22.7** | 4.66 | 3.6 | 3.03 | 1.85U | 0.69J | 1.59J | 23.5 | 2.81 | 0.7J | 3.75 |
| CFH-MW-51 | 103-34 | 120-130 | 06/08/22 | **25.3** | 2.75 | 3.22 | 1.82 | 1.78U | 0.66J | 1.01J | 23.4 | 3.32 | 1.78U | 3.28 |
| CFH-MW-52 | 102-29 | 90-100 | 06/07/22 | **108** | 2.82 | 1.66 | 1.77 | 1.75U | 1.61J | 1.60J | 23.3 | 9.23 | 13.6 | 1.71 |
| CFH-MW-53 | 102-30 | 110-120 | 06/07/22 | **204** | 3.23 | 2.05 | 1.79J | 1.81U | 1.77 | 1.65J | 33.6 | 8.14 | 11.9 | 2.83 |

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

(a): Method 533 analytical results for this sample are likely not correct. See analytial results for Method 537.1.

BD: Blind Duplicate Sample.

NA: Not analyzed for this chemical.

µg/L: Micrograms per liter

ng/L: Nanograms per liter

**Table 3.5.1-4**

**Current Firehouse Permanent Monitoring Wells**
**Samples Analyzed by EPA Method 533 (PFAS)**
**Samples Collected: May-September 2022**

2022 Groundwater Status Report

| Temp Well ID | Perm ID | Screen (BLS) | Sample Date | PFPeA (ng/L) | 4:2 FTS (ng/L) | 6:2 FTS (ng/L) | 8:2 FTS (ng/L) | Gen-X (ng/L) | DONA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|
| CFH-MW-37 | 093-90 | 100-110 | 06/02/22 | 0.68J | 3.33U | 3.37U | 3.40U | 1.77U | 1.77U |
| CFH-MW-38 | 093-91 | 80-90 | 06/06/22 | 0.75J | 3.34U | 3.37U | 3.41U | 1.78U | 1.78U |
| CFH-MW-39 | 093-92 | 100-110 | 06/06/22 | 0.85J | 3.39U | 3.42U | 3.46U | 1.80U | 1.80U |
| CFH-MW-40 | 094-275 | 80-90 | 06/06/22 | 1.18J | 3.48U | 3.52U | 3.56U | 1.85U | 1.85U |
| CFH-MW-41 | 094-276 | 100-110 | 06/06/22 | 1.88 | 3.49U | 3.53U | 3.57U | 1.86U | 1.86U |
| CFH-MW-44 | 102-26 | 90-100 | 06/07/22 | 0.85J | 3.37U | 3.40U | 3.44U | 1.79U | 1.79U |
| CFH-MW-45 | 102-27 | 110-120 | 06/07/22 | 1.83U | 3.45U | 3.49U | 3.52U | 1.83U | 1.83U |
| CFH-MW-46 | 102-28 | 140-150 | 06/07/22 | 1.87U | 3.52U | 3.56U | 3.59U | 1.87U | 1.87U |
| CFH-MW-47 | 103-30 | 90-100 | 06/02/22 | 7.05 | 3.25U | 3.38U | 3.42U | 1.78U | 1.78U |
| CFH-MW-48 | 103-31 | 110-120 | 06/02/22 | 17.4 | 3.42U | 3.46U | 3.49U | 1.82U | 1.82U |
| CFH-MW-49 | 103-32 | 130-140 | 06/02/22 | 1.62J | 3.45U | 3.49U | 3.52U | 1.83U | 1.83U |
| CFH-MW-50 | 103-33 | 90-100 | 06/08/22 | 1.38J | 3.37U | 3.41U | 3.44U | 1.79U | 1.79U |
| " (BD) | " | " | " | 1.72J | 3.47U | 3.51U | 3.54U | 1.85U | 1.85U |
| CFH-MW-51 | 103-34 | 120-130 | 06/08/22 | 0.90J | 3.34U | 3.38U | 3.41U | 1.78U | 1.78U |
| CFH-MW-52 | 102-29 | 90-100 | 06/07/22 | 3.3 | 3.28U | 3.32U | 3.35U | 1.75U | 1.75U |
| CFH-MW-53 | 102-30 | 110-120 | 06/07/22 | 3.16 | 3.40U | 3.43U | 3.47U | 1.81U | 1.81U |

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

(a): Method 533 analytical results for this sample are likely not c

BD: Blind Duplicate Sample.

NA: Not analyzed for this chemical.

µg/L: Micrograms per liter

ng/L: Nanograms per liter

**Table 3.5.1-5**

**Startup Testing of the Current Firehouse PFAS Treatment System**
**PFAS and 1,4-Dioxane Results**
**Sample Period: October 24 - December 31, 2022**

2022 Groundwater Status Report

| Well | Site ID | Well Screen (ft. BLS) | Sample Date | 1,4-D (µg/L) | PFOS (ng/L) | PFOA (ng/L) | PFBS (ng/L) | FBSA (ng/L) | PFBA (ng/L) | PFDA (ng/L) | PFHpS (ng/L) | PFHpA (ng/L) | PFHxS (ng/L) | PFHxA (ng/L) | PFNS (ng/L) | PFNA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CF-RW-A** | 073-34 | 48-68 | 10/24/22 | 0.2U | **822**D | **19.8** | 29.5 | 9.27 | 19.1 | 1.78U | 6.91 | 19 | 392D | 60.5 | 1.70U | 2.8 |
| | | | 10/26/22 | 0.2U | **1,080**D | **18.9** | 17.5 | 9.08 | 15.3 | 1.74U | 7.32 | 17.4 | 363D | 50.4 | 1.67U | 2.77 |
| | | | 10/28/22 | 0.2U | **558**D | **13.5** | 18.9 | 7.14 | 14.6 | 1.78U | 4.61 | 14.4 | 228D | 46.5 | 1.70U | 2.12 |
| | | | 10/31/22 | 0.2U | **1,100**D | **14** | 14.1 | 7.49 | 12.7 | 1.67U | 6.49 | 11.8 | 394D | 36.9 | 1.60U | 2.09 |
| | | | 11/07/22 | 0.2U | **434**D | **16.1** | 22.1 | 9.16 | 13.7 | 1.76U | 6.94 | 14.4 | 179D | 46.5 | 1.69U | 1.72J |
| | | | 11/14/22 | 0.2U | **332**D | **10.1** | 19.3 | 6.89 | 10.9 | 1.71U | 4.75 | 10.4 | 114 | 33 | 1.64U | 1.40J |
| | | | 11/21/22 | 0.2U | **228**Dh | **9.16h** | 11.8h | 4.92h | 8.85h | 1.69Uh | 4.15h | 7.72h | 118h | 26.2h | 1.62Uh | 0.91Jh |
| | | | 11/28/22 | 0.2U | **285**D | **11.8** | 12.6 | 6.09 | 9.8 | 1.84U | 5.13 | 10.1 | 130 | 33.8 | 1.77U | 1.10J |
| | | | 12/05/22 | 0.21U | **206**D | **9.33** | 10.2 | 5.36 | 8.51 | 1.77U | 4.26 | 8.54 | 101 | 26.2 | 1.70U | 0.98J |
| | | | 12/12/22 | 0.21U | **233**D | **7.9** | 8.78 | 4.16 | 7.75 | 1.87U | 3.29 | 7.31 | 114 | 25.5 | 1.80U | 0.88J |
| | | | 12/20/22 | 0.21U | **183**D | 6.64 | 7.7 | 3.37J | 6.81 | 1.83U | 2.79 | 6.43 | 60.8 | 21.3 | 1.76U | 0.78J |
| | | | | | | | | | | | | | | | | |
| **CF-RW-B** | 073-35 | 54-74 | 10/24/22 | 0.2U | **95** | 1.79U | 1.59U | 3.58U | 1.79U | 1.79U | 1.70U | 1.79U | 6.3 | 0.94J | 1.72U | 1.79U |
| | | | 10/26/22 | 0.2U | **180**D | 1.51J | 1.52U | 3.42U | 1.71U | 1.71U | 0.72J | 0.6J | 16.1 | 1.54J | 1.64U | 2.07 |
| | | | 10/28/22 | 0.2U | **183**D | 1.41J | 1.54U | 3.45U | 1.73U | 1.73U | 0.77J | 1.73U | 18.8 | 2.38 | 1.66U | 4.88 |
| | | | 10/31/22 | 0.2U | **264**D | 1.83 | 1.47U | 3.30U | 0.71J | 1.65U | 0.83J | 0.64J | 20.5 | 2.18 | 1.58U | 7.32 |
| | | | 11/07/22 | 0.2U | **184**D | 1.66 | 1.46U | 3.27U | 0.71J | 1.64U | 0.84J | 0.71J | 19.7 | 2.88 | 1.57U | 8.55 |
| | | | 11/14/22 | 0.2U | **99.5** | 1.41J | 1.55U | 3.48U | 1.74U | 1.74U | 1.65U | 0.66J | 15.6 | 2.13 | 1.67U | 1.50J |
| | | | 11/21/22 | 0.2U | **162**h | 1.11Jh | 1.50Uh | 3.37Uh | 1.68Uh | 1.68Uh | 0.82Jh | 1.68Uh | 16.8h | 1.9h | 1.62Uh | 5.92h |
| | | | 11/28/22 | 0.2U | **221**D | 1.62J | 1.57U | 3.52U | 0.79J | 1.76U | 0.92J | 0.61J | 17.8 | 2.51 | 1.69U | 8.94 |
| | | | 12/05/22 | 0.2U | **166**D | 1.96 | 0.66J | 3.84U | 0.94J | 1.92U | 0.94J | 0.81J | 24.1 | 2.16 | 1.84U | 6.96 |
| | | | 12/12/22 | 0.2U | **153** | 1.40J | 1.61U | 3.61U | 0.73J | 1.81U | 0.91J | 1.81U | 19.3 | 2.01 | 1.73U | 5.68 |
| | | | 12/20/22 | 0.2U | **138** | 1.54J | 1.54U | 3.46U | 1.73U | 1.73U | 0.87J | 0.62J | 19 | 1.99 | 1.66U | 5.65 |
| | | | | | | | | | | | | | | | | |
| **CF-RW-C** | 083-45 | 117-137 | 10/24/22 | **0.73** | **3.26** | 1.58J | 1.57U | 3.54U | 0.85J | 1.77U | 1.68U | 1.77U | 0.88J | 1.39J | 1.70U | 1.77U |
| | | | 10/26/22 | **0.56** | **2.75** | 1.41J | 1.47U | 3.29U | 0.75J | 1.65U | 1.56U | 1.65U | 0.65J | 1.89J | 1.58U | 1.65U |
| | | | 10/28/22 | **0.56** | 2.48 | 0.99J | 1.59U | 3.58U | 1.79U | 1.79U | 1.70U | 1.79U | 0.73J | 0.8J | 1.72U | 1.79U |
| | | | 10/31/22 | **0.62** | 2.33 | 1.64U | 1.46U | 3.29U | 1.64U | 1.64U | 1.56U | 1.64U | 0.71J | 1.64U | 1.58U | 1.64U |
| | | | 11/07/22 | **0.52** | **3.21** | 1.13J | 1.45U | 3.26U | 0.94J | 1.63U | 1.55U | 1.63U | 0.78J | 1.63U | 1.57U | 1.63U |
| | | | 11/14/22 | **0.5** | **2.73** | 0.96J | 1.50U | 3.36U | 0.75J | 1.68U | 1.60U | 1.68U | 0.64J | 1.68U | 1.61U | 1.68U |
| | | | 11/21/22 | **0.368** | 2.19h | 1.65h | 1.46Uh | 3.29Uh | 1.65Uh | 1.65Uh | 1.56Uh | 1.65Uh | 0.75Jh | 1.65Uh | 1.58Uh | 1.65Uh |
| | | | 11/28/22 | **0.63** | **273**D | **11.1** | 12 | 6.01 | 9.73 | 1.70U | 4.95 | 9.08 | 119 | 28.3 | 1.63U | 1.14J |

**Table 3.5.1-5**

**Startup Testing of the Current Firehouse PFAS Treatment System**
**PFAS and 1,4-Dioxane Results**
**Sample Period: October 24 - December 31, 2022**

2022 Groundwater Status Report

| Well | Site ID | Well Screen (ft. BLS) | Sample Date | PFOSAm (ng/L) | PFPeS (ng/L) | PFPeA (ng/L) | 6:2 FTS (ng/L) | 8:2 FTS (ng/L) | PFUnDA (ng/L) | PFTrDA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|
| **CF-RW-A** | 073-34 | 48-68 | 10/24/22 | 1.49J | 31.6 | 68 | 8.87DJ | 3.46 | 1.78U | 1.78U |
| | | | 10/26/22 | 2.74 | 21.9 | 53.3 | 2.90J | 3.55 | 1.74U | 1.74U |
| | | | 10/28/22 | 2.59 | 27.2 | 42.9 | 3.81 | 2.41J | 1.78U | 1.78U |
| | | | 10/31/22 | 1.65J | 20.5 | 36.6 | 3.72 | 1.97J | 1.67U | 1.67U |
| | | | 11/07/22 | 1.73J | 30.8 | 37.8 | 3.51 | 3.38U | 1.76U | 1.76U |
| | | | 11/14/22 | 0.93J | 19.8 | 37.6 | 3J | 3.29U | 1.71U | 1.71U |
| | | | 11/21/22 | 1.44Jh | 17.4h | 24.8h | 80.2DUh | 3.24Uh | 1.69Uh | 1.69Uh |
| | | | 11/28/22 | 2.54 | 17.1 | 32.7 | 12 | 1.61J | 1.84U | 1.84U |
| | | | 12/05/22 | 1.18J | 14.4 | 26.4 | 4.06 | 3.39U | 1.77U | 1.77U |
| | | | 12/12/22 | 1.36J | 14.5 | 21.8 | 5.12 | 3.59U | 1.87U | 1.87U |
| | | | 12/20/22 | 1.04J | 8.42 | 21.1 | 3.19J | 3.51U | 1.83U | 1.83U |
| | | | | | | | | | | |
| **CF-RW-B** | 073-35 | 54-74 | 10/24/22 | 1.79U | 1.68U | 1.79U | 17DU | 3.43U | 1.79U | 0.72J |
| | | | 10/26/22 | 1.71U | 0.82J | 0.81J | 3.25U | 3.28U | 1.31J | 1.71U |
| | | | 10/28/22 | 1.73U | 0.73J | 0.97J | 3.28U | 3.32U | 1.82 | 1.73U |
| | | | 10/31/22 | 1.65U | 0.68J | 0.88J | 3.14U | 3.17U | 1.57J | 0.85J |
| | | | 11/07/22 | 1.64U | 0.86J | 1.11J | 15.5DU | 3.14U | 1.67 | 1.03J |
| | | | 11/14/22 | 1.74U | 0.70J | 0.64J | 3.30U | 3.34U | 0.76J | 0.67J |
| | | | 11/21/22 | 1.68Uh | 0.78Jh | 0.66Jh | 3.20Uh | 3.23Uh | 0.84Jh | 0.84Jh |
| | | | 11/28/22 | 1.76U | 0.73J | 0.74J | 3.34U | 3.38U | 3.01 | 2.35 |
| | | | 12/05/22 | 1.92U | 0.81J | 0.9J | 3.65U | 3.69U | 1.14J | 1.37J |
| | | | 12/12/22 | 1.81U | 0.82J | 0.86J | 3.43U | 3.47U | 0.83J | 1.01J |
| | | | 12/20/22 | 1.73U | 0.78J | 1.75J | 3.29U | 3.32U | 0.84J | 1.95J |
| | | | | | | | | | | |
| **CF-RW-C** | 083-45 | 117-137 | 10/24/22 | 1.77U | 1.66U | 0.86J | 84DU | 3.40U | 1.77U | 1.77U |
| | | | 10/26/22 | 1.65U | 1.55U | 0.62J | 3.13U | 3.16U | 1.65U | 1.65U |
| | | | 10/28/22 | 1.79U | 1.88U | 1.79U | 3.41U | 3.44U | 1.79U | 1.79U |
| | | | 10/31/22 | 1.64U | 1.55U | 1.64U | 3.12U | 3.16U | 1.64U | 1.64U |
| | | | 11/07/22 | 1.63U | 1.53U | 1.63U | 15.5DU | 3.13U | 1.63U | 1.63U |
| | | | 11/14/22 | 1.68U | 1.58U | 1.68U | 16DU | 3.23U | 1.68U | 1.68U |
| | | | 11/21/22 | 1.65Uh | 1.55Uh | 1.65Uh | 3.13Uh | 3.16Uh | 1.65Uh | 1.65Uh |
| | | | 11/28/22 | 2.22 | 16.1 | 29.6 | 10.3 | 2.08J | 1.70U | 1.70U |

**Table 3.5.1-5**

**Startup Testing of the Current Firehouse PFAS Treatment System**
**PFAS and 1,4-Dioxane Results**
**Sample Period: October 24 - December 31, 2022**

2022 Groundwater Status Report

| Well | Site ID | Well Screen (ft. BLS) | Sample Date | 1,4-D (µg/L) | PFOS (ng/L) | PFOA (ng/L) | PFBS (ng/L) | FBSA (ng/L) | PFBA (ng/L) | PFDA (ng/L) | PFHpS (ng/L) | PFHpA (ng/L) | PFHxS (ng/L) | PFHxA (ng/L) | PFNS (ng/L) | PFNA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 12/05/22 | **0.41** | 2.39 | 1.03J | 1.62U | 3.63U | 0.79J | 1.82U | 1.73U | 1.82U | 0.99J | 1.82U | 1.74U | 1.82U |
| | | | 12/12/22 | **0.35** | 2.16 | 0.95J | 1.54U | 3.46U | 1.01J | 1.73U | 1.64U | 1.73U | 0.77J | 1.73U | 1.66U | 1.73U |
| | | | 12/20/22 | **0.42** | 1.87 | 1.75U | 1.56U | 3.51U | 1.75U | 1.75U | 1.67U | 1.75U | 0.62J | 1.75U | 1.68U | 1.75U |
| | | | | | | | | | | | | | | | | |
| **CF-RW-D** | 083-46 | 70-90 | 10/24/22 | 0.2U | **336**D | 3.33 | 1.34U | 3.52U | 1.54J | 1.76U | 1.98 | 1.27J | 50.4 | 3.46 | 1.69U | 2.66 |
| | | | 10/26/22 | 0.2U | **287**D | 2.69 | 1.91J | 3.40U | 1.52J | 1.70U | 1.50J | 1.13J | 35.8 | 3.12 | 1.63U | 1.70U |
| | | | 10/28/22 | 0.2U | **218**D | 3.04 | 1.1J | 3.41U | 1.69J | 1.70U | 1.61J | 1.42J | 35.2 | 3.93 | 1.64U | 4.87 |
| | | | 10/31/22 | 0.2U | **319**D | 3.43 | 0.98J | 3.36U | 1.85 | 1.68U | 1.6 | 1.33J | 41.1 | 3.69 | 1.61U | 5.22 |
| | | | 11/07/22 | 0.2U | **547**D | 4.25 | 1.16J | 3.29U | 1.86 | 1.65U | 2.2 | 1.84 | 44.8 | 5.34 | 1.58U | 7.13 |
| | | | 11/14/22 | 0.2U | **376**D | 3.25 | 1.09J | 3.34U | 1.65J | 1.67U | 1.45J | 1.53J | 35.3 | 4.14 | 1.60U | 5.18 |
| | | | 11/21/22 | 0.2U | **313**Dh | 2.9h | 0.93Jh | 3.38Uh | 1.34Jh | 1.69Uh | 1.52Jh | 1.33Jh | 30.8h | 3.59h | 1.62Uh | 4.03h |
| | | | 11/28/22 | 0.2U | **301**D | 3.55 | 0.85J | 3.54U | 1.52J | 1.77U | 1.60J | 1.56J | 34.3 | 3.71 | 1.70U | 4.13 |
| | | | 12/05/22 | 0.23U | **271**D | 3.5 | 1.1J | 3.61U | 1.68J | 1.80U | 1.83 | 1.42J | 39.7 | 4.57 | 1.73U | 5.03 |
| | | | 12/12/22 | 0.21U | **277**D | 3.26 | 0.82J | 3.57U | 1.42J | 1.79U | 1.79U | 1.30J | 32.3 | 3.52 | 1.71U | 4.12 |
| | | | 12/20/22 | 0.18U | **257**D | 3.01 | 0.9J | 3.44U | 1.44J | 1.72U | 1.49J | 1.22J | 34.5 | 3.57 | 1.65U | 3.95 |
| | | | | | | | | | | | | | | | | |
| **CF-RW-E** | 084-102 | 132-152 | 10/24/22 | **0.44** | **425**D | **22.5** | 13.6 | 11.4 | 6.01 | 1.76U | 6.89 | 7.32 | 171 | 35.6 | 1.69U | 4.12 |
| | | | 10/26/22 | **0.38** | **333**D | **22** | 11.5 | 11 | 4.85 | 1.65U | 5.79 | 6.43 | 152 | 31.5 | 1.58U | 10.2 |
| | | | 10/28/22 | 0.31 | **278**Dh | **22.6**h | 11.9h | 10.8h | 5.95h | 1.72Uh | 7.11h | 6.05h | 161h | 35.7h | 1.65Uh | 28.4h |
| | | | 10/31/22 | **0.38** | **275**D | **17.7** | 9.06 | 7.94 | 5.13 | 1.66U | 4.81 | 5.01 | 126 | 19.4 | 1.60U | 37 |
| | | | 11/07/22 | 0.33 | **234**D | **23** | 11 | 7.95 | 4.74 | 1.75U | 5.85 | 6.24 | 172 | 25.7 | 1.68U | 71.3 |
| | | | 11/14/22 | 0.32 | **217**D | **19.4** | 8.07 | 6.74 | 4.25 | 1.69U | 5.13 | 5.7 | 136 | 21.9 | 1.62U | 72.9 |
| | | | 11/21/22 | 0.118J | **173**Dh | **18.4**h | 7.15h | 5.29h | 3.38h | 1.68Uh | 5.22h | 4.1h | 121h | 18.3h | 1.61Uh | 77.8h |
| | | | 11/28/22 | 0.26 | **239**D | **24.2** | 7.26 | 6.68 | 3.44 | 1.69U | 5.13 | 4.59 | 118 | 20.4 | 1.62U | 83 |
| | | | 12/05/22 | 0.3 | **220**D | **23.6** | 6.24 | 6.21 | 3.29 | 1.83U | 5.26 | 4.71 | 115 | 18.2 | 1.76U | 84.9 |
| | | | 12/12/22 | NS | **--** | **--** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | | | 12/20/22 | 0.28 | **218**D | **23.2** | 6.34 | 5.6 | 3.51 | 1.81U | 4.39 | 4.25 | 124 | 20.4 | 1.74U | 71.9 |
| | | | | | | | | | | | | | | | | |
| **CF-RW-F** | 102-32 | 121-141 | 10/24/22 | 0.2U | 2.31 | 1.77U | 1.58U | 3.54U | 1.77U | 1.77U | 1.68U | 1.77U | 1.1J | 1.77U | 1.70U | 1.77U |
| | | | 10/26/22 | 0.2U | 2.46h | 1.78Uh | 1.58U | 3.55Uh | 1.78Uh | 1.78Uh | 1.69Uh | 1.78Uh | 0.97Jh | 1.78Uh | 1.71Uh | 1.78Uh |
| | | | 10/28/22 | 0.2U | 1.84 | 1.83U | 1.63U | 3.67U | 1.83U | 1.83U | 1.74U | 1.83U | 0.7J | 1.83U | 1.76U | 1.83U |
| | | | 10/31/22 | 0.2U | 1.97 | 1.63U | 1.45U | 3.25U | 1.63U | 1.63U | 1.54U | 1.63U | 0.91J | 1.63U | 1.56U | 1.63U |

**Table 3.5.1-5**

**Startup Testing of the Current Firehouse PFAS Treatment System**
**PFAS and 1,4-Dioxane Results**
**Sample Period: October 24 - December 31, 2022**

2022 Groundwater Status Report

| Well | Site ID | Well Screen (ft. BLS) | Sample Date | PFOSAm (ng/L) | PFPeS (ng/L) | PFPeA (ng/L) | 6:2 FTS (ng/L) | 8:2 FTS (ng/L) | PFUnDA (ng/L) | PFTrDA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 12/05/22 | 1.82U | 1.71U | 1.82U | 3.45U | 3.49U | 1.82U | 1.82U |
| | | | 12/12/22 | 1.73U | 1.63U | 1.73U | 3.29U | 3.32U | 1.73U | 1.73U |
| | | | 12/20/22 | 1.75U | 1.65U | 1.75U | 3.33U | 3.37U | 1.75U | 1.75U |
| | | | | | | | | | | |
| **CF-RW-D** | 083-46 | 70-90 | 10/24/22 | 1.76U | 1.61J | 1.70J | 16.7DU | 3.38U | 1.76U | 1.76U |
| | | | 10/26/22 | 1.70U | 1.28J | 1.37J | 3.23U | 3.26U | 1.70U | 1.70U |
| | | | 10/28/22 | 1.70U | 1.34J | 1.4J | 3.24U | 3.27U | 1.70U | 1.70U |
| | | | 10/31/22 | 1.68U | 1.29J | 1.3J | 3.19U | 3.22U | 1.68U | 1.68U |
| | | | 11/07/22 | 1.65U | 1.55J | 1.76U | 3.13U | 3.16U | 1.65U | 1.65U |
| | | | 11/14/22 | 1.67U | 1.43J | 1.72 | 3.17U | 3.20U | 1.67U | 1.67U |
| | | | 11/21/22 | 1.69Uh | 1.31Jh | 1.36Jh | 3.32Uh | 3.25Uh | 1.69Uh | 1.69Uh |
| | | | 11/28/22 | 1.77U | 1.20J | 1.54J | 3.36U | 3.40U | 1.77U | 1.77U |
| | | | 12/05/22 | 1.80U | 1.60J | 1.75J | 3.43U | 3.46U | 1.80U | 1.80U |
| | | | 12/12/22 | 1.79U | 1.14J | 1.56J | 3.38U | 3.43U | 1.79U | 1.79U |
| | | | 12/20/22 | 1.72U | 1.31J | 1.5J | 3.26U | 3.30U | 1.72U | 1.72U |
| | | | | | | | | | | |
| **CF-RW-E** | 084-102 | 132-152 | 10/24/22 | 1.76U | 19.9 | 18 | 83.6DU | 3.38U | 1.76U | 1.76U |
| | | | 10/26/22 | 1.65U | 16.8 | 15 | 3.13U | 3.16U | 1.65U | 1.65U |
| | | | 10/28/22 | 0.72Jh | 18.4h | 15.8h | 16.4DUh | 3.31Uh | 1.72Uh | 1.72Uh |
| | | | 10/31/22 | 1.66U | 11.8 | 12.2 | 3.16U | 3.20U | 1.66U | 1.66U |
| | | | 11/07/22 | 0.82J | 17.1 | 12.1 | 3.33U | 3.36U | 1.75U | 1.75U |
| | | | 11/14/22 | 0.74J | 16 | 11.7 | 3.21U | 3.24U | 1.69U | 1.69U |
| | | | 11/21/22 | 0.88Jh | 12.1h | 7.71h | 3.20Uh | 3.23Uh | 1.68Uh | 1.68Uh |
| | | | 11/28/22 | 0.88Jh | 11.1 | 9.61 | 3.21U | 3.24U | 1.69U | 1.69U |
| | | | 12/05/22 | 1.12J | 11.1 | 8.75 | 3.49U | 3.52U | 1.83U | 1.83U |
| | | | 12/12/22 | -- | -- | -- | -- | -- | -- | -- |
| | | | 12/20/22 | 0.61J | 11.6 | 9.00 | 3.44U | 3.47U | 1.81U | 1.81U |
| | | | | | | | | | | |
| **CF-RW-F** | 102-32 | 121-141 | 10/24/22 | 1.77U | 1.66U | 1.77U | 16.8DU | 3.40U | 1.77U | 1.77U |
| | | | 10/26/22 | 1.78Uh | 1.67Uh | 1.78Uh | 3.38Uh | 3.41Uh | 1.78Uh | 1.78Uh |
| | | | 10/28/22 | 1.83U | 1.72U | 1.83U | 3.48U | 3.52U | 1.83U | 1.83U |
| | | | 10/31/22 | 1.63U | 1.53U | 1.63U | 3.09U | 3.12U | 1.63U | 1.63U |

**Table 3.5.1-5**

**Startup Testing of the Current Firehouse PFAS Treatment System**
**PFAS and 1,4-Dioxane Results**
**Sample Period: October 24 - December 31, 2022**

2022 Groundwater Status Report

| Well | Site ID | Well Screen (ft. BLS) | Sample Date | 1,4-D (µg/L) | PFOS (ng/L) | PFOA (ng/L) | PFBS (ng/L) | FBSA (ng/L) | PFBA (ng/L) | PFDA (ng/L) | PFHpS (ng/L) | PFHpA (ng/L) | PFHxS (ng/L) | PFHxA (ng/L) | PFNS (ng/L) | PFNA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 11/07/22 | 0.2U | **3.21** | 1.78U | 1.58U | 3.55U | 1.78U | 1.78U | 1.69U | 1.78U | 1.27J | 1.78U | 1.71U | 1.78U |
| | | | 11/14/22 | 0.2U | 2.46 | 1.72U | 1.53U | 3.44U | 1.72U | 1.72U | 1.63U | 1.72U | 1.53J | 1.72U | 1.65U | 1.72U |
| | | | 11/21/22 | 0.2U | 2.55h | 1.67Uh | 1.48Uh | 3.33Uh | 1.67Uh | 1.67Uh | 1.58Uh | 1.67Uh | 1.78h | 1.67Uh | 1.60Uh | 1.67Uh |
| | | | 11/28/22 | 0.21U | **4.25** | 1.78U | 1.58U | 3.56U | 1.78U | 1.78U | 1.69U | 1.78U | 1.54J | 1.78U | 1.71U | 1.78U |
| | | | 12/05/22 | 0.2U | **10.3** | 0.86J | 0.78J | 3.67U | 0.75J | 1.84U | 1.74U | 1.84U | 11.3 | 1.09J | 1.76U | 1.84U |
| | | | 12/12/22 | 0.2U | **3.97** | 1.70U | 1.51U | 3.39U | 1.70U | 1.70U | 1.61U | 1.70U | 1.69 | 1.70U | 1.63U | 1.70U |
| | | | 12/20/22 | 0.19U | **6.72** | 1.79U | 1.59U | 3.58U | 1.79U | 1.79U | 1.70U | 1.79U | 2.24 | 1.79U | 1.72U | 1.79U |
| | | | | | | | | | | | | | | | | |
| **CF-RW-G** | 102-33 | 88-108 | 10/24/22 | 0.2U | **4.64** | 2.09 | 3.28 | 3.59U | 1.35J | 1.79U | 1.71U | 1.79U | 1.29J | 1.5J | 1.72U | 1.79U |
| | | | 10/26/22 | 0.2U | **4.91** | 2.04 | 4.4 | 3.30U | 1.35J | 1.65U | 1.57U | 0.59J | 1.29J | 1.78 | 1.58U | 1.65U |
| | | | 10/28/22 | 0.2U | **4.51** | 1.80J | 4.95 | 3.71U | 1.24J | 1.85U | 1.76U | 1.85U | 1.34J | 1.46J | 1.78U | 1.85U |
| | | | 10/31/22 | 0.2U | **3.93** | 1.74 | 4.35 | 3.25U | 1.54J | 1.63U | 1.54U | 1.63U | 1.51 | 1.17J | 1.56U | 1.63U |
| | | | 11/07/22 | 0.2U | **5.03** | 2.16 | 4.98 | 3.71U | 1.40J | 1.85U | 1.76U | 0.69J | 1.2J | 1.48J | 1.78U | 1.85U |
| | | | 11/14/22 | 0.2U | **4.43** | 1.77 | 5.23 | 3.33U | 1.49J | 1.66U | 1.58U | 1.66U | 1.54 | 1.25J | 1.60U | 1.66U |
| | | | 11/21/22 | 0.2U | **3.84h** | 1.11Jh | 4.06h | 3.35Uh | 1.05Jh | 1.67Uh | 1.59Uh | 1.67Uh | 1.29Jh | 1.11Jh | 1.61Uh | 1.67Uh |
| | | | 11/28/22 | 0.2U | **3.68** | 1.65J | 4.69 | 3.35Uh | 1.17J | 1.68U | 1.59Uh | 1.68U | 1.12J | 1.19J | 1.61Uh | 1.68U |
| | | | 12/05/22 | 0.21U | **6.11** | 1.86 | 4.62 | 3.55U | 2.16 | 1.78U | 1.69U | 0.66J | 3.07 | 1.48J | 1.71U | 1.78U |
| | | | 12/12/22 | 0.22U | **3.6** | 1.40J | 4.23 | 3.75U | 1.11J | 1.87U | 1.78U | 1.87U | 1.13J | 1.13J | 1.80U | 1.87U |
| | | | 12/20/22 | 0.17U | **3.85** | 1.42J | 4.37 | 3.32U | 1.04J | 1.66U | 1.58U | 1.66U | 1.34J | 1.15J | 1.59U | 1.66U |
| | | | | | | | | | | | | | | | | |
| **CF-RW-H** | 102-34 | 98-118 | 10/24/22 | 0.3 | **143** | 3.09 | 2.3 | 1.72J | 1.44J | 1.80U | 2 | 1.69J | 33 | 6.75 | 1.73U | 8.41 |
| | | | 10/26/22 | **0.46** | **122** | 3.4 | 2.69 | 1.95J | 1.96 | 1.75U | 1.67 | 1.33J | 29.7 | 6.34 | 1.68 | 6.59 |
| | | | 10/28/22 | **0.51** | **121** | 4.1 | 3.19 | 2.25J | 2.05 | 1.83U | 1.45J | 1.56J | 31.6 | 7.54 | 1.75U | 6.16 |
| | | | 10/31/22 | **0.6** | **127** | 4.39 | 2.97 | 1.80J | 2.68 | 1.66U | 1.8 | 1.73 | 25.5 | 7.64 | 1.59U | 6.8 |
| | | | 11/07/22 | **0.61** | **128** | 5.33 | 3.54 | 1.81J | 2.98 | 1.75U | 1.78 | 2.3 | 34.7 | 10.7 | 1.68U | 6.34 |
| | | | 11/14/22 | **0.58** | **120** | 4.21 | 3.01 | 1.61J | 2.26 | 1.64U | 1.67 | 1.82 | 26.2 | 7.17 | 1.57U | 5.59 |
| | | | 11/21/22 | 0.308 | **74.9**h | 3.14h | 2.15h | 1.29Jh | 2.04h | 1.74Uh | 0.99Jh | 1.51Jh | 25.3h | 5.78h | 1.67Uh | 4.63h |
| | | | 11/28/22 | **0.54** | **120** | 4.26 | 2.57 | 1.76J | 2.21 | 1.72U | 1.5J | 1.61J | 27.9 | 7.42 | 1.65U | 5.41 |
| | | | 12/05/22 | 0.22U | **61.7** | 3.51 | 3.72 | 4.02 | 1.13J | 1.78U | 1.4J | 0.75J | 51.4 | 4.52 | 1.70U | 1.78U |
| | | | 12/12/22 | **0.61** | **77.7** | 3.05 | 2.11 | 1.39J | 1.77J | 1.89U | 1.07J | 1.44J | 24.2 | 5.54 | 1.81U | 3.65 |
| | | | 12/20/22 | **0.55** | **79.9** | 3.37 | 2.29 | 1.39J | 1.66J | 1.79U | 1.16J | 1.35J | 21.7 | 5.47 | 1.72U | 4.49 |
| | | | | | | | | | | | | | | | | |

**Table 3.5.1-5**

**Startup Testing of the Current Firehouse PFAS Treatment System**
**PFAS and 1,4-Dioxane Results**
**Sample Period: October 24 - December 31, 2022**

2022 Groundwater Status Report

| Well | Site ID | Well Screen (ft. BLS) | Sample Date | PFOSAm (ng/L) | PFPeS (ng/L) | PFPeA (ng/L) | 6:2 FTS (ng/L) | 8:2 FTS (ng/L) | PFUnDA (ng/L) | PFTrDA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 11/07/22 | 1.78U | 1.67U | 1.78U | 16.9DU | 3.41U | 1.78U | 1.78U |
| | | | 11/14/22 | 1.72U | 1.62U | 1.72U | 16.3DU | 3.30U | 1.72U | 1.72U |
| | | | 11/21/22 | 1.67Uh | 1.57Uh | 1.67Uh | 3.17Uh | 3.20Uh | 1.67Uh | 1.67Uh |
| | | | 11/28/22 | 1.78U | 1.67U | 1.78U | 3.38Uh | 3.42U | 1.78U | 1.78U |
| | | | 12/05/22 | 1.84U | 1.56J | 1.84U | 3.49U | 3.53U | 1.84U | 1.84U |
| | | | 12/12/22 | 1.70U | 1.59U | 1.70U | 3.22U | 3.26U | 1.70U | 1.70U |
| | | | 12/20/22 | 1.79U | 1.68U | 1.79U | 3.40U | 3.44U | 1.79U | 1.79U |
| | | | | | | | | | | |
| **CF-RW-G** | 102-33 | 88-108 | 10/24/22 | 1.79U | 1.69U | 1.3J | 17.1DU | 3.45U | 1.79U | 1.79U |
| | | | 10/26/22 | 1.65U | 1.55U | 1.67 | 3.14U | 3.17U | 1.65U | 1.65U |
| | | | 10/28/22 | 1.85U | 1.74U | 1.31J | 3.52U | 3.56U | 10.85U | 1.85U |
| | | | 10/31/22 | 1.63U | 1.53U | 1.1J | 3.09U | 3.12U | 1.63U | 1.63U |
| | | | 11/07/22 | 1.85U | 1.74U | 1.22J | 3.52U | 3.96U | 1.85U | 1.85U |
| | | | 11/14/22 | 1.66U | 1.56U | 1.19J | 3.16U | 3.20U | 1.66U | 1.66U |
| | | | 11/21/22 | 1.67Uh | 1.57Uh | 0.89Jh | 3.18Uh | 3.21Uh | 1.67Uh | 1.67Uh |
| | | | 11/28/22 | 1.68U | 1.58U | 1.27J | 3.19U | 3.22U | 1.68U | 1.68U |
| | | | 12/05/22 | 1.78U | 1.67U | 1.31J | 3.38U | 3.41U | 1.78U | 1.78U |
| | | | 12/12/22 | 1.87U | 1.76U | 0.92J | 3.56U | 3.60U | 1.87U | 1.87U |
| | | | 12/20/22 | 1.66U | 1.56U | 0.84J | 3.15U | 3.19U | 1.66U | 1.66U |
| | | | | | | | | | | |
| **CF-RW-H** | 102-34 | 98-118 | 10/24/22 | 1.80U | 2.84 | 3.04 | 17.1DU | 3.46U | 1.80U | 1.80U |
| | | | 10/26/22 | 1.75U | 2.75 | 3.6 | 3.23U | 3.35U | 1.75U | 1.75U |
| | | | 10/28/22 | 1.83U | 3.34 | 4.05 | 3.47U | 3.51U | 1.83U | 1.83U |
| | | | 10/31/22 | 1.66U | 2.05 | 4.44 | 3.15U | 3.18U | 1.66U | 1.66U |
| | | | 11/07/22 | 1.75U | 3.98 | 5 | 3.32U | 3.35U | 1.75U | 1.75U |
| | | | 11/14/22 | 1.64U | 2.89 | 4.66 | 15.6DU | 3.14U | 1.64U | 1.64U |
| | | | 11/21/22 | 1.74Uh | 2.84h | 3.12h | 3.31Uh | 3.34Uh | 1.74Uh | 1.74Uh |
| | | | 11/28/22 | 1.72U | 2.44 | 3.79 | 3.26U | 3.30U | 1.72U | 1.72U |
| | | | 12/05/22 | 1.78U | 5.79 | 1.48J | 3.77U | 3.41U | 1.78U | 1.78U |
| | | | 12/12/22 | 1.89U | 2.63 | 2.74 | 3.59U | 3.62U | 1.89U | 1.89U |
| | | | 12/20/22 | 1.79U | 2.23 | 2.86 | 3.40U | 3.43U | 1.79U | 1.79U |
| | | | | | | | | | | |

**Table 3.5.1-5**

**Startup Testing of the Current Firehouse PFAS Treatment System**
**PFAS and 1,4-Dioxane Results**
**Sample Period: October 24 - December 31, 2022**

2022 Groundwater Status Report

| Well | Site ID | Well Screen (ft. BLS) | Sample Date | 1,4-D (µg/L) | PFOS (ng/L) | PFOA (ng/L) | PFBS (ng/L) | FBSA (ng/L) | PFBA (ng/L) | PFDA (ng/L) | PFHpS (ng/L) | PFHpA (ng/L) | PFHxS (ng/L) | PFHxA (ng/L) | PFNS (ng/L) | PFNA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CF-RW-I** | 102-35 | 70-90 | 10/24/22 | 0.2U | **741**D | **15.4** | 20.5 | 34.8 | 4.79 | 1.77U | 10.6 | 3.9 | 463D | 31.5 | 1.70U | 1.77U |
| | | | 10/26/22 | 0.2U | **317**D | **10.7** | 15 | 25 | 3.13 | 1.80U | 7.67 | 2.81 | 286D | 21.7 | 1.73U | 1.80U |
| | | | 10/28/22 | 0.2U | **265**Dh | **11.6**h | 16.5h | 24.4h | 3.82h | 1.76Uh | 7.16h | 3.51h | 304Dh | 24.5h | 1.69Uh | 1.76Uh |
| | | | 10/31/22 | 0.2U | **303**D | **8.08** | 10.7 | 16.2 | 2.65 | 1.66U | 4.98 | 2.11 | 252D | 14.1 | 1.60U | 1.66U |
| | | | 11/07/22 | 0.2U | **180**D | **8.88** | 10.2 | 15.3 | 2.73 | 1.76U | 4.68 | 2.2 | 174D | 17 | 1.69U | 1.76U |
| | | | 11/14/22 | 0.2U | **134**D | **7.74** | 11.1 | 12.5 | 2.6 | 1.77U | 3.74 | 1.96 | 142 | 13.2 | 1.70U | 1.77U |
| | | | 11/21/22 | 0.2U | **159**h | 6.16h | 8.16h | 9.82h | 2.24h | 1.66Uh | 3.78h | 1.54Jh | 116h | 10.8h | 1.60Uh | 1.66Uh |
| | | | 11/28/22 | 0.2U | **164** | **7.96** | 7.38 | 10.8 | 1.79 | 1.69U | 4.39 | 2 | 117 | 11.1 | 1.62U | 1.69U |
| | | | 12/05/22 | 0.2U | **135** | 6.61 | 7.66 | 10.5 | 1.8 | 1.80U | 2.86 | 1.68J | 100 | 10.5 | 1.73U | 1.80U |
| | | | 12/12/22 | 0.2U | **104** | 5.54 | 6.27 | 8.18 | 1.54J | 1.77U | 2.75 | 1.50J | 74.2 | 8.11 | 1.70U | 1.77U |
| | | | 12/20/22 | 0.2U | **102** | 5 | 5.57 | 6.81 | 1.34J | 1.81U | 2.6 | 1.11J | 77.5 | 6.78 | 1.74U | 1.81U |
| | | | | | | | | | | | | | | | | |
| **System Influent** | 084-99 | -- | 10/24/22 | NA | **324**D | **9.66** | 9.69 | 8.57 | 4.7 | 1.82U | 3.15 | 4.65 | 10.5 | 18.9 | 1.75U | 1.91 |
| | | | 10/25/22 | NA | **278**D | **8.68** | 7.63 | 7.39 | 3.81 | 1.76U | 3.64 | 4.18 | 97.1 | 16.9 | 1.69U | 2.39 |
| | | | 10/26/22 | NA | **273**h | **7.98**h | 6.47h | 6.31h | 3.44h | 1.72Uh | 3.47h | 3.91h | 94.9h | 15.8h | 1.65Uh | 3.61h |
| | | | 10/27/22 | NA | **241**D | **7.6** | 6.99 | 6.46 | 3.56 | 1.85U | 4.08 | 3.87 | 119 | 16.1 | 1.77U | 4.14 |
| | | | 10/28/22 | NA | **162**D | **6.96** | 6.79 | 6.58 | 3.67 | 1.74U | 2.31 | 3.28 | 85 | 12.6 | 1.67U | 4.62 |
| | | | 10/31/22 | NA | **248**D | 5.8 | 5.94 | 4.74 | 3.42 | 1.66U | 2.46 | 2.77 | 74.1 | 10.1 | 1.59U | 7.19 |
| | | | 11/08/22 | 0.2U | **183**D | **7.52** | 6.08 | 4.97 | 3.59 | 1.78U | 2.85 | 3.7 | 80.5 | 14.1 | 1.71U | 11.4 |
| | | | 11/14/22 | 0.18J | **153**D | 6.19 | 6.67 | 3.48J | 3.01 | 1.75U | 1.92 | 2.82 | 78.9 | 10.2 | 1.68U | 11.7 |
| | | | 11/21/22 | 0.2U | **148**h | 6.03h | 4.40h | 3.28Jh | 2.71h | 1.67Uh | 2.14h | 2.86h | 57.3h | 8.86h | 1.61Uh | 11.5h |
| | | | 11/28/22 | 0.15J | **112** | 5.85 | 4.93 | 3.09J | 2.66 | 1.81U | 1.77 | 2.4 | 42.8 | 8.44 | 1.74U | 10.8 |
| | | | 12/05/22 | 0.17J | **173**D | **7.66** | 3.68 | 2.46J | 2.94 | 1.66U | 2.32 | 3.67 | 53.9 | 10.4 | 1.59U | 18.3 |
| | | | 12/12/22 | 0.14J | **98.8** | 3.43 | 3.56 | 2.42J | 1.82 | 1.77U | 1.56J | 1.92 | 40.2 | 6.68 | 1.70U | 2.01 |
| | | | 12/20/22 | 0.2 | **114** | 5.05 | 3.13 | 2.23J | 1.95 | 1.70U | 1.56J | 1.74 | 48.1 | 7.54 | 1.63U | 10.4 |
| | | | | | | | | | | | | | | | | |
| **System Mid-Point** | 084-100 | -- | 10/31/22 | NA | 1.84U | 1.84U | 1.64U | 3.68U | 1.84U | 1.84U | 1.75U | 1.84U | 1.67U | 1.84U | 1.77U | 1.84U |
| | | | 11/08/22 | NA | 1.79U | 1.79U | 1.59U | 3.58U | 1.79U | 1.79U | 1.70U | 1.79U | 1.63U | 1.79U | 1.72U | 1.79U |
| | | | 11/14/22 | NA | 1.84U | 1.84U | 1.63U | 3.67U | 1.84U | 1.84U | 1.74U | 1.84U | 1.67U | 1.84U | 1.76U | 1.84U |
| | | | 11/21/22 | 0.2U | 1.23Jh | 1.79Uh | 1.59Uh | 3.58Uh | 1.79Uh | 1.79Uh | 1.70Uh | 1.79Uh | 0.66Jh | 1.79Uh | 1.72Uh | 1.79Uh |
| | | | 11/28/22 | NA | 1.01J | 1.69U | 1.51U | 3.38U | 1.69U | 1.69U | 1.61U | 1.69U | 1.54U | 1.69U | 1.62U | 1.69U |
| | | | 12/05/22 | 0.19J | 1.78U | 1.78U | 1.59U | 3.56U | 1.78U | 1.78U | 1.69U | 1.78U | 1.62U | 1.78U | 1.71U | 1.78U |

**Table 3.5.1-5**

**Startup Testing of the Current Firehouse PFAS Treatment System**
**PFAS and 1,4-Dioxane Results**
**Sample Period: October 24 - December 31, 2022**

2022 Groundwater Status Report

| Well | Site ID | Well Screen (ft. BLS) | Sample Date | PFOSAm (ng/L) | PFPeS (ng/L) | PFPeA (ng/L) | 6:2 FTS (ng/L) | 8:2 FTS (ng/L) | PFUnDA (ng/L) | PFTrDA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|
| **CF-RW-I** | 102-35 | 70-90 | 10/24/22 | 1.77U | 41.5 | 10.1 | 16.8DU | 3.40U | 1.77U | 1.77U |
| | | | 10/26/22 | 1.80U | 24.9 | 6.86 | 3.42U | 3.45U | 1.80U | 1.80U |
| | | | 10/28/22 | 1.76Uh | 23.9h | 6.62h | 16.7DUh | 16.9DU | 1.76Uh | 1.76Uh |
| | | | 10/31/22 | 1.66U | 18.2 | 4.65 | 3.16U | 3.19U | 1.66U | 1.66U |
| | | | 11/07/22 | 1.76U | 22.3 | 4.28 | 3.34U | 3.38U | 1.76U | 1.76U |
| | | | 11/14/22 | 1.77U | 20.2 | 4.33 | 16.8DU | 3.40U | 1.77U | 1.77U |
| | | | 11/21/22 | 1.66Uh | 15.9h | 3.87h | 3.16Uh | 3.19Uh | 1.66Uh | 1.66Uh |
| | | | 11/28/22 | 1.69U | 16.1 | 3.14 | 3.21U | 3.25U | 1.69U | 1.69U |
| | | | 12/05/22 | 1.80U | 12.6 | 2.96 | 3.43U | 3.46U | 1.80U | 1.80U |
| | | | 12/12/22 | 1.77U | 10.3 | 2.72 | 3.37U | 3.40U | 1.77U | 1.77U |
| | | | 12/20/22 | 1.81U | 10.2 | 1.94 | 3.45U | 3.48U | 1.81U | 1.81U |
| | | | | | | | | | | |
| **System Influent** | 084-99 | -- | 10/24/22 | 1.82U | 11.7 | 14.5 | 17.3DU | 17.5U | 1.82U | 1.82U |
| | | | 10/25/22 | 1.76U | 11.3 | 11.6 | 16.7DU | 3.37U | 1.76U | 1.76U |
| | | | 10/26/22 | 1.72Uh | 9.87h | 10.4h | 3.26Uh | 3.3h | 1.72Uh | 1.72Uh |
| | | | 10/27/22 | 1.85U | 12.8 | 10.2 | 3.51U | 3.55U | 1.85U | 1.85U |
| | | | 10/28/22 | 1.74U | 9.6 | 8.62 | 3.31U | 3.34U | 1.74U | 1.74U |
| | | | 10/31/22 | 1.66U | 7.3 | 7.22 | 3.15U | 3.18U | 1.66U | 1.66U |
| | | | 11/08/22 | 1.78U | 9.21 | 8.06 | 16.9DU | 3.42U | 1.78U | 1.78U |
| | | | 11/14/22 | 1.75U | 9.26 | 7.09 | 16.6DU | 3.36U | 1.75U | 1.75U |
| | | | 11/21/22 | 1.67Uh | 7.17h | 6.62h | 3.18Uh | 3.71Uh | 1.67Uh | 1.67Uh |
| | | | 11/28/22 | 1.81U | 5.21 | 6.46 | 3.45U | 3.48U | 1.81U | 1.81U |
| | | | 12/05/22 | 1.66U | 5.33 | 7.1 | 3.15U | 3.18U | 1.66U | 1.66U |
| | | | 12/12/22 | 1.77U | 4.31 | 4.69 | 3.37U | 3.40U | 1.77U | 1.77U |
| | | | 12/20/22 | 1.70U | 4.9 | 4.82 | 3.23U | 3.26U | 1.70U | 1.70U |
| | | | | | | | | | | |
| **System Mid-Point** | 084-100 | -- | 10/31/22 | 1.84U | 1.73U | 1.84U | 3.50U | 3.53U | 1.84U | 1.84U |
| | | | 11/08/22 | 1.79U | 1.68U | 1.79U | 3.40U | 3.43U | 1.79U | 1.79U |
| | | | 11/14/22 | 1.84U | 1.73U | 1.84U | 3.49U | 3.53U | 1.84U | 1.84U |
| | | | 11/21/22 | 1.79Uh | 1.68Uh | 1.79Uh | 3.40Uh | 3.44Uh | 1.79Uh | 1.79Uh |
| | | | 11/28/22 | 1.69U | 1.59U | 1.69U | 3.21U | 3.25U | 1.69U | 1.69U |
| | | | 12/05/22 | 1.78U | 1.67U | 1.78U | 3.38U | 3.42U | 1.78U | 1.78U |

**Table 3.5.1-5**

**Startup Testing of the Current Firehouse PFAS Treatment System**
**PFAS and 1,4-Dioxane Results**
**Sample Period: October 24 - December 31, 2022**

2022 Groundwater Status Report

| Well | Site ID | Well Screen (ft. BLS) | Sample Date | 1,4-D (µg/L) | PFOS (ng/L) | PFOA (ng/L) | PFBS (ng/L) | FBSA (ng/L) | PFBA (ng/L) | PFDA (ng/L) | PFHpS (ng/L) | PFHpA (ng/L) | PFHxS (ng/L) | PFHxA (ng/L) | PFNS (ng/L) | PFNA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 12/12/22 | 0.16J | **5.43** | 1.71U | 1.52U | 3.42U | 1.71U | 1.71U | 1.63U | 1.71U | 1.55J | 1.71U | 1.64U | 1.71U |
| | | | 12/20/22 | 0.16J | **6.77** | 1.83U | 1.63U | 3.66U | 1.83U | 1.83U | 1.74U | 1.83U | 2.63 | 1.83U | 1.76U | 0.79J |
| | | | | | | | | | | | | | | | | |
| **System Effluent** | 084-101 | -- | 10/24/22 | 0.2U | 1.81U | 1.81U | 1.61U | 3.61U | 1.81U | 1.81U | 1.72U | 1.81U | 1.64U | 1.81U | 1.73U | 1.81U |
| | | | 10/25/22 | 0.2U | 1.76U | 1.76U | 1.57U | 3.53U | 1.76U | 1.76U | 1.67U | 1.76U | 1.60U | 1.76U | 1.69U | 1.76U |
| | | | 10/26/22 | 0.2U | 1.87U | 1.87U | 1.66U | 3.73U | 1.87U | 1.87U | 1.77U | 1.87U | 1.70U | 1.87U | 1.79U | 1.87U |
| | | | 10/27/22 | 0.2U | 1.70U | 1.70U | 1.51U | 3.39U | 1.70U | 1.70U | 1.61U | 1.70U | 1.54U | 1.70U | 1.63U | 1.70U |
| | | | 10/28/22 | 0.2U | 1.75U | 1.75U | 1.56U | 3.50U | 1.75U | 1.75U | 1.66U | 1.75U | 1.59U | 1.75U | 1.68U | 1.75U |
| | | | 10/31/22 | 0.2U | 1.67U | 1.67U | 1.49U | 3.34U | 1.67U | 1.67U | 1.59U | 1.67U | 1.52U | 1.67U | 1.60U | 1.67U |
| | | | 11/08/22 | 0.21 | 1.75U | 1.75U | 1.56U | 3.50U | 1.75U | 1.75U | 1.66U | 1.75U | 1.59U | 1.75U | 1.68U | 1.75U |
| | | | 11/14/02 | 0.1J | 1.68U | 1.68U | 1.49U | 3.36U | 1.68U | 1.68U | 1.59U | 1.68U | 1.53U | 1.68U | 1.61U | 1.68U |
| | | | 11/21/22 | 0.2U | 1.72Uh | 1.72Uh | 1.53Uh | 3.44Uh | 1.72Uh | 1.72Uh | 1.64Uh | 1.72Uh | 1.57Uh | 1.72Uh | 1.65Uh | 1.72Uh |
| | | | 11/28/22 | 0.16J | 1.66U | 1.66U | 1.47U | 3.31U | 1.66U | 1.66U | 1.57U | 1.66U | 1.51U | 1.66U | 1.59U | 1.66U |
| | | | 12/05/22 | 0.21J | 1.84U | 1.84U | 1.63U | 3.67U | 1.84U | 1.84U | 1.74U | 1.84U | 1.67U | 1.84U | 1.76U | 1.84U |
| | | | 12/12/22 | 0.2J | 1.75U | 1.75U | 1.55U | 3.49U | 1.75U | 1.75U | 1.66U | 1.75U | 1.59U | 1.75U | 1.68U | 1.75U |
| | | | 12/20/22 | 0.17J | 1.74U | 1.74U | 1.55U | 3.48U | 1.74U | 1.74U | 1.65U | 1.74U | 1.58U | 1.74U | 1.67U | 1.74U |
| | | | | | | | | | | | | | | | | |
| **SPDES Permit Effluent Limit** | | | | **0.35** | **2.7** | **6.7** | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

BLS: Below land surface.

Note 1: PFAS analyses were performed by GEL using modified EPA Method 537.1

Note 2: Except as indicated, the 1,4-dioxane analyses were performed by Eurofins-Test America using EPA Method 8270D SIM with a detection limit (DL) of 0.1 µg/L and reporting level (RL) of 0.2 µg/L.

Note 3: The lead GAC vessel was backflushed on the following dates: 11/2/22, 11/17/22, 12/9/22, 12/19/22, and 12/28/22.

U: Analyte not detected at or above the stated Reporting Limit.

J: Estimated concentration between the DL and RL..

D: Dilution

BD: Blind Duplicate sample.

NA: Samples not analyzed for this analyte

h: Sample extracted outside of holding time specification.

µg/L: Micrograms per liter

ng/L: Nanograms per liter

**Bold**: Numbers in bold exceed standard or guidance value.

**Table 3.5.1-5**

**Startup Testing of the Current Firehouse PFAS Treatment System**
**PFAS and 1,4-Dioxane Results**
**Sample Period: October 24 - December 31, 2022**

2022 Groundwater Status Report

| Well | Site ID | Well Screen (ft. BLS) | Sample Date | PFOSAm (ng/L) | PFPeS (ng/L) | PFPeA (ng/L) | 6:2 FTS (ng/L) | 8:2 FTS (ng/L) | PFUnDA (ng/L) | PFTrDA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 12/12/22 | 1.71U | 1.61U | 1.71U | 3.25U | 3.29U | 1.71U | 1.71U |
| | | | 12/20/22 | 1.83U | 1.72U | 1.83U | 3.47U | 3.51U | 1.83U | 1.83U |
| | | | | | | | | | | |
| **System Effluent** | 084-101 | -- | 10/24/22 | 1.81U | 1.70U | 1.81U | 17.2DU | 3.47U | 1.81U | 1.81U |
| | | | 10/25/22 | 1.76U | 1.65U | 1.76U | 3.34U | 3.38U | 1.76U | 1.76U |
| | | | 10/26/22 | 1.87U | 1.75U | 1.87U | 3.55U | 3.58U | 1.87U | 1.87U |
| | | | 10/27/22 | 1.70U | 1.59U | 1.70U | 3.22U | 3.26U | 1.70U | 1.70U |
| | | | 10/28/22 | 1.75U | 1.65U | 1.75U | 3.33U | 3.36U | 1.75U | 1.75U |
| | | | 10/31/22 | 1.67U | 1.57U | 1.67U | 3.17U | 3.21U | 1.67U | 1.67U |
| | | | 11/08/22 | 1.75U | 1.64U | 1.75U | 3.32U | 3.36U | 1.75U | 1.75U |
| | | | 11/14/02 | 1.68U | 1.58U | 1.68U | 3.19U | 3.22U | 1.68U | 1.68U |
| | | | 11/21/22 | 1.72Uh | 1.62Uh | 1.72Uh | 3.27Uh | 3.31Uh | 1.72Uh | 1.72Uh |
| | | | 11/28/22 | 1.66U | 1.56U | 1.66U | 3.15U | 3.18U | 1.66U | 1.66U |
| | | | 12/05/22 | 1.84U | 1.73U | 1.84U | 3.49U | 3.52U | 1.84U | 1.84U |
| | | | 12/12/22 | 1.75U | 1.64U | 1.75U | 3.32U | 3.35U | 1.75U | 1.75U |
| | | | 12/20/22 | 1.74U | 1.64U | 1.74U | 3.31U | 3.34U | 1.74U | 1.74U |
| | | | | | | | | | | |
| **SPDES Permit Effluent Limit** | | | | --- | --- | --- | --- | --- | --- | --- |

BLS: Below land surface.

Note 1: PFAS analyses were performed by GEL using modified EPA

Note 2: Except as indicated, the 1,4-dioxane analyses were perform

Note 3: The lead GAC vessel was backflushed on the following date

U: Analyte not detected at or above the stated Reporting Limit.

J: Estimated concentration between the DL and RL..

D: Dilution

BD: Blind Duplicate sample.

NA: Samples not analyzed for this analyte

h: Sample extracted outside of holding time specification.

µg/L: Micrograms per liter

ng/L: Nanograms per liter

**Bold**: Numbers in bold exceed standard or guidance value.

**Table 3.5.2-2**
**Former Firehouse Treatment System 2022 Extraction Well Pumping Rates**

2022 BNL Groundwater Status Report

| Operable Unit III - Pump and Treat<br><br>Former Firehouse - Groundwater Withdrawal (gpm) | | | | |
|---|---|---|---|---|
| BNL Well No. | 085-414 | 096-132 | 105-79 | FFH |
| Extraction Well | FF-RW-A | FF-RW-B | FF-RW-C | |
| Screen Int. | | | | |
| elevation (ft. msl) | 38 to 18 | 30.9 to 10.9 | -17.5 to -37.5 | Monthly |
| depth (feet) | 44-64 | 83-103 | 104-124 | 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<br>Average (gpm) | 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

gpm - gallons per minute

**Table 3.5.2-3**

**Former Firehouse Permanent Monitoring Wells**
**Samples Analyzed by EPA Methods 537.1 (PFAS) and 8270D SIM (1,4-Dioxane)**
**Samples Collected: June 2022**

2022 Groundwater Status Report

| Temp Well ID | Perm ID | Screen (BLS) | Sample Date | Sr-90 (pCi/L) | 1,4-D (µg/L) | PFOS (ng/L) | PFOA (ng/L) | PFBS (ng/L) | PFBA (ng/L) | PFDA (ng/L) | PFHpS (ng/L) | PFHpA (ng/L) | PFHxS (ng/L) | PFHxA (ng/L) | PFNS (ng/L) | PFNA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FFH-MW-01 | 075-809 | 30-45 | 06/21/22 | 0.8U | NA | **1,710D** | **54.9** | 26.9 | 24.7 | 1.76U | 32.7 | 54.2 | 1,200D | 142 | 1.69U | 3.02 |
| FFH-MW-02 | 075-810 | 30-45 | 06/21/22 | 0.67J | NA | **2,380D** | **221D** | 41.1 | 34.3 | 1.71U | 117 | 42.6 | 2,120D | 280D | 1.64U | 4.14 |
| FFH-MW-03 | 075-811 | 30-45 | 06/21/22 | 0.8U | NA | **2,260D** | **758D** | 61.1 | 52.7 | 1.83U | 57.2 | 130 | 10,400D | 1,670D | 1.76U | 9.13 |
| FFH-MW-04 | 085-404 | 30-45 | 06/14/22 | NA | NA | **19** | **12** | 2.33 | 7.69 | 1.80U | 1.74 | 3.2 | 37.9 | 6.3 | 1.73U | 1.64J |
| FFH-MW-05 | 085-405 | 50-60 | 06/14/22 | NA | NA | **16.2** | 5.72 | 3.39 | 10.5 | 1.88U | 1.79U | 2 | 9.63 | 3.33 | 1.81U | 1.88U |
| FFH-MW-06 | 085-406 | 30-45 | 06/21/22 | 0.86J | NA | **2,350D** | **210D** | 9.56 | 19.6 | 1.80U | 74.8 | 18.9 | 1,120D | 93.8 | 1.73U | 2.61 |
| FFH-MW-07 | 085-407 | 50-65 | 06/21/22 | 0.8U | NA | **34.5** | 6.78 | 0.95J | 5.43 | 1.80U | 0.94J | 1.50J | 14.9 | 3.5 | 1.73U | 1.44J |
| FFH-MW-08 | 085-408 | 60-70 | 06/22/22 | NA | NA | **174** | **72.1** | 2.79 | 8.76 | 1.93U | 4.28 | 5.26 | 170D | 29.3 | 1.85U | 1.72J |
| " (BD) | " | " | " | NA | NA | **198D** | **72.1** | 2.97 | 8.86 | 1.81U | 4.99 | 5.72 | 173D | 24.7 | 173U | 1.49J |
| FFH-MW-09 | 085-409 | 30-45 | 06/14/22 | NA | NA | 6.58 | 5.33 | 1.45J | 6.21 | 1.89U | 1.79U | 1.76U | 21.1 | 3.22 | 1.81U | 1.89U |
| FFH-MW-10 | 085-410 | 50-60 | 06/16/22 | NA | NA | **10.4** | 4.24 | 2.51 | 5.73 | 1.82U | 1.73U | 1.27J | 14.1 | 4.91 | 1.75U | 0.79J |
| FFH-MW-11 | 085-411 | 50-60 | 06/30/22 | NA | NA | **167** | **132** | 5.48 | 9.91 | 1.90U | 3.97 | 13.9 | 389D | 96.7 | 1.83U | 1J |
| FFH-MW-12 | 085-412 | 90-100 | 06/30/22 | NA | NA | **12.4** | 3.82 | 1.51J | 4.45 | 1.79U | 1.70U | 0.73J | 9.19 | 2.71 | 1.71U | 1.79U |
| FFH-MW-13 | 096-122 | 60-70 | 06/15/22 | NA | NA | **62.5** | **25.2** | 3.14 | 6.11 | 1.78U | 1.33J | 4.8 | 133 | 36 | 1.71U | 0.76J |
| FFH-MW-14 | 096-123 | 120-130 | 06/15/22 | NA | NA | **26.3** | 8.02 | 1.97 | 4.23 | 1.77U | 1.6J | 1.66J | 36.9 | 3.15 | 1.70U | 0.96J |
| FFH-MW-15 | 096-124 | 70-80 | 06/15/22 | NA | NA | 6.8 | 3.37 | 1.04J | 4.17 | 1.82U | 1.73U | 0.83J | 8.41 | 2.48 | 1.75U | 1.82U |
| FFH-MW-16 | 096-125 | 120-130 | 06/15/22 | NA | NA | **12.6** | 5.64 | 1.11J | 4.61 | 1.78U | 0.71J | 1.34J | 14.2 | 1.32J | 1.71U | 0.67J |
| FFH-MW-17 | 096-126 | 55-65 | 06/23/22 | NA | NA | **85.3** | **13.2** | 2.99 | 7.19 | 1.71U | 3.35 | 3.17 | 78.7 | 13.5 | 1.65U | 1.21J |
| FFH-MW-18 | 096-127 | 110-120 | 06/23/22 | NA | 0.1J | **152** | **62.1** | 4.26 | 7.21 | 1.81U | 4.02 | 7.94 | 184D | 49.3 | 1.74U | 0.94J |
| FFH-MW-19 | 096-128 | 55-65 | 06/17/22 | NA | NA | **150** | **26.4** | 3.56 | 8.52 | 1.77U | 4.91 | 4.6 | 230D | 35.4 | 1.70U | 0.75J |
| FFH-MW-20 | 096-129 | 110-120 | 06/17/22 | NA | 0.33 | **57** | **18.3** | 2.96 | 4.81 | 1.76U | 5.55 | 3.31 | 140 | 9.19 | 1.69U | 1.61J |
| FFH-MW-21 | 096-130 | 55-65 | 06/16/22 | NA | NA | **21.2** | 4.6 | 0.78J | 4.12 | 1.81U | 1.72U | 1.25J | 6.13 | 1.72J | 1.73U | 5.15 |
| FFH-MW-22 | 096-131 | 110-120 | 06/16/22 | NA | 0.2U | **10.2** | 6.3 | 1.82 | 7.53 | 1.85U | 1.76U | 2.12 | 8.35 | 3.83 | 1.78U | 0.88J |
| FFH-MW-23 | 105-72 | 100-110 | 06/24/22 | NA | 0.33 | **55** | **15.9** | 1.91 | 6.12 | 1.83U | 2.35 | 2.46 | 68.4 | 9.57 | 1.75U | 2.39 |
| FFH-MW-24 | 105-73 | 120-130 | 06/24/22 | NA | 0.28 | **127** | **37.2** | 3.36 | 5.98 | 1.84U | 6.1 | 4.85 | 268D | 27.7 | 1.77U | 3.71 |
| FFH-MW-25 | 105-74 | 90-100 | 06/23/22 | NA | NA | **33.1** | 9.22 | 2.51 | 6.45 | 1.82U | 1.48J | 2.32 | 36 | 7.48 | 1.75U | 2.46 |

**Table 3.5.2-3**

**Former Firehouse Permanent Monitoring Wells**
**Samples Analyzed by EPA Methods 537.1 (PFAS) and 8270D SIM (1,4-Dioxane)**
**Samples Collected: June 2022**

2022 Groundwater Status Report

| Temp Well ID | Perm ID | Screen (BLS) | Sample Date | PFOSAm (ng/L) | PFPeS (ng/L) | PFPeA (ng/L) | 6:2 FTS (ng/L) | 8:2 FTS (ng/L) | FBSA (ng/L) | PFUnDA (ng/L) | PFTrDA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FFH-MW-01 | 075-809 | 30-45 | 06/21/22 | 1.92 | 91.5 | 30.4 | 3.35U | 3.39U | 12.5 | 1.76U | 1.76U |
| FFH-MW-02 | 075-810 | 30-45 | 06/21/22 | 1.9 | 103 | 55.6 | 3.25U | 3.28U | 12.5 | 1.71U | 1.71U |
| FFH-MW-03 | 075-811 | 30-45 | 06/21/22 | 183 | 56.4D | 164 | 3.48U | 3.52U | 123 | 1.83U | 1.83U |
| FFH-MW-04 | 085-404 | 30-45 | 06/14/22 | 1.80U | 1.25J | 5.96 | 3.42U | 3.45U | 3.60U | 1.80U | 1.80U |
| FFH-MW-05 | 085-405 | 50-60 | 06/14/22 | 1.88U | 0.78J | 3.3 | 3.58U | 3.61U | 3.76U | 1.88U | 1.88U |
| FFH-MW-06 | 085-406 | 30-45 | 06/21/22 | 2.33 | 23.9 | 26.6 | 3.42U | 3.45U | 5.96 | 1.80U | 1.80U |
| FFH-MW-07 | 085-407 | 50-65 | 06/21/22 | 5.06 | 1.69U | 2.02 | 3.42U | 3.46U | 3.60U | 1.80U | 1.80U |
| FFH-MW-08 | 085-408 | 60-70 | 06/22/22 | 26.2 | 2.26 | 5.88 | 3.67U | 3.71U | 5.56 | 1.93U | 1.93U |
| " (BD) | " | " | " | 27.8 | 2.06 | 6.15 | 3.43U | 3.47U | 5.46 | 1.81U | 1.81U |
| FFH-MW-09 | 085-409 | 30-45 | 06/14/22 | 1.89U | 1.77U | 1.16J | 3.59U | 3.62U | 3.78U | 1.89U | 1.89U |
| FFH-MW-10 | 085-410 | 50-60 | 06/16/22 | 1.82U | 0.66J | 1.47J | 3.46U | 3.50U | 3.65U | 1.82U | 1.82U |
| FFH-MW-11 | 085-411 | 50-60 | 06/30/22 | 33.1 | 5.93 | 11.1 | 3.62U | 3.66U | 9.44 | 1.90U | 1.90U |
| FFH-MW-12 | 085-412 | 90-100 | 06/30/22 | 1.79U | 0.85J | 1.1J | 3.39U | 3.43U | 3.57U | 1.79U | 1.79U |
| FFH-MW-13 | 096-122 | 60-70 | 06/15/22 | 4.48 | 2.28 | 6.26 | 3.38U | 3.41U | 3.09J | 1.78U | 1.78U |
| FFH-MW-14 | 096-123 | 120-130 | 06/15/22 | 1.77U | 1.7 | 1.08J | 3.36U | 3.39U | 3.35U | 1.77U | 1.77U |
| FFH-MW-15 | 096-124 | 70-80 | 06/15/22 | 1.82U | 1.71U | 1.07J | 3.46U | 3.50U | 3.64U | 1.82U | 1.82U |
| FFH-MW-16 | 096-125 | 120-130 | 06/15/22 | 1.78U | 0.63J | 0.8J | 3.37U | 3.41U | 3.55U | 1.78U | 1.78U |
| FFH-MW-17 | 096-126 | 55-65 | 06/23/22 | 4.66 | 2.82 | 5.91 | 3.26U | 3.29U | 1.63J | 1.71U | 1.71U |
| FFH-MW-18 | 096-127 | 110-120 | 06/23/22 | 1.81U | 3.61 | 10 | 3.45U | 3.48U | 6.9 | 1.81U | 1.81U |
| FFH-MW-19 | 096-128 | 55-65 | 06/17/22 | 7.18 | 3.5 | 8.54 | 3.37U | 3.41U | 3J | 1.77U | 1.77U |
| FFH-MW-20 | 096-129 | 110-120 | 06/17/22 | 1.76U | 7.26 | 2.31 | 3.35U | 3.38U | 2.13J | 1.76U | 1.76U |
| FFH-MW-21 | 096-130 | 55-65 | 06/16/22 | 1.81U | 1.70U | 1.25J | 3.43U | 3.47U | 3.61U | 1.81U | 1.81U |
| FFH-MW-22 | 096-131 | 110-120 | 06/16/22 | 1.85U | 0.68J | 3.72 | 3.52U | 3.56U | 3.70U | 1.85U | 1.85U |
| FFH-MW-23 | 105-72 | 100-110 | 06/24/22 | 1.14J | 1.75 | 2.92 | 3.47U | 3.51U | 1.28J | 1.83U | 1.83U |
| FFH-MW-24 | 105-73 | 120-130 | 06/24/22 | 1.84U | 4.95 | 4.48 | 3.50U | 3.53U | 3.03J | 1.84U | 1.84U |
| FFH-MW-25 | 105-74 | 90-100 | 06/23/22 | 1.06J | 1.93 | 6.33 | 3.47U | 3.50U | 3.65U | 1.82U | 1.82U |

**Table 3.5.2-3**

**Former Firehouse Permanent Monitoring Wells**
**Samples Analyzed by EPA Methods 537.1 (PFAS) and 8270D SIM (1,4-Dioxane)**
**Samples Collected: June 2022**

2022 Groundwater Status Report

| Temp Well ID | Perm ID | Screen (BLS) | Sample Date | Sr-90 (pCi/L) | 1,4-D (µg/L) | PFOS (ng/L) | PFOA (ng/L) | PFBS (ng/L) | PFBA (ng/L) | PFDA (ng/L) | PFHpS (ng/L) | PFHpA (ng/L) | PFHxS (ng/L) | PFHxA (ng/L) | PFNS (ng/L) | PFNA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FFH-MW-26 | 105-75 | 110-120 | 06/23/22 | NA | 0.14J | **143** | **31.7** | 2.37 | 6.16 | 1.80U | 7.35 | 3.7 | 158 | 16.5 | 1.73U | 1.8 |
| FFH-MW-27 | 105-76 | 130-140 | 06/23/22 | NA | 0.48 | **38.5** | **10.3** | 1.88 | 5.4 | 1.85U | 2.36 | 2.09 | 54.3 | 6.73 | 1.77U | 1.38J |
| FFH-MW-28 | 105-77 | 100-110 | 06/27/22 | NA | 0.13J | **52.9** | **11.9** | 1.73 | 6.27 | 1.82U | 2.88 | 1.96 | 61.4 | 8.13 | 1.75U | 3.39 |
| FFH-MW-29 | 105-78 | 120-130 | 06/27/22 | NA | 0.2 | **159D** | **114** | 6.06 | 10.5 | 1.87U | 15.2 | 15.4 | 669D | 95.3 | 1.80U | 2.45 |

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

BD: Blind Duplicate Sample.

NA: Not analyzed for this chemical.

µg/L: Micrograms per liter

ng/L: Nanograms per liter

**Table 3.5.2-3**

**Former Firehouse Permanent Monitoring Wells**
**Samples Analyzed by EPA Methods 537.1 (PFAS) and 8270D SIM (1,4-Dioxane)**
**Samples Collected: June 2022**

2022 Groundwater Status Report

| Temp Well ID | Perm ID | Screen (BLS) | Sample Date | PFOSAm (ng/L) | PFPeS (ng/L) | PFPeA (ng/L) | 6:2 FTS (ng/L) | 8:2 FTS (ng/L) | FBSA (ng/L) | PFUnDA (ng/L) | PFTrDA (ng/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FFH-MW-26 | 105-75 | 110-120 | 06/23/22 | 1.80U | 3.68 | 4.14 | 3.42U | 3.46U | 2.53J | 1.80U | 1.80U |
| FFH-MW-27 | 105-76 | 130-140 | 06/23/22 | 1.85U | 2.78 | 1.96 | 3.51U | 3.55U | 3.70U | 1.85U | 1.85U |
| FFH-MW-28 | 105-77 | 100-110 | 06/27/22 | 1.82U | 1.66J | 3.21 | 3.46U | 3.49U | 3.64U | 1.82U | 1.82U |
| FFH-MW-29 | 105-78 | 120-130 | 06/27/22 | 1.87U | 12.6 | 14.1 | 3.96U | 3.60U | 10.8 | 1.87U | 1.87U |

U: Analyte not detected.

J: Estimated concentration.

D: Dilution

BD: Blind Duplicate Sample.

NA: Not analyzed for this chemical.

µg/L: Micrograms per liter

ng/L: Nanograms per liter

**Table 5-1**

**Proposed Groundwater Monitoring Well Sampling Frequency Changes**

2022 Groundwater Status Report

| Well ID | Current Project | Current Frequency | Proposed Frequency | Affected Parameters |
|---|---|---|---|---|
| 087-21 | OU I South Boundary | Annual | Discontinue | Gamma Spec |
| 088-13 | OU I South Boundary | Annual | Discontinue | |
| 088-14 | OU I South Boundary | Annual | Discontinue | |
| 088-20 | OU I South Boundary | Annual | Discontinue | |
| 088-26 | OU I South Boundary | Semi-Annual | Discontinue | |
| 098-21 | OU I South Boundary | Semi-Annual | Discontinue | |
| 098-30 | OU I South Boundary | Semi-Annual | Discontinue | |
| 099-04 | OU I South Boundary | Annual | Discontinue | |
| 107-23 | OU I South Boundary | Annual | Discontinue | Tritium |
| 107-24 | OU I South Boundary | Annual | Discontinue | Gamma Spec |
| 107-40 | OU I South Boundary | Annual | Discontinue | |
| 108-08 | OU I South Boundary | Annual | Discontinue | |
| 108-12 | OU I South Boundary | Annual | Discontinue | |
| 108-13 | OU I South Boundary | Annual | Discontinue | |
| 108-14 | OU I South Boundary | Annual | Discontinue | |
| 108-17 | OU I South Boundary | Annual | Discontinue | |
| 115-03 | OU I South Boundary | Annual | Discontinue | |
| 115-13 | OU I South Boundary | Annual | Discontinue | |
| 115-14 | OU I South Boundary | Annual | Discontinue | |
| 115-15 | OU I South Boundary | Annual | Discontinue | |
| 115-16 | OU I South Boundary | Annual | Discontinue | |
| 115-28 | OU I South Boundary | Annual | Discontinue | |
| 115-29 | OU I South Boundary | Annual | Discontinue | |
| 115-30 | OU I South Boundary | Annual | Discontinue | |
| 115-31 | OU I South Boundary | Annual | Discontinue | |
| 115-36 | OU I South Boundary | Annual | Discontinue | Tritium |
| 115-41 | OU I South Boundary | Annual | Discontinue | Gamma Spec |
| 116-05 | OU I South Boundary | Annual | Discontinue | |
| 116-06 | OU I South Boundary | Annual | Discontinue | |

**Table 5-1**

**Proposed Groundwater Monitoring Well Sampling Frequency Changes**

2022 Groundwater Status Report

| Well ID | Current Project | Current Frequency | Proposed Frequency | Affected Parameters |
|---|---|---|---|---|
| 085-335 | OU III BLDG 96 | Quarterly | Semi-Annual | |
| 085-349 | OU III BLDG 96 | Quarterly | Semi-Annual | |
| 085-350 | OU III BLDG 96 | Quarterly | Semi-Annual | |
| 085-351 | OU III BLDG 96 | Quarterly | Semi-Annual | |
| 085-352 | OU III BLDG 96 | Quarterly | Semi-Annual | |
| 085-354 | OU III BLDG 96 | Quarterly | Semi-Annual | Low Level VOCs |
| 095-165 | OU III BLDG 96 | Semi-Annual | Annual | |
| 095-166 | OU III BLDG 96 | Semi-Annual | Annual | |
| 095-168 | OU III BLDG 96 | Semi-Annual | Annual | |
| 095-169 | OU III BLDG 96 | Semi-Annual | Annual | |
| 095-170 | OU III BLDG 96 | Semi-Annual | Annual | |
| 000-101 | LIPA | Quarterly | Semi-Annual | |
| 000-102 | LIPA | Quarterly | Semi-Annual | |
| 000-104 | LIPA | Quarterly | Semi-Annual | |
| 000-105 | LIPA | Quarterly | Semi-Annual | |
| 000-130 | LIPA | Quarterly | Semi-Annual | |
| 000-131 | LIPA | Quarterly | Semi-Annual | |
| 000-425 | LIPA | Quarterly | Semi-Annual | |
| 000-445 | LIPA | Quarterly | Semi-Annual | |
| 000-446 | LIPA | Quarterly | Semi-Annual | Low Level VOCs |
| 000-447 | LIPA | Quarterly | Semi-Annual | |
| 000-448 | LIPA | Quarterly | Semi-Annual | |
| 000-449 | LIPA | Quarterly | Semi-Annual | |
| 000-450 | LIPA | Quarterly | Semi-Annual | |
| 000-451 | LIPA | Quarterly | Semi-Annual | |
| 000-452 | LIPA | Quarterly | Semi-Annual | |
| 000-458 | LIPA | Quarterly | Semi-Annual | |
| 000-459 | LIPA | Quarterly | Semi-Annual | |

**Table 5-1**

**Proposed Groundwater Monitoring Well Sampling Frequency Changes**

2022 Groundwater Status Report

| Well ID | Current Project | Current Frequency | Proposed Frequency | Affected Parameters |
|---|---|---|---|---|
| 000-102 | OU III Magothy | Annual | Discontinue | Low Level VOCs |
| 000-105 | OU III Magothy | Annual | Discontinue | |
| 000-428 | OU III Magothy | Semi-Annual | Discontinue | |
| 000-458 | OU III Magothy | Annual | Discontinue | |
| 000-459 | OU III Magothy | Annual | Discontinue | |
| 109-03 | WFWS | Quarterly | Annual | Sr-90, Gamma Spec, Tritium |
| 117-01 | WFWS | Quarterly | Annual | |
| 117-02 | WFWS | Quarterly | Annual | |
| 117-04 | WFWS | Quarterly | Annual | |
| 117-05 | WFWS | Quarterly | Annual | |
| 117-06 | WFWS | Quarterly | Annual | |
| 065-169 | BGRR/WCF | Annual | Semi-Annual | Sr-90 |
| 075-415 | BGRR/WCF | None | One 2023 Event | |
| 075-417 | BGRR/WCF | None | One 2023 Event | |
| 075-419 | BGRR/WCF | None | One 2023 Event | |
| 075-809 | BGRR/WCF | None | One 2023 Event | |
| 075-810 | BGRR/WCF | None | One 2023 Event | |
| 075-811 | BGRR/WCF | None | One 2023 Event | |
| 085-01 | BGRR/WCF | None | One 2023 Event | |
| 085-171 | BGRR/WCF | None | One 2023 Event | |
| 085-285 | BGRR/WCF | None | One 2023 Event | |
| 085-286 | BGRR/WCF | None | One 2023 Event | |
| 085-287 | BGRR/WCF | None | One 2023 Event | |
| 085-290 | BGRR/WCF | None | One 2023 Event | |
| 085-406 | BGRR/WCF | None | One 2023 Event | |
| 085-407 | BGRR/WCF | None | One 2023 Event | |

**Table 5-1**

**Proposed Groundwater Monitoring Well Sampling Frequency Changes**

2022 Groundwater Status Report

| Well ID | Current Project | Current Frequency | Proposed Frequency | Affected Parameters |
|---|---|---|---|---|
| 106-102 | Chemical/Animal Holes | Annual | Discontinue | Sr-90 |
| 106-120 | Chemical/Animal Holes | Annual | Discontinue | |
| 106-121 | Chemical/Animal Holes | Annual | Discontinue | |
| 106-122 | Chemical/Animal Holes | Annual | Discontinue | |
| 106-13 | Chemical/Animal Holes | Annual | Discontinue | |
| 106-135 | Chemical/Animal Holes | Annual | Discontinue | |
| 106-14 | Chemical/Animal Holes | Annual | Discontinue | |
| 106-46 | Chemical/Animal Holes | Annual | Discontinue | |
| 106-47 | Chemical/Animal Holes | Annual | Discontinue | |
| 106-48 | Chemical/Animal Holes | Annual | Discontinue | |
| 106-50 | Chemical/Animal Holes | Annual | Discontinue | |
| 106-96 | Chemical/Animal Holes | Annual | Discontinue | |
| 076-06 | OU IV (AOC 6 Sr-90) | Semi-Annual | Annual | Sr-90 |
| 076-13 | OU IV (AOC 6 Sr-90) | Semi-Annual | Annual | |
| 076-168 | OU IV (AOC 6 Sr-90) | Semi-Annual | Annual | |
| 076-169 | OU IV (AOC 6 Sr-90) | Semi-Annual | Annual | |
| 076-184 | OU IV (AOC 6 Sr-90) | Semi-Annual | Annual | |
| 076-24 | OU IV (AOC 6 Sr-90) | Semi-Annual | Annual | |
| 076-25 | OU IV (AOC 6 Sr-90) | Semi-Annual | Annual | |
| 076-28 | OU IV (AOC 6 Sr-90) | Semi-Annual | Annual | |
| 076-415 | OU IV (AOC 6 Sr-90) | Semi-Annual | Annual | |
| 076-416 | OU IV (AOC 6 Sr-90) | Semi-Annual | Annual | |
| 076-418 | OU IV (AOC 6 Sr-90) | Semi-Annual | Annual | |
| 076-419 | OU IV (AOC 6 Sr-90) | Semi-Annual | Annual | |
| 076-420 | OU IV (AOC 6 Sr-90) | Semi-Annual | Annual | |
| 076-421 | OU IV (AOC 6 Sr-90) | Semi-Annual | Annual | |

**Table 5-1**

**Proposed Groundwater Monitoring Well Sampling Frequency Changes**

2022 Groundwater Status Report

| Well ID | Current Project | Current Frequency | Proposed Frequency | Affected Parameters |
|---|---|---|---|---|
| 073-01 | OU X CFH | NS | Semi-Annual | PFAS |
| 073-26 | OU X CFH | Annual | Quarterly | |
| 073-27 | OU X CFH | Annual | Quarterly | |
| 073-28 | OU X CFH | Annual | Quarterly | |
| 073-29 | OU X CFH | Annual | Quarterly | |
| 073-30 | OU X CFH | Annual | Quarterly | |
| 073-31 | OU X CFH | Annual | Quarterly | |
| 073-32 | OU X CFH | Annual | Quarterly | |
| 073-33 | OU X CFH | Annual | Quarterly | |
| 074-135 | OU X CFH | Annual | Quarterly | |
| 083-01 | OU X CFH | NS | Semi-Annual | |
| 083-02 | OU X CFH | NS | Semi-Annual | |
| 083-05 | OU X CFH | NS | Semi-Annual | |
| 083-33 | OU X CFH | Annual | Semi-Annual | |
| 083-34 | OU X CFH | Annual | Semi-Annual | |
| 083-35 | OU X CFH | Annual | Semi-Annual | |
| 083-36 | OU X CFH | Annual | Semi-Annual | |
| 083-37 | OU X CFH | Annual | Semi-Annual | |
| 083-38 | OU X CFH | Annual | Semi-Annual | |
| 083-39 | OU X CFH | Annual | Semi-Annual | |
| 083-40 | OU X CFH | Annual | Semi-Annual | |
| 083-41 | OU X CFH | Annual | Semi-Annual | PFAS, 1,4-Dioxane |
| 083-42 | OU X CFH | Annual | Semi-Annual | |
| 083-43 | OU X CFH | Annual | Semi-Annual | |
| 083-44 | OU X CFH | Annual | Semi-Annual | PFAS |
| 083-47 | OU X CFH | NS | Semi-Annual | |
| 084-03 | OU X CFH | NS | Semi-Annual | |
| 084-04 | OU X CFH | NS | Semi-Annual | |

**Table 5-1**

**Proposed Groundwater Monitoring Well Sampling Frequency Changes**

2022 Groundwater Status Report

| Well ID | Current Project | Current Frequency | Proposed Frequency | Affected Parameters |
|---|---|---|---|---|
| 084-28 | OU X CFH | NS | Semi-Annual | PFAS |
| 084-86 | OU X CFH | Annual | Semi-Annual | |
| 084-87 | OU X CFH | Annual | Semi-Annual | |
| 084-88 | OU X CFH | Annual | Semi-Annual | |
| 084-89 | OU X CFH | Annual | Semi-Annual | |
| 084-90 | OU X CFH | Annual | Semi-Annual | |
| 084-91 | OU X CFH | Annual | Semi-Annual | |
| 084-92 | OU X CFH | Annual | Semi-Annual | |
| 084-93 | OU X CFH | Annual | Semi-Annual | |
| 084-94 | OU X CFH | Annual | Semi-Annual | PFAS, 1,4-Dioxane |
| 084-95 | OU X CFH | Annual | Semi-Annual | |
| 084-96 | OU X CFH | Annual | Semi-Annual | PFAS |
| 084-97 | OU X CFH | Annual | Semi-Annual | PFAS, 1,4-Dioxane |
| 084-98 | OU X CFH | Annual | Semi-Annual | |
| 093-04 | OU X CFH | NS | Quarterly | PFAS |
| 093-88 | OU X CFH | Annual | Semi-Annual | |
| 093-89 | OU X CFH | Annual | Semi-Annual | |
| 093-90 | OU X CFH | Annual | Semi-Annual | PFAS, 1,4-Dioxane |
| 093-91 | OU X CFH | Annual | Semi-Annual | PFAS |
| 093-92 | OU X CFH | Annual | Semi-Annual | PFAS, 1,4-Dioxane |
| 093-93 | OU X CFH | Annual | Quarterly | PFAS |
| 093-94 | OU X CFH | Annual | Quarterly | |
| 093-95 | OU X CFH | Annual | Quarterly | |
| 093-96 | OU X CFH | Annual | Semi-Annual | |
| 093-97 | OU X CFH | Annual | Semi-Annual | |
| 093-98 | OU X CFH | Annual | Semi-Annual | |
| 094-275 | OU X CFH | Annual | Semi-Annual | |
| 094-276 | OU X CFH | Annual | Semi-Annual | PFAS, 1,4-Dioxane |

**Table 5-1**

**Proposed Groundwater Monitoring Well Sampling Frequency Changes**

2022 Groundwater Status Report

| Well ID | Current Project | Current Frequency | Proposed Frequency | Affected Parameters |
|---|---|---|---|---|
| 094-277 | OU X CFH | Annual | Semi-Annual | PFAS |
| 094-278 | OU X CFH | Annual | Semi-Annual | PFAS, 1,4-Dioxane |
| 102-12 | OU X CFH | NS | Semi-Annual | PFAS |
| 102-26 | OU X CFH | Annual | Semi-Annual | |
| 102-27 | OU X CFH | Annual | Semi-Annual | |
| 102-28 | OU X CFH | Annual | Semi-Annual | |
| 102-29 | OU X CFH | Annual | Semi-Annual | |
| 102-30 | OU X CFH | Annual | Semi-Annual | PFAS, 1,4-Dioxane |
| 102-31 | OU X CFH | Annual | Semi-Annual | |
| 102-36 | OU X CFH | Annual | Semi-Annual | PFAS |
| 102-37 | OU X CFH | Annual | Semi-Annual | |
| 102-38 | OU X CFH | Annual | Semi-Annual | |
| 102-39 | OU X CFH | Annual | Semi-Annual | |
| 102-40 | OU X CFH | Annual | Semi-Annual | PFAS, 1,4-Dioxane |
| 103-10 | OU X CFH | NS | Semi-Annual | |
| 103-30 | OU X CFH | Annual | Semi-Annual | |
| 103-31 | OU X CFH | Annual | Semi-Annual | |
| 103-32 | OU X CFH | Annual | Semi-Annual | |
| 103-33 | OU X CFH | Annual | Semi-Annual | |
| 103-34 | OU X CFH | Annual | Semi-Annual | |

**Table 5-1**

**Proposed Groundwater Monitoring Well Sampling Frequency Changes**

2022 Groundwater Status Report

| Well ID | Current Project | Current Frequency | Proposed Frequency | Affected Parameters |
|---|---|---|---|---|
| 075-87 | OU X FFH | NS | Semi-Annual | PFAS |
| 075-809 | OU X FFH | Annual | Quarterly | |
| 075-810 | OU X FFH | Annual | Quarterly | |
| 075-811 | OU X FFH | NS | Quarterly | |
| 085-43 | OU X FFH | NS | Semi-Annual | |
| 085-350 | OU X FFH | NS | Semi-Annual | |
| 085-384 | OU X FFH | NS | Semi-Annual | |
| 085-404 | OU X FFH | Annual | Quarterly | |
| 085-405 | OU X FFH | Annual | Quarterly | |
| 085-406 | OU X FFH | Annual | Quarterly | |
| 085-407 | OU X FFH | Annual | Quarterly | |
| 085-408 | OU X FFH | Annual | Quarterly | |
| 085-409 | OU X FFH | Annual | Quarterly | |
| 085-410 | OU X FFH | Annual | Quarterly | |
| 085-411 | OU X FFH | Annual | Semi-Annual | |
| 085-412 | OU X FFH | Annual | Semi-Annual | |
| 086-123 | OU X FFH | NS | Semi-Annual | |
| 095-170 | OU X FFH | NS | Semi-Annual | |
| 095-171 | OU X FFH | NS | Semi-Annual | |
| 096-84 | OU X FFH | NS | Semi-Annual | |
| 096-115 | OU X FFH | NS | Semi-Annual | PFAS, 1,4-Dioxane |
| 096-117 | OU X FFH | NS | Semi-Annual | |
| 096-118 | OU X FFH | NS | Semi-Annual | PFAS |
| 096-122 | OU X FFH | Annual | Semi-Annual | |
| 096-123 | OU X FFH | Annual | Semi-Annual | |
| 096-124 | OU X FFH | Annual | Semi-Annual | |
| 096-125 | OU X FFH | Annual | Semi-Annual | |
| 096-126 | OU X FFH | Annual | Semi-Annual | |

**Table 5-1**

**Proposed Groundwater Monitoring Well Sampling Frequency Changes**

2022 Groundwater Status Report

| Well ID | Current Project | Current Frequency | Proposed Frequency | Affected Parameters |
|---|---|---|---|---|
| 096-127 | OU X FFH | Annual | Semi-Annual | PFAS, 1,4-Dioxane |
| 096-128 | OU X FFH | Annual | Semi-Annual | PFAS |
| 096-129 | OU X FFH | Annual | Semi-Annual | PFAS, 1,4-Dioxane |
| 096-130 | OU X FFH | Annual | Semi-Annual | PFAS |
| 096-131 | OU X FFH | Annual | Semi-Annual | PFAS, 1,4-Dioxane |
| 105-43 | OU X FFH | NS | Semi-Annual | |
| 105-44 | OU X FFH | NS | Semi-Annual | PFAS |
| 105-72 | OU X FFH | Annual | Semi-Annual | PFAS, 1,4-Dioxane |
| 105-73 | OU X FFH | Annual | Semi-Annual | |
| 105-74 | OU X FFH | Annual | Semi-Annual | |
| 105-75 | OU X FFH | Annual | Semi-Annual | |
| 105-76 | OU X FFH | Annual | Semi-Annual | |
| 105-77 | OU X FFH | Annual | Semi-Annual | |
| 105-78 | OU X FFH | Annual | Semi-Annual | |
| 084-12 | FM BMRR | Every 2 Years | Discontinue | Tritium |
| 084-13 | FM BMRR | Every 2 Years | Discontinue | |
| 084-27 | FM BMRR | Every 2 Years | Discontinue | |
| 084-28 | FM BMRR | Every 2 Years | Discontinue | |

Notes:

NS: Not sampled in 2022.