**3-60 Beach 79th Street Site**

**QUEENS COUNTY**

**FAR ROCKAWAY, NEW YORK**

# SITE MANAGEMENT PLAN

**NYSDEC Site Number: C241207**

**Prepared for:**

79 Arverne Development LLC

220-46 73rd Avenue

Bayside, New York 11364

**Prepared by:**

Anchor QEA Engineering, PLLC

54 East Genesee Street

Camillus, New York 13031

**Revisions to Final Approved Site Management Plan:**

| Revision No. | Date Submitted | Summary of Revision | NYSDEC Approval Date |
|---|---|---|---|
| | | | |
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**DECEMBER 2025**

# CERTIFICATION STATEMENT

I MARGARET CARRILLO-SHERIDAN certify that I am currently a NYS registered professional engineer as defined in 6 NYCRR Part 375 and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and Green Remediation (DER-31).

Margaret A Carrillo-Sheridan P.E.

10- December- 2025 DATE

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**360 Beach 79th Street**
**QUEENS COUNTY**
**FAR ROCKAWAY, NEW YORK**

**SITE MANAGEMENT PLAN**

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## LIST OF ACRONYMS

| | |
|---|---|
| ASTM | American Society of Testing and Materials |
| BCA | Brownfield Cleanup Agreement |
| BCP | Brownfield Cleanup Program |
| BFE | base flood elevation |
| bgs | below ground surface |
| BMP | Best Management Practice |
| CAMP | Community Air Monitoring Plan |
| CFR | Code of Federal Regulation |
| cis-1,2-DCE | cis-1,2-Dichloroethylene |
| COC | Certificate of Completion |
| CP | Commissioner Policy |
| CVOC | Chlorinated Volatile Organic Compound |
| DER | Division of Environmental Remediation |
| DUSR | Data Usability Summary Report |
| EC | Engineering Control |
| ECL | Environmental Conservation Law |
| EDD | Electronic Data Deliverable |
| ELAP | Environmental Laboratory Approval Program |
| ERP | Environmental Restoration Program |
| EWP | Excavation Work Plan |
| FEMA | Federal Emergency Management Agency |
| GBTS | Gallagher Basset Technical Services |
| GWSCO | Protection of Groundwater Soil Cleanup Objectives |
| HASP | Health and Safety Plan |
| IC | Institutional Control |
| ISCR | in situ chemical reduction |
| IW | Injection well |
| $\mu g/m^3$ | Microgram per cubic meter |
| mg/kg | Milligram per Kilogram |
| mg/L | Milligram per Liter |
| NAD83 | North American Datum of 1983 |
| NAVD88 | North American Vertical Datum of 1988 |
| NYCDOHMH | New York City Department of Health & Mental Hygiene |
| NYSDEC | New York State Department of Environmental Conservation |
| NYSDOH | New York State Department of Health |
| NYCRR | New York Codes, Rules and Regulations |
| O&M | Operation and Maintenance |
| OM&M | Operation, Maintenance and Monitoring |
| OSHA | Occupational Safety and Health Administration |
| PAH | Polycyclic Aromatic Hydrocarbons |
| PCE | Tetrachloroethylene |
| PCB | Polychlorinated Biphenyls |
| PDIR | Pre-Design Investigation Report |
| PE or P.E. | Professional Engineer |

| | |
|---|---|
| PFAS | Per- and Polyfluoroalkyl Substances |
| PFOA | Perfluorooctanoic acid |
| PFOS | Perfluorooctanesulfonic acid |
| PID | Photoionization Detector |
| PMW | Permanent monitoring well |
| ppb | Parts per billion |
| ppm | Parts per million |
| ppt | Parts per thousand |
| PRR | Periodic Review Report |
| PVC | Polyvinyl chloride |
| QA/QC | Quality Assurance/Quality Control |
| QAPP | Quality Assurance Project Plan |
| QEP | Qualified Environmental Professional |
| RA | Remedial Action |
| RAO | Remedial Action Objective |
| RAWP | Remedial Action Work Plan |
| RCRA | Resource Conservation and Recovery Act |
| RDD | Remedial Design Document |
| RI/FS | Remedial Investigation/Feasibility Study |
| RIWP | Remedial Investigation Work Plan |
| RP | Remedial Party |
| RSO | Remedial System Optimization |
| SAC | State Assistance Contract |
| SCG | Standards, Criteria and Guidelines |
| SCO | Soil Cleanup Objective |
| Site | 350 Beach 79th Street, Far Rockaway, New York |
| SMP | Site Management Plan |
| SOW | Statement of Work |
| SP | Suction point |
| SPDES | State Pollutant Discharge Elimination System |
| SSD | Sub-slab Depressurization |
| SSDS | Sub-slab Depressurization System |
| SVOC | Semi-Volatile Organic Compound |
| TAL | Target Analyte List |
| TCL | Target Compound List |
| TCE | Trichloroethylene |
| TOGS | Technical and Operational Guidance Series |
| trans-1,2-DCE | Trans-1,2-Dichloroethylene |
| USEPA | United States Environmental Protection Agency |
| UST | Underground Storage Tank |
| VC | Vinyl Chloride |
| VMP | Vapor monitoring point |
| VOC | Volatile Organic Compound |

# ES EXECUTIVE SUMMARY

The following summarizes the controls implemented for the Site, as well as the inspections, monitoring, maintenance and reporting activities required by this Site Management Plan:

Site Identification: C241207 3-60 Beach 79th Street Site, 350 Beach 79th Street, Far Rockaway, New York

| | |
|---|---|
| Institutional Controls: | 1. The property may be used for commercial or industrial use. |
| | 2. All ECs must be operated and maintained as specified in this SMP. |
| | 3. All ECs must be inspected at a frequency and in a manner defined in the SMP. |
| | 4. The use of groundwater underlying the property is prohibited without the necessary water quality treatment, as determined by the New York State Department of Health (NYSDOH) or the New York City Department of Health and Mental Hygiene (NYCDOHMH), to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department. |
| | 5. Groundwater and other environmental or public health monitoring must be performed as defined in this SMP. |
| | 6. Data and information pertinent to Site management must be reported at the frequency and in a manner as defined by this SMP. |
| | 7. All future activities that will disturb the remaining contaminated material must be conducted per this SMP. |
| | 8. Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP. |

Site Identification: C241207 3-60 Beach 79th Street Site, 350 Beach 79th Street, Far Rockaway, New York

| | |
|---|---|
| Institutional Controls (cont'd) | 9. Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP. |
| | 10. Access to the Site must be provided to agents, employees, or other representatives of the State of New York, with reasonable prior notice to the property owner, to ensure compliance with the restrictions identified in the Environmental Easement. |
| | 11. The potential for vapor intrusion must be evaluated for any buildings developed in the area within the BCP boundaries noted on **Figures 2 and 3**, and any potential impacts that are identified must be monitored or mitigated |
| | 12. Vegetable gardens and farming on the Site are prohibited. |
| | 13. An evaluation shall be performed to determine the need for further investigation and remediation should large-scale redevelopment occur, if any of the existing structures is demolished, or if the subsurface is otherwise made accessible. |
| Engineering Controls: | 1. Cover System |
| | 2. Sub-slab depressurization systems (SSDSs)<br>• Commercial use building 357 Beach 79th Street, Far Rockaway, NY (Block 16100, Lot 14), which is adjacent to the Site, the "Existing Building"<br>• Self-storage building 350 Beach 79th Street, Far Rockaway, NY (Block 16100, Lot 18), the "New Building" |
| | 3. CarBstrate™ Injection System |
| | 4. Groundwater Monitoring Well Network |

Site Identification: C241207 3-60 Beach 79th Street Site, 350 Beach 79th Street, Far Rockaway, New York

| Inspections: | Frequency |
|---|---|
| 1. Cover inspection | Annually |
| 2. SSDS (verify proper operation: air flow rate, vacuum, blower, extraction points, gauges, and vacuum alarms) | Quarterly |
| 3. CarBstrate™ Injection System | Quarterly |
| 4. Monitoring Well Network | Quarterly |
| Monitoring: | |
| 1. Post Construction Monitoring Well (PMW)-1, PM-2, PMW-3, PMW-4, PMW-5, PMW-6, PMW-7, PMW-8 | Quarterly for first two years. Frequency thereafter will be determined by NYSDEC. |
| 2. SSD system piping to confirm operation of appropriate valves | Biannually |
| 3. Conducting pressure field extension tests to verify that the SSDSs are creating sufficient negative pressure under the slab to prevent soil gas entry. | Startup and Annual |
| 4. Soil vapor intrusion evaluation for new building | Prior to building occupancy |
| Maintenance: | |
| 1. CarBstrate™ Injection System | As needed |
| 2. SSDS Blower maintenance | As needed |
| Reporting: | |
| 1. Groundwater monitoring analytical data | Analytical data electronic data deliverable (EDD) to be provided quarterly; annual summary to be included in Periodic Review Report (PRR) |
| 2. Periodic Review Report (PRR) | Annually |

Further descriptions of the above requirements are detailed in the latter sections of this Site Management Plan.

# 1.0 INTRODUCTION

## 1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the 3-60 Beach 79th Street Site located in Far Rockaway, New York (hereinafter referred to as the "Site"). The Site is currently in the New York State (NYS) Brownfield Cleanup Program (BCP), Site No. C241207, which is administered by New York State Department of Environmental Conservation (NYSDEC or Department).

79 Arverne Development LLC entered into a Brownfield Cleanup Agreement (BCA) on June 22, 2018, with the NYSDEC to remediate the Site. The Site location is shown on **Figure 1** and the property line (including the BCP area) and tax lot information is shown on **Figure 2**. The Site boundaries are more fully described in the metes and bounds Site description that is part of the Environmental Easement provided in **Appendix A**.

After completion of the remedial work, some contamination was left at this Site, which is hereafter referred to as "remaining contamination". Institutional and Engineering Controls (ICs and ECs) have been incorporated into the Site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC and recorded with the Queens County Office of the City Register, requires compliance with this SMP and all ECs and ICs placed on the Site. The area covered under this SMP (i.e., the BCP area) is shown on **Figures 2 and 3**.

This SMP was prepared to manage remaining contamination at the Site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

It is important to note that:

- This SMP details the Site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC); and
- Failure to comply with this SMP constitutes a violation of Environmental Conservation Law, 6 NYCRR Part 375 and the BCA, (Index #C241207-04-18; Site #C241207) for the Site, and thereby subject to applicable penalties.

All reports associated with the Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the Site is provided in **Appendix B** of this SMP.

This SMP was prepared by Anchor QEA Engineering, PLLC, on behalf of 79 Arverne Development LLC, in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the Site (**Appendix A**).

## 1.2 Revisions and Alterations

Revisions and alterations to this plan will be proposed in writing to the NYSDEC's project manager. The NYSDEC can also make changes to the SMP or request revisions from the remedial party. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shut down of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the Site conditions. All approved alterations must conform with Article 145 Section 7209 of the Education Law regarding the application of professional seals and alterations. For example, any changes to as-built drawings must be stamped by a New York State Professional Engineer (PE). In accordance with the Environmental Easement for the Site, the NYSDEC project manager will provide a notice of any approved changes to the SMP, and append these notices to the SMP, that is retained in its files.

## 1.3 Notifications

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with NYSDEC's DER – 10 for the following reasons:

1. 60-day advance notice of any proposed changes in Site use that are required under the terms of the BCA, 6 NYCRR Part 375 and/or Environmental Conservation Law.

2. 7-day advance notice of any field activity associated with the remedial program.

3. 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan (**Appendix C**). If the ground-intrusive activity qualifies as a change of use as defined in 6 NYCRR Part 375, the above-mentioned 60-day advance notice is also required.

4. Notice within 48 hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.

5. Notice within 48 hours of any non-routine maintenance activities.

6. Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the Site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

7. Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days, describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the Site or the responsibility for implementing this SMP will include the following notifications:

8. At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser/Remedial Party has been provided with a copy of the BCA, and all approved work plans and reports, including this SMP.

9. Within 15 days after the transfer of all or part of the Site, the new owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

**Table 1-1** on the following page includes contact information for the above notifications. The information on this table will be updated as necessary to provide accurate contact information. A full listing of Site-related contact information is provided in **Appendix B**.

**Table 1-1: Notifications***

| **Name** | **Contact Information** | **Required Notification**** |
|---|---|---|
| NYSDEC Project Manager<br>Mandy Yau | (718) 482-7778<br>mandy.yau@dec.ny.gov | All Notifications |
| NYSDEC Project Manager's Supervisor<br>Cris-Sandra Maycock | (718) 482-4679<br>cris-sandra.maycock@dec.ny.gov | All Notifications |
| Regional Remediation Engineer<br>Jane O'Connell, P.G., | (718) 482-4599<br>jane.oconnell@dec.ny.gov | All Notifications |
| Chief, Site Control Section<br>Kelly Lewandowski | (518) 402-9569<br>DERSiteControl@dec.ny.gov | Notifications 1, 8, and 9 |
| NYSDOH Project Manager<br>Julia Kenney | (518) 402-7873<br>julia.kenney@health.ny.gov | Notifications 4, 6, and 7 |
| NYSDOH Region Chief<br>Scarlett McLaughlin | (518) 402-7860<br>scarlett.mclaughlin@health.ny.gov | Notifications 4, 6, and 7 |

* Note: Notifications are subject to change and will be updated as necessary.

** Note: Numbers in this column reference the numbered bullets in the notification list in this section

# 2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

## 2.1 Site Location and Description

The Site is located in Far Rockaway, Queens County, New York and is identified as Tax Parcel Block 16100 and Lot 18 on the Queens County Tax Map (**see Figure 2**). The Site is an approximately 1.228-acre area and is bounded by Barbadoes Basin to the north, Beach Channel Drive to the south, a bin-block wall to the east, and an existing industrial building defined as the Existing Building to the west (**Figure 3**). The boundaries of the Site are more fully described in **Appendix A** – Environmental Easement. The owners and operators of the Site parcel at the time of issuance of this SMP is/are:

- Owner: 79 Arverne Development, LLC
  - Uri Kaufman
    917-453-3384
    urikaufman50@gmail.com
- Operator: Abingdon Capital, LLC
  - Kevin Desharnais
    914-482-7622
    kevin@abingdon-llc.com

## 2.2 Physical Setting

### 2.2.1 Land Use

The Site consists of: a parcel of vacant land. The Site is zoned M1-2 and is currently under redevelopment for use as a CubeSmart® self-storage facility. Following the redevelopment activities, the Site will include a parking area and a multi-story self-storage building.

The properties adjoining the Site and in the surrounding neighborhood primarily include light manufacturing and storage-related properties. The properties immediately south of the Site include an elevated railroad and an at-grade roadway; immediately south of the railroad tracks is a vacant parcel of land with an asphalt surface that appears to be

used for construction-related equipment and vehicle storage. The properties immediately north of the Site include Barbadoes Basin, and immediately north of Barbadoes Basin, a vacant parcel that appears to have historically been used for industrial purposes and for offloading boats from Barbadoes Basin; the properties immediately east of the Site include vehicle and tractor-trailer storage; and the properties to the west of the Site include the Existing Building, a leased industrial building used for light manufacturing and equipment storage.

### 2.2.2 Geology

Information regarding the Site geology was obtained from prior investigation reports and soil boring and excavation activities performed during the remedial action (RA) conducted at the Site from December 2023 through May 2024.

The Site geology consists of five units of varying thickness and distribution across the Site, four of which were encountered during the RI and RA phases of the work. Based on the information presented in the RI Report and the *Report of Geotechnical Investigation* (Whitestone, 2022), the geologic units at the Site consist of:

- Historic fill material – Fill materials encountered in exploration and investigation soil borings included silty sand with varying amounts of gravel, poorly graded sand and debris. The debris encountered included brick, glass, concrete, wood, cinders, asphalt, slag and coal. The fill material thickness varied across the Site, ranging from approximately five to 15 feet. During the RA, much of the historic fill material encountered consisted of intact subgrade foundations and wooden piles.
- Organic deposits – Peat layer: Unconsolidated coastal plain soils consist of less than 1-foot-thick fibrous peat with some trace amounts of sand and fibrous peat with poorly graded sand ranging in thickness from 0.5 to 1 foot thick.
- Organic deposits – Clay layer: Unconsolidated coastal plain soils consisting of a generally contiguous thin clay layer (ranging from less than one foot to approximately two feet thick).
- Glacial Deposits – Sand: Glacially deposited soils consisting of poorly graded sand with varying amounts of silt and gravel or silt with sand. During the

geotechnical investigation, these glacial deposits were encountered to a maximum depth of 102 feet below grade (at which point the boring was terminated). These sand deposits are identified on the *Surficial Geology Map of New York* as beach or barrier island deposits composed of sand and gravel of varying thickness, dating back to the Pleistocene Epoch (Cadwell 1986).

Bedrock was not encountered during prior Site investigation activities; the estimated depth to bedrock is approximately 1,200 feet below sea level (United States Geological Survey 2023).

Geologic cross-sections, a cross-section location map, and Site-specific boring logs are provided in **Appendix D**. General South-North and West-East cross sections are also shown on **Figures 4A and 4B**, respectively

### 2.2.3 Hydrogeology

The water table is encountered between 5 and 8 feet below grade across the Site, consistent with prior investigation data. During the RI, shallow groundwater was encountered at depths of approximately 5-10 ft bgs in soil borings and monitoring wells installed at the Site. Changes in depth to groundwater resulting from tidal changes in the adjoining Barbadoes Basin were investigated over three continuous 24-hour tidal cycles from February 20 and February 24, 2020. Automated water-level data loggers were utilized to record changes in groundwater depth, temperature and specific conductance in on-Site wells, and findings were compared with tide charts for Beach Channel Bridge in Jamaica Bay. Data from the loggers indicates that changing depths to water in on-Site wells are synchronous with the tides and the magnitude of variations in measured parameters is similar in shallow and deep wells. These findings support the conclusion that groundwater beneath the Site is in communication with the waters of Barbadoes Basin and are consistent with the variable groundwater levels seen during the sampling events. Groundwater gradients and direction of flow vary over the course of a tidal cycle, and net groundwater flow across the Site is likely to be northward towards Barbadoes Basin.

The shallow water table fluctuates with the rise and fall of the tides, and groundwater is inferred to flow towards Barbadoes Basin to the northwest. The shallow water table appears to be a locally confined aquifer with the clay layer serving as an aquitard. The perimeter of the Site is located within the 100-year Federal Emergency Management Agency (FEMA) Flood Zone, and the center of the Site is located within the 500-year FEMA Flood Zone. Groundwater in this area of Queens is not used as a source of potable water.

Groundwater monitoring well construction logs are provided in **Appendix E**.

## 2.3 Investigation and Remedial History

The following narrative provides a remedial history timeline and a brief summary of the available project records to document the Site's key investigative and remedial milestones. **Figure 5** presents the locations of soil, groundwater and soil vapor sample locations associated with the Site's investigation history (through the Pre-Design Investigation). Full titles for each of the reports referenced below are provided in **Section 8.0** – References.

The information presented in this section is based on the following documents:

- *Phase I Environmental Assessment*, prepared by EnviroTrac LTD dated April 6, 2016 (EnviroTrac, 2016) – (not approved by NYSDEC)
- *Limited Phase II Environmental Site Assessment,* prepared by EnviroTrac LTD, dated July 2016 (EnviroTrac, 2016) – (not approved by NYSDEC)
- *Site Investigation Report (SIR),* prepared by WCD Group (WCD; January 2018)
- *Report of Geotechnical Investigation*, prepared by Whitestone Associates, Inc. dated May 2, 2018 (Whitestone, 2018)
- *Remedial Investigation Work Plan (RIWP)*, prepared by WCD Group dated October 2018 (WCD, 2018)
- *Remedial Investigation Report* (RI Report)*,* prepared by Gallagher Bassett Technical Services, dated September 18, 2020 (GBTS 2020).
- *Remedial Action Work Plan* (RAWP), prepared by Bellucci Engineering, PLLC and GBTS, dated July 2021 (Bellucci, 2021)

- *Decision Document*, prepared by NYSDEC, dated August 2021 (NYSDEC 2021)
- *Predesign Investigation Report* (PDIR), prepared by GEI Consultants, Inc., P.C., dated August 2023 (GEI 2023)
- *Remedial Design Document* (RDD), prepared by GEI, dated October 2023 (GEI 2023)
- *Remedial Design Modification,* prepared by Anchor QEA, dated January 2024 (Anchor QEA 2024a)
- *Supplemental Remedial Action Work Plan,* prepared by Anchor QEA, dated May 2024 (Anchor QEA 2024b) – (not approved by NYSDEC)
- *Supplemental Remedial Design Document*, prepared by Anchor QEA, dated August 2024 (Anchor QEA 2024c)

### 2.3.1 Phase I Environmental Assessment (EnviroTrac, 2016)

EnviroTrac conducted a Phase I site assessment, which identified Site history and areas of concern. **Table 2-1**, below summarizes the historical Site uses.

**Table 2-1: Site History**

| Year | Use |
|---|---|
| 1894 | East Arverne Hygeia Ice Company – Ice Manufacturing |
| 1901 | East Arverne Hygeia Ice Company – Ice Manufacturing<br>Rockaway Motor Company (western Site area) |
| 1912 | John Murray's Ice Factory (eastern Site area)<br>John H. Ferril Company, coal yard (western Site area) |
| 1933 | John Murray's Ice Factory (eastern Site area)<br>John H. Ferril Company, coal yard (western Site area) |
| 1950 | John H. Ferril Company, coal yard (western Site area)<br>Chain Bike Corporation (eastern Site area) |
| 1980 | Ross Bicycles |
| 1981 | Property undeveloped – used for the processing of construction and demolition debris |

### 2.3.2 Limited Phase II Environmental Site Assessment, (EnviroTrac, 2016)

EnviroTrac advanced seven on-Site soil borings (soil borings SB-1 through SB-7) and two soil borings on Lot 14 (soil borings SB-8 and SB-9) to a maximum depth of approximately 10 feet (ft) below ground surface (bgs). Photoionization detector (PID) readings were noted at several borings in the 5 to 10 ft interval in saturated soils; however, no other significant field evidence of contamination was observed. Soil samples were not submitted for laboratory analysis. A geophysical survey identified no evidence of buried tanks or other anomalies at the Site.

### 2.3.3 Site Investigation Report (WCD Group, January 2018)

WCD Group performed the following investigation activities:

- Collected 27 soil samples from 28 soil borings (soil borings B1 to B28; maximum depth approximately 15 ft bgs) to document subsurface conditions on the Site and adjacent Lot 14 (three of these borings were located on Lot 14).
- Sediment samples were collected from two manually advanced sediment borings (SED1 and SED2) at the northern shoreline adjacent to Barbadoes Basin.
- 12 temporary groundwater monitoring wells installed at soil boring locations were sampled to establish groundwater flow direction and document groundwater quality.

Laboratory analysis of the collected soil samples revealed multiple constituents at concentrations exceeding Part 375 Unrestricted Use (UU) Soil Cleanup Objectives (SCOs), including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), and pesticides.

Several of the soil sampling locations during this investigation were removed and disposed of during the 2024 Site remediation. Remaining chlorinated volatile organic compounds (CVOCs) noted during this investigation are summarized in the following table:

**Table 2-2 – 2017/18 Site Investigation Detected CVOC Concentration Range**

| CVOC | Protection of GW SCO | Concentration Range (mg/kg) | Soil Sample with Highest Concentration |
|---|---|---|---|
| cis-1,2-DCE | 0.25 | ND – 0.0046 | B-1 |
| trans-1,2-DCE | 0.19 | ND-ND | Not applicable |
| PCE | 1.3 | ND-ND | Not applicable |
| TCE | 0.47 | ND – 0.0061D | B17 |
| VC | 0.02 | ND – 0.002D | B28 |

cis-1,2-DCE = cis-1,2-dichloroethylene
trans-1,2-DCE = trans-1,2-dichloroethylene
PCE = tetrachloroethylene
TCE = trichloroethylene
VC = vinyl chloride

2017/18 Site Investigation sampling locations are shown on **Figure 5** and analytical results are shown in the data tables presented in **Appendix F**.

### 2.3.4 Report of Geotechnical Investigation (Whitestone, 2018)

Whitestone completed a total of 13 soil borings (B-1 through B-12 plus offset boring B-8A) using the Standard Penetration Test method (ASTM D1586). The geotechnical investigation findings indicated the following:

- Variable fill with debris is present from approximately 5 to 15 ft bgs; underlain by organic soils/peat (generally less than 4 ft thick, but seen locally to ~17 ft bgs); dense glacial sands were encountered below the peat layer/meadow mat.
- Groundwater was encountered from 4.5–8 ft bgs (≈ +3.5 to −1.5 ft NAVD88). The Site lies in FEMA Zone AE (Base Flood Elevation [BFE] 10–11 ft NAVD88); the report indicated that flood-related buoyancy considerations and temporary dewatering should be considered.
- Foundations: The report recommended ground improvement with shallow footings or timber piles to the top of the dense sands.
- Safety/constructability: Treat as OSHA Type C for temporary excavations (max 1.5H:1V); the report recommended vibration monitoring near adjacent structures/ and the rail line to the south.

### 2.3.5 Remedial Investigation Report (GBTS, 2020)

The RI activities consisted of the following:

- Conducted an inspection to identify areas of concern and physical obstructions.
- Advanced 18 borings (soil borings BN10 N, E, S, and W; B29; B-30; B30N18, B30E7; B30S10; B30W18; B31 through B36; SV-2; and SV-5) to investigate soil conditions. Borings were advanced to 20 ft below grade at the northwest corner and the central area to delineate VOC contamination at previously inaccessible areas, and to 12 ft below grade at the southeast portion to delineate PCB and pesticide contamination.
- Installed five soil vapor monitoring points (SV-1 to SV-5) to a maximum depth of 4 ft bgs.
- Installed eight permanent monitoring wells (MW-1 S, D; MW-2S, D; MW-3; MW-4, MW-5S, D) - five shallow wells to approximately 12 to 13 ft bgs and three deep wells to approximately 37 ft bgs.
- Collected 36 soil (five surface soil and 31 subsurface soil), eight groundwater, and five soil vapor samples for laboratory analysis.

Based on the initial results, the following supplemental RI activities were conducted in 2020:

- Advanced seven additional soil borings in the central area of the Site to further delineate areas of concern.
- Collected groundwater samples from four permanent on-Site monitoring wells (MW-1D, MW-4, MW-5S, and MW-5D).
- Performed continuous depth to groundwater monitoring over four days at five wells to assess tidal influence on the depth to water at shallow and deep monitoring wells.
- Conducted an off-Site sub-slab soil vapor investigation at the northeast corner of the Site adjacent to the Existing Building to evaluate potential soil vapor intrusion, including collecting one additional on-Site soil vapor sample, three sub-slab vapor samples, and one indoor air sample.

RI media samples were submitted for laboratory analysis of Target Compound List (TCL) VOCs and SVOCs, Target Analyte List (TAL) metals, per- and polyfluoroalkyl substances (PFAS; NYSDEC target list), TO-15 list VOCs (vapor, only), PCBs, pesticides, and/or herbicides. Site sampling (excluding duplicates) included collecting 36 soil samples from 25 soil boring locations, 12 water samples from eight monitoring wells, and six soil vapor samples. Three sub-slab vapor samples were collected at the off-Site adjacent Existing Building, near the northwest corner of the Site.

*2.3.5.1 Nature and Extent of Soil Contamination*

Chlorinated volatile organic compounds (CVOCs) were detected in soil fill material samples collected in the northwest corner and central area (vicinity of B19 and B30, respectively) at concentrations above PG SCOs (the applicable criteria based on known groundwater impacts), with the highest concentrations generally documented near (or just within) the top of the clay layer. Saturated native sands below the clay layer at B30 delineation locations to the east, south, and west contained cis-DCE and VC at concentrations above PG SCOs but at relatively low levels (PCE and TCE were not reported in soil below the clay layer). A current or former on-Site source of CVOC contamination has not been identified (impacts may be related to historical waste disposal).

Fill materials at several locations across the Site contained SVOCs, metals, PCBs, and/or pesticides at concentrations exceeding commercial use SCOs (localized areas of elevated PCBs and pesticides at the southern area have been generally delineated). None of these compounds have been identified at significant concentrations in native materials below the clay layer.

The RI Report noted the presence of petroleum odors and staining in the soils above the clay layer in the central portion of the Site, and a spill was called in (Spill number 2001173). No further assessment or characterization of the potential petroleum spill area was completed during the investigation phase.

Low concentrations of multiple PFAS were reported in all samples collected during the supplemental RI at concentrations below the NYSDEC's commercial reuse guidance values of 440 parts per billion (ppb) for PFOS and 500 ppb for PFOA. Samples

collected during the RI reported total PFOS concentrations ranging from 0.14 to 4.6 ppb, and PFOA ranging from 0.02 to 1 ppb).

**Table 2-3 – 2020 Remedial Investigation Detected CVOC Concentration Range**

| CVOC | Protection of GW SCO | Concentration Range (mg/kg) | Soil Sample with Highest Concentration |
|---|---|---|---|
| cis-1,2-DCE | 0.25 | 0.41 – 1.4 | B19W (5-6′) |
| PCE | 1.3 | ND – 27 | B19W (5-6′) |
| TCE | 0.47 | 0.79 - 34 | B19E (5-6′) |
| VC | 0.02 | ND – 0.43 | B19W (3-4′) |

2020 RI soil sampling locations are shown on **Figure 5** and analytical results are presented in the data tables included in **Appendix F.**

*2.3.5.2 Nature and Extent of Groundwater Contamination*

Groundwater at the Site has been primarily impacted by PCE and TCE, along with their degradation products: cis-DCE, trans-DCE, and VC. The monitoring well locations with the highest levels of CVOCs reported during the RI phase (MW-1 and MW-2, located at the northwest corner and central area, respectively) were proximate to soil with elevated concentrations of CVOCs. Only one CVOC, cis-DCE, was detected in MW-4 at the southern area of the Site, at a concentration of 1.2 ppb, which is less than the NYS ambient water quality standard of 5 ppb.

Ratios of PCE to TCE (where PCE has been reported) and Site-wide detections of cis-DCE (plus low levels of trans-DCE and VC) support the conclusion that CVOCs in Site groundwater are naturally degrading.

Site groundwater also contains low concentrations of inorganic elements and limited detections of petroleum compounds. The RI data indicated that only sodium and magnesium were present in the dissolved phase groundwater samples (consistent with brackish water inputs from the surrounding surface waters). Inorganic elements detected in unfiltered samples at concentrations above NYS ambient water quality standards included arsenic, magnesium, manganese, iron, selenium, and sodium. The presence of

these inorganics in groundwater are attributed to local groundwater and historic fill conditions.

PFAS were reported in all groundwater samples with the concentrations of total PFOS ranging from 109 to 141 parts per trillion (ppt), and PFOA ranging from 52.7 to 84.2 ppt. The ambient water quality guidance values for PFOS and PFOA are 2.7 and 6.7 ppt, respectively. The RI Report concluded that the source of the PFAS contamination in the groundwater is unknown and may be related to regional contamination.

The following table presents a summary of CVOCs detected in groundwater during the Remedial Investigation.

**Table 2-4 – 2017 – 2020 Remedial Investigation Detected Groundwater CVOC Concentration Range**

| CVOC | TOGS 1.1.1 Class GA (ug/L) | Concentration Range (ug/L) | GW Sample with Highest Concentration |
|---|---|---|---|
| cis-1,2-DCE | 5 | 1.2 – 14000 | MW-2S |
| PCE | 5 | 32 – 140 | MW-1S |
| TCE | 5 | 7.8 – 1900 | MW-2S |
| VC | 2 | 4.3 - 1800 | B26 Water |

TOGS: Technical and Operational Guidance Series

2017-2020 groundwater sampling locations are shown on **Figure 5** and analytical results are shown in the data tables included in **Appendix F**.

*2.3.5.3 Nature and Extent of Vapor Contamination*

CVOCs and a limited number of petroleum VOCs were found in soil vapor at multiple locations. CVOC impacts appear to be concentrated in the northwest corner of the Site (SV-1 and SV-6) and the central part of the Site (SV-4).

Data from 2019 indicated PCE concentrations at SV-1 of 1,300 micrograms per cubic meter (µg/$m^3$) and TCE at SV-4 at 1,200 µg/$m^3$ and SV-5 at 570 µg/$m^3$. cis-DCE was reported at SV-4 and SV-5 at lower concentrations (210 to 260 µg/$m^3$, respectively). Data from 2020 showed detectable levels of CVOCs at SV-6 (PCE 71,200 µg/$m^3$, TCE

2,470 µg/m$^3$, and cis-DCE 2,470 µg/m$^3$). CVOCs were also reported in sub-slab sample SS-2 located in the northeast corner of the Existing Building (PCE 3,000 µg/m$^3$, TCE 52,300 µg/m$^3$, and cis-DCE PCE 1,560 µg/m$^3$). The ambient indoor-air sample in the Existing Building documented a concentration of TCE of 17.6 µg/m$^3$, which was above the NYSDOH Air Guideline Value of 2 µg/m$^3$.

Petroleum compounds were detected in SV-5 (ethylbenzene 1,400 µg/m$^3$ and xylenes 140 µg/m$^3$). Various other VOCs typically encountered in urban settings or within poor-quality fill, including other petroleum compounds and solvents, were reported in all samples at trace to low concentrations.

A summary of CVOCs detected in soil vapor during the Remedial Investigation is presented below:

**Table 2-5 – 2019 – 2020 Remedial Investigation Detected Soil Vapor CVOC Concentration Range**

| CVOC | Concentration Range (ug/m$^3$) | Soil Vapor Sample with Highest Concentration |
|---|---|---|
| cis-1,2-DCE | 0.115 – 2,470 | SV6 |
| trans-1,2-DCE | ND – 4.4 | SV3 |
| PCE | 1.33 – 71,200 | SV6 |
| TCE | 7.09 – 52,300 | SS-02 |
| VC | 0.67 – 6.6 | SV5 |

2019-2020 Remedial Investigation soil vapor sampling locations are shown on **Figure 5** and analytical results are shown in the data tables included in **Appendix F**.

### 2.3.6 Decision Document (NYSDEC 2021)

The selected remedy elements were presented in the NYSDEC's Decision Document and consisted of the following:

- **Excavation:** Excavating and off-Site disposal of contaminant source areas, including:

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u).
- soils which exceed the protection of groundwater SCOs, as defined by 6 NYCRR Part 375-6.8 for those contaminants found in Site groundwater above standards.
- any underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.
- all soils in the upper foot that exceed the commercial SCOs.

- **Backfill:** Backfilling excavation areas with excavated/reuse material that meet the protection of groundwater or imported materials that meet the requirements of 6 NYCRR Part 375-6.7(d).
- **Cover System:** Placing a Site cover to allow for commercial use of the Site in areas where the upper one foot of exposed surface soil will exceed commercial use SCOs. Where used, the soil cover must consist of a minimum of one foot of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the Site, will meet the SCOs for cover material for the use of the Site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of Site redevelopment. Such components may include, but are not necessarily limited to pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.
- **Groundwater Extraction and Treatment:** Dewatering as required to facilitate excavation and subgrade work. Treating contaminated groundwater from dewatering operations as necessary prior to discharge to the municipal sewer system.
- **In-Situ Chemical Reduction:** In-situ chemical reduction (ISCR) will be implemented to treat CVOCs in groundwater. A reducing agent will be applied to the base of the excavation to destroy the contaminants in an approximately 9,760 square foot area located in the northern and central portions of the Site where CVOC concentrations were elevated in the groundwater. The method and depth of

treatment will be determined during the remedial design. Monitoring will be required within the treatment zone. Monitoring will be conducted for CVOCs upgradient and downgradient of the treatment zone for in-situ chemical treatment remedy.

- **Monitored Natural Attenuation:** Groundwater contamination remaining after active remediation will be addressed with monitored natural attenuation (MNA). Groundwater will be monitored for Site-related contamination and for MNA indicators which will provide an understanding of the biological activity breaking down the contamination. It is anticipated that contamination will decrease by an order of magnitude in a reasonable period (5 to 10 years). Reports of the attenuation will be provided at 1 year, and additional active remediation will be proposed if it appears that natural processes alone will not address the contamination. The contingency remedial action will depend on the information collected, but it is currently anticipated that a hydrogen releasing compound such as lactic acid would be the expected contingency remedial action.
- **Vapor Mitigation:** Any on-Site buildings will be required to have a sub-slab depressurization system (SSD system), or other acceptable measures, to mitigate the migration of vapors into the building from soil and groundwater. To address the off-Site soil vapor impacts, an active SSD system will be required at the Existing Building, which is located to the west of the Site on an adjacent parcel at 357 Beach 79th Street, Far Rockaway, NY (Block 16100, Lot 14).
- **Institutional Control:** Imposition of an institutional control in the form of an Environmental Easement for the Controlled Property which will:
  - require the remedial party or Site owner to complete and submit to NYSDEC a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3).
  - allow the use and development of the Controlled Property for commercial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws.
  - restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the New York State

Department of Health (NYSDOH) or New York City Department of Health & Mental Hygiene (NYCDOHMH).

- require compliance with an NYSDEC-approved Site Management Plan (SMP).

- **Site Management Plan:** Preparing and implementing an SMP, which includes the following:
  - an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the Site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:
    - Institutional Controls: The Environmental Easement discussed in the "Institutional Control" bullet above.
    - Engineering Controls: The soil cover discussed in the "Cover System" bullet and the sub-slab depressurization system discussed in the "Vapor Mitigation" bullet above.

  This plan includes, but may not be limited to:

    - an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
    - a provision, should redevelopment occur, to ensure no soil exceeding protection of groundwater concentrations will remain below storm water retention basin or infiltration structures.
    - descriptions of the provisions of the environmental easement including any land use, groundwater, and surface water use restrictions;
    - a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 4 above will be placed in any areas where the upper one foot of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);
    - provisions for the management and inspection of the identified engineering controls;

- maintaining Site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

– A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- monitoring of groundwater to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department; and
- monitoring for vapor intrusion for any buildings on the Site and the affected off-Site building, as may be required by the Institutional and Engineering Control Plan discussed above.

– An Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:

- procedures for operating and maintaining the remedy;
- compliance monitoring of treatment and mitigation systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
- maintaining Site access controls and Department notification; and
- providing the Department access to the Site and O&M records.

### 2.3.7 Pre-Design Investigation Report (GEI Consultants, Inc., P.C.)

GEI conducted a pre-design investigation consisting of the following:

- Soil borings: 70 total - 38 advanced by Gallagher-Bassett (2SB-01 to 2SB-38; Oct 25–27, 2021) and 32 by GEI (3SB-01 to 3SB-15, 3SB17, 3SB-18, 3SB-20 to

3SB-27 and 3SB-41 to 3SB-47 from Jan 14–20, 2023), all via push-technology drill rigs.

- Groundwater: Three existing monitoring wells (MW-3 to MW-5) were sampled by GEI on June 8, 2023 (no new wells were installed installed).
- Waste characterization (soil): Discrete samples collected from proposed excavation areas were collected in Dec 2022, June 2023, and July 2023.
- Pre-intrusive activities utility clearance: Utility markout and a geophysical survey performed prior to drilling.

PDIR results concluded the following:

- Fill (debris) was encountered to ~9 ft bgs over native sands; clay at ~8–10 ft bgs functions as an aquitard. Groundwater is tidally influenced at ~5–10 ft bgs with inferred flow toward Barbadoes Basin (northwest).
- CVOCs (PCE, TCE, cis-/trans-DCE, VC) were detected at concentrations exceeding protection of groundwater SCOs mainly in the central portion of the Site and at soil boring location B27; the northwestern area showed no significant CVOCs at boundary locations.
- The highest concentrations of CVOCs in soil were detected in samples collected near the clay interface (e.g., around 2SB-14/-21 and 2SB-13); detected CVOCs supported likely ongoing reductive dechlorination from existing conditions.
- Groundwater: analytical results for groundwater samples collected from monitoring wells MW-3 and MW-4 indicated low concentrations of CVOCs; the groundwater sample collected from monitoring well MW-5S indicated elevated TCE, cis-DCE, and VC relative to prior samples collected at these locations.
- The extent of CVOC-impacted soil requiring excavation was smaller than that delineated by GBTS's prior delineation; post-excavation in-situ treatment is planned per the RAWP.
- Waste characterization of planned excavation soils indicated that the material was non-hazardous in accordance with the Resource Conservation and Recovery Act (RCRA).

Several of the soil sampling locations during this investigation were removed and disposed of during the Site remediation. Remaining chlorinated volatile organic compounds (CVOCs) noted during this investigation are summarized in the following table:

**Table 2-6 – 2021/2023 Pre-Design Investigation Soil Sample Detected CVOC Concentration Range**

| CVOC | Protection of GW SCO | Concentration Range (mg/kg) | Soil Sample with Highest Concentration |
|---|---|---|---|
| cis-1,2-DCE | 0.25 | ND – 5.2 | 2SB-34 (3') |
| trans-1,2-DCE | 0.19 | ND – 0.47 | 2SB-15 (6') |
| PCE | 1.3 | ND – 160 | B19 (4') |
| TCE | 0.47 | ND – 34 | B19E (5-6') |
| VC | 0.02 | ND – 0.43 | B19W (3-4') |

2021/2023 Pre-Design Investigation soil sampling locations are shown on **Figure 5** and analytical results are shown in the data tables included in **Appendix F**.

### 2.3.8 Remedial Design Document

The remedial design was prepared by GEI and approved by NYSDEC on October 11, 2023. The approved RD included excavation of 4,200 cubic yards (CY) of impacted soil to a maximum depth aligned with the top of the clay unit from a total of 37 excavation cells. Following excavation, the design required the placement of CarBstrate™ (from ETEC, Inc.'s Advanced Bioremediation Systems [ETEC]) in the excavation cells before backfilling to enhance in-situ anaerobic bioremediation for residual impacts in the groundwater.

In addition, the RD required the installation of:

- A Site-wide cover system over areas where remaining soils contain COCs at concentrations above the Commercial Industrial SCOs to prevent exposures to remaining impacted soil.

- An SSD system below the Existing Building on the adjacent parcel (Block 16100, Lot 14).
- A vapor barrier beneath occupied areas of the new building

Although the RDD prescribed a vapor barrier below the occupied portions of the New Building, which is a self-storage building, an SSD system was also constructed under the occupied surface-level office, as described in **Section 3.3.2**. The RDD also detailed the requirements for preparing and implementing an SMP, including ongoing SSD system operation, maintenance, and monitoring (at both the New Building and Existing Building), and groundwater sampling.

### 2.3.9 Remedial Design Modification (Anchor QEA 2024a)

Anchor QEA submitted an RD Modification to NYSDEC in January 2024, proposing CarBstrate™ injection without excavation in select cells based on an analytical data review for each proposed excavation cell. Anchor QEA noted that the supporting analytical data for the COCs in specific cells was only slightly greater than the PG SCOs, and injection alone could achieve the remedial goals (in these cells) as presented in the Decision Document. Anchor QEA proposed CarBstrate™ injection without excavation in 11 cells and two half-cells as presented in the RD Modification. NYSDEC and NYSDOH reviewed and approved the RD Modification in a March 29, 2024, letter to 79 Averne Development LLC.

### 2.3.10 Supplemental Remedial Action Work Plan (Anchor QEA, May 2024)

Anchor QEA prepared a Supplemental RAWP summarizing the initial phase of the remedial action and proposed additional investigation and remedial measures to meet the intent of the NYSDEC's Decision Document (NYSDEC, August 2021). Based on the results of documentation samples collected from the terminal ends (i.e., excavation bottoms and sidewalls that did not abut other excavation cells), Anchor QEA interpreted the primary data gap as being west of Excavation Cells 9 through 12 and south of excavation cells 23 and 27. The samples collected from the western and bottom terminal limits of Cells 9 and 10 both contained CVOCs at concentrations 3 to 4 orders of magnitude greater than their respective protection of groundwater SCOs.

Anchor QEA advanced 10 additional soil borings:

- Soil borings SB-13 through SB-17 immediately west of excavation cells 9 through 12
- Soil borings SB-18 through SB-22, within and immediately south of excavation cells 23 and 27

These field activities were implemented and the results and subsequent proposed remedial activities were presented in a separate Supplemental Remedial Design as described in the following subsection.

### 2.3.11 Supplemental Remedial Design (September 2024)

During RA implementation, Anchor QEA noted that certain subsurface conditions did not align with the prior documentation presented in the RI Report (GBTS), the Pre-Design Investigation Report (GEI), and the Remedial Design Document (GEI). These discrepancies included the following:

- The existing monitoring well locations did not align with the RI Report or other existing drawings. Some monitoring wells were located up to 40 feet from the mapped locations.
- Significant amounts of masonry materials associated with former Site occupants (including intact building foundations, timber piles, building slabs, equipment pads, and process piping) in the shallow subsurface soils. The shallow subsurface conditions were inconsistent with those previously reported in the investigation documents.
- A petroleum layer (approximately 6 to 18 inches thick) was encountered in soil/fill material immediately above the clay surface in excavation cells in the central portion of the Site. The soil exhibited a petroleum-like odor but did not register total organic vapors above 10 parts per million (ppm) when screened with a photoionization detector (PID). The petroleum appeared limited to a 6- to 18-inch gravel or coarse sand layer directly above the clay.

In response to these discrepancies, Anchor QEA performed additional Site investigations to confirm that the RA was consistent with the Decision Document and RDD. The additional investigation activities included the following:

- Direct imaging supplemental investigation.
- Petroleum investigation, which included historical research and documentation review, forensic testing, and completing petroleum delineation borings.
- Post-remedial construction groundwater sampling.

The supplemental Site investigation activities and the documentation sample results which determined the nature and extent of contamination remaining in the subsurface following remediation were summarized in the Supplement RD.

Based on the nature and extent of contamination remaining in the subsurface, the Supplemental RD included requirements for installation of permanent injection wells at the Site. The injection wells were installed to allow for future reagent injection to facilitate ongoing ISCR of residual source materials not addressed by the excavation remedy.

Anchor QEA submitted a Supplemental RD to NYSDEC in September 2024, presenting the design for the installation of both the on-Site New Building and off-Site Existing Building SSD systems. NYSDEC and NYSDOH reviewed and approved the Supplemental RD on October 2, 2024.

## 2.4 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in the Decision Document dated August 2021 are as follows:

### 2.4.1 Groundwater

*RAOs for Public Health Protection*

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles from contaminated groundwater.

*RAOs for Environmental Protection*

- Restore groundwater aquifer to pre-disposal/pre-release conditions to the extent practicable.
- Remove the source of ground or surface water contamination.

2.4.2 Soil

*RAOs for Public Health Protection*

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

*RAOs for Environmental Protection*

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

2.4.3 Soil Vapor

*RAOs for Public Health Protection*

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at the Site.

## 2.5 Remaining Contamination

2.5.1 Soil

**Section 2.3** of this SMP provides a summary of the impacts encountered across the Site during the investigation and pre-design phase along with the remedial action requirements presented in the Decision Document. Following implementation of the excavation component of the remedy, documentation samples were collected for analysis of CVOCs. The following subsections describe the remaining soil contamination at the Site that will be managed by the Engineering and Institutional Controls.

*2.5.1.1 Volatile Organic Compounds*

Anchor QEA collected documentation samples from the terminal ends (i.e., excavation cell bottoms and sidewalls not abutting other excavation cells) of each excavation cell between February 26 and March 19, 2024. A total of 62 samples (excluding quality assurance/quality control [QA/QC] samples) were collected from 28 cells and submitted to Eurofins Environment Testing Northeast, LLC (Eurofins) in

Edison, NJ, for laboratory analysis. Results received for the laboratory analysis of the documentation samples are summarized below on Table 2-7.

**Table 2-7 – Summary of Documentation Soil Sample Results**

| CVOC | Protection of GW SCO[1] (mg/kg) | Number of Samples Exceeding GW SCOs | Concentration Range (mg/kg) | Soil Sample with Highest Concentration |
|---|---|---|---|---|
| cis-1,2-DCE | 0.25 | 25 of 62 | ND – 1,700 | FR-Cell09-B |
| trans-1,2-DCE | 0.19 | 15 of 62 | ND – 4.6 | FR-Cell09-W |
| PCE | 1.3 | 17 of 62 | ND – 220 | FR-Cell10-W |
| TCE | 0.47 | 28 of 62 | ND – 3,600 | FR-Cell38-B |
| VC | 0.02 | 17 to 62 | ND – 27 | FR-Cell10-B |

1. GWSCO = Soil Cleanup Objectives for the Protection of Groundwater as presented in 6 NYCRR Part 375, Table 375-6.8(b): Restricted Use Soil Cleanup Objectives

2. Sample IDs represent the cell number and sample location. E = east side of excavation sidewall; B= excavation bottom; W = west side of excavation sidewall.

**Figure 6** presents documentation soil sample locations along with analytical results showing exceedances of the GWSCOs. **Table 2-8** presents key documentation sampling results, and attached **Table 1** presents all documentation sampling results.

Based on the documentation sampling results, CVOCs remain in select locations at concentrations exceeding protection of groundwater SCOs in 15 samples collected from the clay layer at the bottom of the excavation cells, as well as 28 excavation sidewall samples, also collected from the clay layer.

Based on the soil sample characterization from petroleum delineation soil borings, petroleum-impacted soil remains beyond the limits of the remedial excavation. The residual petroleum appears to be heavily weathered and does not appear to have an impact on dissolved phase groundwater chemistry (based on the groundwater sampling data discussed below).

As indicated on **Figure 6**, documentation samples collected from the following locations contained CVOCs at concentrations of three or more orders of magnitude greater than protection of groundwater SCOs:

**Table 2-8 – Key Documentation Sampling Results**

| Excavation Cell | Sample ID [Note 1] | CVOC Concentration (mg/kg) |
|---|---|---|
| 9 | FR-Cell09-W<br>FR-Cell09-B | TCE – 140; cis-1,2-DCE – 79<br>TCE – 9,000; PCE – 47; cis-1,2-DCE – 1,700 |
| 10 | FR-Cell10-W<br>FR-Cell10-B | PCE – 220; TCE – 1,500<br>cis-1,2-DCE – 440 |
| 15 | FR-Cell15-B | TCE – 56; cis-1,2-DCE – 460; VC – 8.4 |
| 23 | FR-Cell23-E<br>FR-Cell23-B | TCE – 240<br>TCE – 79; cis-1,2-DCE – 27 |
| 38 | FR-Cell38-B | PCE – 99; TCE – 3,600; cis-1,2-DCE – 250 |

1. Sample IDs represent the cell number and sample location. E = east side of excavation sidewall; B= excavation bottom; W = west side of excavation sidewall.

Attached **Table 1** and **Figure 6** summarize documentation sample results exceeding the Commercial Use SCOs and the Protection of Groundwater SCOs at the Site after the completion of the remedial action.

*2.5.1.2 Semi-Volatile Organic Compounds, Metals, PCBs and PFAS*

During the investigation phase, subsurface soils located outside the excavation and in-situ treatment areas were determined to contain concentrations of select semi-volatile organic compounds (primarily polycyclic aromatic hydrocarbons, or PAHs), target analyte list metals, polychlorinated biphenyls (PCBs) and per- and polyfluoroalkyl substances (PFAS) that exceed the Commercial Use SCOs. As described in **Section 2.2.2**, the upper 5 to 15 feet of soils at the Site were characterized as historic fill materials, and the detected SVOCs and metals are consistent with historic fill materials.

2.5.2 Groundwater

*2.5.2.1 Volatile Organic Compounds*

An initial round of post-remediation groundwater sampling was conducted on November 4, 2024. Groundwater samples were collected from the post-construction monitoring wells (PMW-1 through PMW-8) and submitted for laboratory analysis.

Groundwater analytical results indicated the presence of dichlorobenzene, dichloropropene, benzene, TCE, cis-1,2-DCE, and VC in groundwater at concentrations above Class GA standards and guidance values as presented in NYSDEC's Technical and Operational Guidance Series (TOGS) 1.1.1, titled Ambient Water Quality Standards and

Guidance Values and Groundwater Effluent Limitations (TOGS 1.1.1). Other chlorinated compounds previously reported at concentrations above TOGS 1.1.1 Class GA criteria and guidance values were not detected in groundwater samples collected during the post-RA sampling event at concentrations exceeding their respective criteria.

An additional round of groundwater sampling was conducted in April 2025. Analytical results from the second round of post-remediation groundwater sampling were generally consistent with the initial November 2024 sampling round. **Figure 7** shows the location of post-construction groundwater monitoring wells. **Table 2** summarizes the results of groundwater samples from both post-remediation sampling events compared to TOGS 1.1.1 Class GA criteria and guidance values. **Table 2-10 and Table 2-11** below summarize groundwater exceedances of TOGS 1.1.1 Class GA Standards and Guidance Values and the overall decrease in CVOCs (respectively), following completion of the remedial activities.

**Table 2-10 – Groundwater Sample TOGS 1.1.1 Exceedances**

| CVOC | TOGS 1.1.1 Class GA Std/Guidance µg/L | Number of Samples Exceeding GW SCOs | Concentration Range (µg/kg) | Groundwater Sample with Highest Concentration |
|---|---|---|---|---|
| Dichlorobenzene | 3 | 1 of 8 | ND-6.3 | PMW-4 |
| Dichloropropane | 1 | 1 of 8 | ND-10 | PMW-5 |
| benzene | 1 | 1 of 8 | ND-1.6 | PMW-3 |
| cis-1,2-DCE | 5 | 5 of 8 | ND – 51 | PMW-5 |
| TCE | 5 | 4 of 8 | ND – 7.4 | PMW-1 |
| VC | 12 | 3 of 8 | ND – 27 | PMW-3 |

**Note:**
Analytical results reflect the most recent sample collected from permanent monitoring wells on 11/4/24 and 4/14/25

**Table 2-11 – Comparison of CVOCs in Groundwater Before and After Remediation**

| | Pre-Remediation (2017 – 2019) | | Post Remediation (2025) | |
|---|---|---|---|---|
| Compound of Concern | Maximum Concentration (ug/L) | Monitoring Well ID | Range of Detected Concentrations (ug/L) | Monitoring Well ID with Highest Concentration |
| cis-1,2-Dichloroethene | 14,000 | MW-2S | 1.3 - 51 | PMW-5 |
| Tetrachloroethene | 140 | MW-1S | 0.66 – 3.3 | PMW-5 |
| Trichloroethene | 19,000 | MW-2S | 1.6 - 6.4 | PMW-5 and PMW-6 |
| Vinyl chloride | 1,800 | B26W | 0.12 - 12 | PMW-3 |

*2.5.2.2 Semi-Volatile Organic Compounds, Metals, PCBs and PFAS*

During the investigation phase, select PAHs (specifically benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, and chrysene) were detected in groundwater samples. The highest concentrations of PAHs were reported from location B-11 (located in the southeast corner of the Site). The concentrations of PAHs detected at B-11, which represented the most upgradient groundwater sample collected during the investigation phase, were 1 – 2 orders of magnitude higher than the PAHs detected in the downgradient sample locations.

Metals detected in Site groundwater were indicative of the Site's proximity to a marine environment as well as the presence of historic fill materials within the saturated soils. Magnesium and sodium were detected in the groundwater samples at concentrations up to 270 mg/L and 2,300 mg/L, respectively. Other metals detected at concentrations above the Class GA criteria were arsenic (maximum detected concentration of 1.1 mg/L); selenium (maximum detected concentration of 0.115 mg/L); manganese (maximum detected concentration of 0.52 mg/L); and iron (maximum concentration of 9.3 mg/L).

2.5.3 Soil Vapor

Post-remediation soil vapor samples were not collected. However, indoor air sampling was conducted in both the New and Existing Buildings as described in the following subsections.

*2.5.3.1 Initial Round of Post-Remediation Indoor Air Sampling*

Per the Decision Document and NYSDEC-approved RDD (GEI , 2023), a vapor barrier was installed under occupied first-floor spaces in the New Building (i.e., the ground floor office area, stairwells, the elevator shafts, and the tank room in the northeast corner of the building), and SSDSs were installed under the off-Site Existing Building (Lot 14) and the occupied ground-level office space in the on-Site New Building being a self-storage building (Lot 18). The SSDS construction details are described in **Section 3.3.2**.

EnviroTrac conducted indoor air sampling on Sunday, April 13, 2025, outside of regular business hours, following installation of the SSD Systems in the New Building and the Existing Building. Prior to sampling, EnviroTrac completed the New York State Department of Health (NYSDOH) Indoor Air Quality Questionnaires and Building Inventory Forms for both the industrial building and the new self-storage facility. An indoor air sampling memorandum, including the completed questionnaires and chemical inventories for both buildings is provided in **Appendix G**.

As noted in the chemical inventory table, several products stored and used by the current tenants of the Existing Building contain VOCs. The chemical products used by these tenants (including but not limited to paint thinners, glues, and degreasers) can contribute to indoor air VOC levels independently of any subsurface vapor intrusion.

EnviroTrac collected each indoor air samples using a SUMMA vacuum canister at a total of nine locations: seven within the Existing Building (IA-1 through IA-7), one in New Building (IA-8), and one outdoor air on-Site location for background comparison (OA-1). A blind duplicate sample was collected at location IA-1 to support quality assurance/ quality control. Air monitoring sampling locations, field logs, and tabulated analytical data are presented in **Appendix G** and shown on **Figure 8**.

Samples were submitted to Pace Laboratories in Mansfield, Massachusetts, for analysis of VOCs using EPA Method TO-15 and TO-15 Selected Ion Monitoring (SIM). Analytical results were independently validated by Environmental Data Services, Inc., based in Palm Beach Gardens, Florida. The Data Usability Summary Report (DUSR) for indoor air monitoring is provided in **Appendix G**, along with an Indoor Air Sampling Data Sheet and Indoor Air Monitoring Results tables for both the Existing Building and New Building.

Chlorinated VOCs previously identified during the remedial investigation, including PCE, TCE, and vinyl chloride, were not detected in indoor air samples at concentrations of concern. While several VOCs were detected, most can be attributed to current or legacy building contents or materials rather than subsurface sources.

At sample location IA-8 (located in the office area of the New Building), trans-1,2-DCE was detected at a concentration of 73.7 micrograms per cubic meter (ug/$m^3$). Based on the presence of the vapor barrier, results of the pressure field extension test (**Section 4.3**), and the fact that trans-1,2-DCE was not detected in soil vapor or sub-slab vapor samples, the detection of trans-1,2-DCE was likely associated with the application of spray foam insulation which was performed prior to the indoor air sampling as part of the facility construction. Trans-1,2-DCE is used as a reactive ingredient in polyurethane spray foam insulation. Field personnel noted fresh spray foam application and a spray foam contractor truck in the ground-floor parking area of the New Building during the indoor air sampling.

Carbon tetrachloride was identified at low levels across multiple indoor locations, including in outdoor air—suggesting a likely ambient or background origin. Carbon tetrachloride was not detected in prior sub-slab samples.

### *2.5.3.2 Additional Indoor Air Sampling at Location IA-8*

Because trans-1,2-dichloroethene was detected in indoor air sample IA-8 at an elevated concentration, NYSDOH and NYSDEC requested an additional sample be collected at the same location (i.e., in the New Building ground floor office area). EnviroTrac collected additional indoor air samples on November 3, 2025. Two air samples (sample IA-8 and a duplicate) were collected inside the office area of the new self-storage building using SUMMA vacuum canisters. A blind duplicate sample was collected at location IA-8 to support validation of the analytical results.

Samples were submitted to Pace Laboratories in Mansfield, Massachusetts, for VOC analysis using EPA Method TO-15 and TO-15 SIM. Environmental Data Services, Inc. in Palm Beach Gardens, Florida validated the analytical results. The additional air monitoring sampling location, field log, tabulated analytical data, and DUSR are presented in **Appendix G** and shown on **Figure 8**.

# 3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

## 3.1 General

Since remaining contamination exists at the Site, Institutional Controls (ICs) and Engineering Controls (ECs) are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the Site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC project manager.

This plan provides:

- A description of all IC/ECs on the Site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the controls to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs, such as the implementation of the Excavation Work Plan (EWP) (as provided in **Appendix C**) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the Site; and
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the Site remedy, as determined by the NYSDEC project manager.

## 3.2 Institutional Controls

A series of ICs is required by the Decision Document to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the Site to commercial or industrial uses only. The Environmental Easement requires adherence to these Site ICs. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The IC boundaries are the same as the BCP limits, as shown on **Figure 3**. These ICs are:

- The property may be used for: commercial or industrial use;
- All ECs must be operated and maintained as specified in this SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP;
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the NYCDOHMH to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to Site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;
- Access to the Site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement;
- The potential for vapor intrusion must be evaluated for any buildings developed in the area within the BCP boundaries noted on **Figure 2**, and any potential impacts that are identified must be monitored or mitigated;
- Vegetable gardens and farming on the Site are prohibited; and
- An evaluation shall be performed to determine the need for further investigation and remediation should large-scale redevelopment occur, if any of the existing structures is demolished, or if the subsurface is otherwise made accessible.

## 3.3 Engineering Controls

Engineering controls installed as part of the Site remediation consist of:

- Site cover system

- Sub-slab depressurization systems (SSDSs)
- In-situ chemical reduction (i.e., CarBstrate$^{TM}$) injection wells
- Groundwater monitoring wells

Descriptions of these engineering controls are presented in the following subsections. Engineering Control locations are indicated on **Figure 9**.

### 3.3.1 Site Cover System

Exposure to remaining soil contamination at the Site is prevented by a cover system placed over the Site. The cover system is comprised of a minimum of 12 inches of clean imported fill over a demarcation layer or other materials and components that are part of the tangible property or placed as part of Site redevelopment (i.e., the new building slab, permeable pavers). Soil cover material, including any fill material brought to the Site, meets the lower of the Commercial Use SCOs and the Protection of Groundwater SCOs as set forth in 6 NYCRR Part 375-6.7(d).

**Figure 9** presents the location of the cover system and applicable demarcation layers. The EWP provided in **Appendix C** outlines the procedures required to be implemented if the cover system is breached, penetrated, or temporarily removed.

Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP; a generic HASP is included as **Appendix H**) and associated Community Air Monitoring Plan (CAMP; **Appendix I**) prepared for the Site. Any breach of the Site's cover system must be overseen by a PE who is licensed and registered in New York State or a qualified person who reports directly to a PE who is licensed and registered in New York State.

### 3.3.2 Sub-Slab Depressurization Systems

As indicated above, two SSD systems were installed in connection with this project. One is located beneath the Existing Building on Lot 14, and the other is beneath the ground-floor occupied office area of the New Building. SSD system installation reports, for both the Existing Building and the New Building, including as-built drawings signed and sealed

by a PE who is licensed and registered in New York State, indicating the system layouts, are included in **Appendix J**.

Based on pilot test results, two SSD Systems were designed to mitigate the potential for vapor intrusion into the indoor air in the Lot 14 Existing Building and the New Building on Lot 18.

The Existing Building Lot 14 SSD system comprises:

- 15 sub-slab extraction points (SSD-1 through SSD-15)
- Piping from the extraction points manifold into one of three main headers
- A local visual/audible alarm is connected to each header to alarm when the blower is not creating a sufficient vacuum
    - At each alarm location a sign is posted directing the tenants to contact the property manager (Abingdon Capital) should the alarm be triggered.
    - In January 2026 a remote alarm monitoring system will be installed to monitor the status of the three (3) existing SSDS vacuum blower fans via preset analog vacuum levels at each system piping header and system electrical power status provide notifications to the property manager when the alarm is triggered. EnviroTrac Ltd will install Sensaphone Sentinel Monitoring System with cellular connectivity to provide this monitoring capability.
- Each header is connected to one of three exterior roof-mounted blowers (B-1 through B-3).
- 15 vacuum monitoring points (VMP-1 through VMP-15) were installed to facilitate vacuum pressure monitoring as part of ongoing SSDS O&M activities.

The New Building Lot 18 SSD system comprises:

- Two sub-slab extraction points (SSD-1 and SSD-2)
- Piping from the extraction points manifold into one main header

- A local visual/audible alarm connected to the header to alarm when the blower is not creating a sufficient vacuum
    - At the alarm location a sign is posted directing the tenants to contact the property manager (Abingdon Capital) should the alarm be triggered.
    - In January 2026 a remote alarm monitoring system will be installed to monitor the status of the SSDS vacuum blower fan via preset analog vacuum levels at each system piping header and system electrical power status and provide notifications to the property manager when an alarm is activated. EnviroTrac Ltd will install Sensaphone Sentinel Monitoring System with cellular connectivity to provide this monitoring capability. Alternatively, the building owner may elect to modify the existing alarm unit switch output to route the alarm notifications through the existing building management system panel (which is currently programmed to notify the property manager when building alarms are activated)
- The manifold pipe connecting to one exterior roof-mounted blower (B-1).
- Two vacuum monitoring points (VMP-1 and VMP-2) installed to facilitate vacuum pressure monitoring as part on-going SSDS O&M activities.

The extraction points were selected based on the pilot study results and a visual assessment of the buildings' interiors. Where practical and to protect the extraction piping, the vertical extraction pipes were installed near existing interior building walls or columns. SSDS Installation and Startup Reports are included in **Appendix J**. The PE's certification and as-built drawings for the installed SSD systems were performed by EnviroTrac Ltd as a subconsultant to Anchor QEA. Stamped and sealed as-built drawings for the two SSD systems are also presented in **Appendix J**.

Procedures for operating and maintaining the SSD systems are documented in the Operation and Maintenance Manuals (**Section 5.0** and **Appendix K** of this SMP).

### 3.3.3 CarBstrate™ Injection System

To facilitate the ongoing degradation of CVOCs in the clay layers and groundwater, a series of 10 injection wells (IW-1 through IW-10, "Injection System") was installed to deliver CarBstrate™ to targeted areas on Site, as detailed in the Supplemental Remedial Action Work Plan. This system facilitates the addition of a reagent that will support the ongoing reductive dechlorination of remaining CVOCs on an as-needed basis, as determined by long-term groundwater monitoring data. Injection well construction logs are included in **Appendix E**.

### 3.3.4 Long-Term Groundwater Monitoring Well Network

A series of eight new groundwater monitoring wells (monitoring wells PMW-1 through PMW-8) were installed at the Site to facilitate periodic, long-term groundwater monitoring upgradient, on-Site and downgradient groundwater conditions at the Site. The network of on-Site wells was designed based on the following:

- PMW-1 was installed downgradient of the areas with remaining CVOCs, adjacent to Barbadoes Basin and injection well 1 (IW-1)
- Two monitoring wells, PMW-2 and PMW-4, were installed downgradient of the center of the remedial system, the excavation area, and primary injection wells (IW2 – IW10).
- Two monitoring wells, PMW-3 and PMW-5, were installed immediately west of the remedial excavation area and primary injection wells (IW2 – IW10). PMW-3 was damaged while installing site drainage. PMW-3 was reinstalled on October 20, 2025.
- Two monitoring wells, PMW-6 and PMW-7, were installed within the remedial excavation area and primary injection wells (IW2 – IW10).
- One monitoring well, PMW-8, was installed upgradient of the remedial excavation area and primary injection wells (IW2 – IW10). This monitoring well was sampled during the initial post-construction monitoring event but was

damaged during building construction. PMW-8 was reinstalled on October 20, 2025.

Each new monitoring well was installed approximately 6 inches into the top of the clay unit. Each new monitoring well consists of a 2-inch-diameter solid polyvinyl chloride (PVC) well casing with 5-foot-long, 10-slot (0.010-inch slot size) well screens. Monitoring well construction logs are included in **Appendix E**.

Post-remediation groundwater monitoring and sampling will be conducted as described in **Section 4.5**. The groundwater monitoring well network is indicated on **Figure 7**.

### 3.3.5 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the RAOs identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10. Unless waived by the NYSDEC, confirmation samples of applicable environmental media are required before terminating any remedial actions at the Site. Confirmation samples require Category B deliverables and a Data Usability Summary Report (DUSR).

As discussed below, the NYSDEC may approve termination of a groundwater monitoring program. When a remedial party receives this approval, the remedial party will decommission all Site-related monitoring, injection and recovery wells as per the NYSDEC CP-43 policy.

The remedial party will also conduct any needed Site restoration activities, such as asphalt patching and decommissioning treatment system equipment. In addition, the remedial party will conduct any necessary restoration of vegetation coverage, trees and wetlands, and will comply with NYSDEC and United States Army Corps of Engineers regulations and guidance. Also, the remedial party will ensure that no ongoing erosion occurs on the Site.

*3.3.5.1 – Cover System*

The composite cover system is a permanent engineering control, and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with this SMP in perpetuity.

*3.3.5.2 – Sub-Slab Depressurization Systems*

The SSD systems will not be discontinued unless prior written approval is granted by the NYSDEC and the NYSDOH project managers. If monitoring data indicates that the SSD system(s) may no longer be required, a proposal to discontinue the SSD system(s) will be submitted by the remedial party to the NYSDEC and NYSDOH project managers.

The associated Completion of Remediation/Termination of Remedial System Work Plan Work Plan must include soil vapor intrusion sampling to verify that the SSD system(s) operation is no longer needed and must comply with the NYSDOH Soil Vapor Intrusion Guidance.

If the NYSDEC project manager approves termination of operation and maintenance of an SSD system, the remedial party will notify the property owner and ask whether the property owner wants to keep the SSD system. If the property owner elects to keep the system, the property owner will be responsible for the operation and maintenance of the system going forward. If the property owner wants the system removed, the remedial party will remove and dispose of the system and repair any parts of the structure that were altered or modified by the SSD system, such as holes in the basement floor or walls.

*3.3.5.3 – Post Remedial Action CarBstrate™ Injection System*

The reagent injection system will be maintained and not removed or closed in place unless prior written approval is granted by the NYSDEC project manager. If monitoring data indicates that the reagent injection system is no longer required, the remedial party will submit a proposal to discontinue the system to the NYSDEC project manager. Conditions that may warrant discontinuing the injection system include contaminant concentrations in groundwater that: (1) reach levels that are consistently below ambient water quality standards or the Site SCGs, as appropriate; (2) have become asymptotic to a low level over an extended period, as accepted by the NYSDEC; or (3)

the NYSDEC has determined that the reagent injection system has reached the limit of its effectiveness. This assessment will be based in part on post-remediation contaminant levels in groundwater collected from monitoring wells located throughout the Site. Systems will remain in place and operational until permission to discontinue their use is granted in writing by the NYSDEC project manager.

*3.3.5.4 – Monitoring Wells associated with Post Remediation Injection*

Groundwater monitoring activities to assess reductive dechlorination associated with the CarBstrate™ injections will continue, as determined by the NYSDEC project manager in consultation with NYSDOH project manager, until residual groundwater concentrations are found to be consistently below ambient water quality standards, the Site SCGs, or have become asymptotic at an acceptable level over an extended period. If monitoring data indicates that monitoring for natural attenuation may no longer be required, a proposal to discontinue the monitoring will be submitted by the remedial party. Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC project manager. If groundwater contaminant levels become asymptotic at a level that is not acceptable to the NYSDEC, additional source removal, treatment and/or control measures will be evaluated.

# 4.0 MONITORING AND SAMPLING PLAN

## 4.1 General

This Monitoring and Sampling Plan describes the measures for evaluating the overall performance and effectiveness of the remedy. This Monitoring and Sampling Plan may only be revised with the approval of the NYSDEC project manager. Details regarding the sampling procedures, data quality, usability objectives, analytical methods, etc., for all samples collected as part of Site management for the Site are included in the Quality Assurance Project Plan provided in **Appendix L**.

This Monitoring and Sampling Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor, soils);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance (SCGs), particularly groundwater standards and Part 375 SCOs for soil; and
- Evaluating Site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment;

To adequately address these issues, this Monitoring and Sampling Plan provides information on:

- Sampling locations, protocol and frequency;
- Information on all designed monitoring systems;
- Analytical sampling program requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Reporting requirements are provided in **Section 7.0** of this SMP.

## 4.2 Site–Wide Inspection

Site-wide inspections will be performed a minimum of once per year. These periodic inspections must be conducted when the ground surface is visible (i.e., no snow cover). Site-wide inspections will be performed by a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State. Modification(s) to the frequency or duration of the inspections will require approval from the NYSDEC project manager. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in **Appendix M** – Site Management Forms. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including Site usage.
- An evaluation of the condition and continued effectiveness of ECs.
- General Site conditions at the time of the inspection.
- Whether stormwater management systems, such as basins and outfalls, are working as designed.
- The Site management activities being conducted, including, where appropriate, confirmation sampling and a health and safety inspection.
- Confirm that Site records are up to date.

Inspections of all remedial components installed at the Site will be conducted. A comprehensive Site-wide inspection will be conducted and documented according to the SMP schedule, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether ECs continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria; and

- If Site records are complete and up to date.

Reporting requirements are outlined in **Section 7.0** of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the Site, verbal notice to the NYSDEC project manager must be given by noon of the following day. In addition, an inspection of the Site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs implemented at the Site by a qualified environmental professional, as defined in 6 NYCCR Part 375. Written confirmation must be provided to the NYSDEC project manager within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public. The remedial party will submit follow-up status reports to NYSDEC within 45 days of the event, describing and documenting actions taken to respond to any emergency event requiring ongoing responsive action, and restoring the effectiveness of the ECs.

## 4.3 SSD System Monitoring and Sampling

Pressure field extension testing was conducted after the sub-slab depressurization system(s) start-up to demonstrate that the extent of the occupied building slab is depressurized in both the Existing Building and the New Building. Pressure field extension test results are presented in the following table:

**Table 4-1 – SSDS Pressure Field Extension Test Results**

| **Pressure Field Extension Test Results** | | | |
|---|---|---|---|
| **Vapor Monitoring Point (VMP)** | **Associated Suction Point (SP)** | **Distance from SP (ft)** | **Vacuum Reading (in $H_2O$)** |
| **Existing Building** | | | |
| VMP-1 | SSD-1 | 15 | 0.047 |
| VMP-2 | SSD-2 | 15 | 0.016 |
| VMP-3 | SSD-3 | 15 | 0.020 |
| VMP-4 | SSD-4 | 24 | 0.034 |
| VMP-5 | SSD-5 | 20 | 0.042 |

| **Pressure Field Extension Test Results** | | | |
|---|---|---|---|
| **Vapor Monitoring Point (VMP)** | **Associated Suction Point (SP)** | **Distance from SP (ft)** | **Vacuum Reading (in $H_2O$)** |
| VMP-6 | SSD-7 | 15 | 0.037 |
| VMP-7 | SSD-8 | 15 | 0.022 |
| VMP-8 | SSD-9 | 20 | 0.101 |
| VMP-9 | SSD-10 | 15 | 0.042 |
| VMP-10 | SSD-12 | 20 | 0.021 |
| VMP-11 | SSD-11 | 15 | 0.026 |
| VMP-12 | SSD-12 | 20 | 0.020 |
| VMP-13 | SSD-15 | 20 | 0.172 |
| VMP-14 | SSD-14 | 25 | 0.161 |
| VMP-15 | SSD-15 | 25 | 0.167 |
| **New Building** | | | |
| VMP-1 | SSD-1 | 15 | 0.065 |
| VMP-2 | SSD-2 | 9 | 0.058 |

**Notes:**
Minimum vacuum goal at each VMP: ≥0.02"

Additionally, as described in **Section 2.5.3**, post-mitigation indoor air analytical sampling was conducted in both the Existing Building and the New Building. The indoor air sampling in the New Building was conducted after the building air handling system was in place and operating.

The remedial party will conduct exterior inspections of each SSD system monthly, and perform comprehensive inspections annually. Exterior inspections will include: confirming that the fan is running correctly, determining whether there is damage to the stack or other exterior system components, and determining whether there have been structural changes, such as an addition to the structure.

Comprehensive inspections include all of the activities required in the exterior inspection and conducting an interior inspection, including: confirming a pressure differential on the manometer, inspecting the interior components for damage, recording vacuum readings from sub-slab vacuum monitoring points (if installed), and inspecting the basement area for cracks in the basement floors and walls that may have developed since the SSD system was installed. The remedial party will notify the NYSDEC project

manager about any problems within three days of inspections. Inspection reports will be emailed to the NYSDEC Project Manager and included in the next PRR. Any repairs needed will be made promptly according to the procedures in the Operation and Maintenance Plan (**Section 5**/**Appendix K**).

SSD system monitoring in both the Existing Building and the New Building will be conducted monthly, as identified on **Table 4-1** SSD System Monitoring Requirements and Schedule (see below). SSD system monitoring must be conducted by a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State. Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager. A complete visual inspection of the system will be performed during each scheduled monitoring event. Additional unscheduled inspections or sampling may also occur if a potential injection system failure is reported, or if an emergency arises that could affect system operation.

The SSD system will be monitored monthly as identified below. Modification to the monitoring frequency or sampling requirements requires approval from NYSDEC. A visual inspection of the complete system will be conducted during each monitoring event. Unscheduled inspections and/or sampling may occur when a suspected failure of the SSD system has been reported or an emergency is deemed likely to affect the system's operation. **Table 4-2** presents SSD system components to be monitored include, but are not limited to, the system blowers, meters and alarm systems.

**Table 4-2 – SSD System Monitoring Requirements and Schedule**

| Remedial System Component | Monitoring Parameters | Operating Ranges | Monitoring Schedule |
|---|---|---|---|
| Blowers | • The blower is operating correctly and free of excess noise or rattle.<br>• The blower is free of any damage or debris.<br>• The blower is generating the proper amount of flow and vacuum. | 20.1 - 25 inches of water column | Monthly |
| Extraction Points and Piping | • Extraction points are accessible, clean and not covered by debris or otherwise damaged. | NA | Monthly |

| Remedial System Component | Monitoring Parameters | Operating Ranges | Monitoring Schedule |
|---|---|---|---|
| | • System piping is clear of condensation that may have accumulated during operation | | |
| Vacuum Gauges | • Vacuum gauges are connected to the system piping and are operational.<br>• The vacuum gauge is registering the required amount of vacuum at each extraction point. | 0.03 inches of water or greater | Monthly |
| Alarms | • Alarms are operating as designed<br>• Remote system monitoring will be installed in January 2026 to provide notifications to the property manager when an alarm is triggered. | <0.25 inches of water or greater | Monthly |
| Building Slab | • No noticeable cracks, separations, or penetrations | NA | Monthly |

## 4.4 Post Remedial Action CarBstrate™ Injection System Monitoring

Monitoring of the Post Remedial Action CarBstrate ™ Injection System will be performed on a routine basis, as identified in **Table 4-2** Injection System Monitoring Requirements and Schedule (see below). The monitoring of remedial systems must be conducted by a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State. Modification to the inspection frequency requires approval from the NYSDEC project manager. A visual inspection of the complete system will be conducted during each monitoring event. Unscheduled inspections and/or sampling may occur when a suspected failure of the injection system has been reported or an emergency that is deemed likely to affect the system's operation. Injection system components to be monitored include, but are not limited to, those included in **Table 4-2** below.

**Table 4-3 – CarBstrate™ Injection System Monitoring Requirements and Schedule**

| Remedial System Component | Monitoring Parameter | Monitoring Schedule |
|---|---|---|
| Injection Point | • Surface completion is free of any damage or accumulated debris.<br>• Injection piping is free of biofouling, silt accumulation or other obstructions that may affect reagent delivery. | Prior to injections |

A complete list of components to be inspected is provided in the Inspection Checklist, provided in **Appendix M – Site Management Forms**. If any equipment readings are not within their specified operation range, any equipment is observed to be malfunctioning, or the system is not performing within specifications, maintenance and repair, per the Operation and Maintenance Plan, are required immediately.

## 4.5 Post-Remediation Groundwater Monitoring and Sampling

Groundwater monitoring will be performed to assess the remedy's performance. Any modification to the sampling frequency or requirements must be approved by the NYSDEC project manager.

Samples will be collected from the groundwater monitoring wells on a quarterly basis. Sampling locations, required analytical parameters, and schedule are provided in **Table 4-4**. Modification to the frequency or sampling requirements requires approval from the NYSDEC project manager.

**Table 4-4 – Post-Remediation Groundwater Sampling Requirements and Schedule**

| Sampling Location | Parameter | Method | Schedule |
|---|---|---|---|
| PMW-1 through PMW-8 | CVOCs | EPA Method 8260B/8260C | Quarterly |
| | Alkalinity | EPA Method 310.1 | |
| | Ammonia-Nitrogen | EPA Method 350.1 | |
| | Nitrate-Nitrogen | EPA Method 353.2 | |
| | Sulfate | EPA Method 300.0 or EPA Method 375.4 | |
| | Methane/Ethene/Ethene (low-level analysis) | RSK-175 or Modified EPA Method 8015B | |
| | Total Organic Carbon (TOC) | EPA Method 415.1 | |
| | Dissolved Iron | EPA Method 200.7 (ICP-AES) or EPA Method 200.8 (ICP-MS) | |

| Sampling Location | Parameter | Method | Schedule |
|---|---|---|---|
| | Dissolved Manganese | EPA Method 200.7 (ICP-AES) or EPA Method 200.8 (ICP-MS) | |

Sample collection and analytical procedures and protocols are provided in **Appendix L – Quality Assurance Project Plan**.

Analytical results from each groundwater monitoring event should be sent to ETEC to evaluate the potential need for additional CarBstrate™. EDDs should be submitted to NYSDEC following each groundwater monitoring event, presenting analytical results along with ETEC's recommendations.

Monitoring well construction details, including the wells' identification numbers, location, depths, diameter and screened well intervals are summarized below on **Table 4-4**. As part of the groundwater monitoring, one upgradient well, two on-Site wells, two side gradient wells, and three downgradient wells will be sampled to evaluate the effectiveness of the remedial action and ongoing natural attenuation. The remedial party will measure the depth of the water table for each monitoring well in the network before sampling.

**Table 4-5 – Monitoring Well Construction Details**

| Monitoring Well ID | Well Location | Coordinates | | Elevation (above mean sea level) | | | |
|---|---|---|---|---|---|---|---|
| | | Northing | Easting | Inner Casing | Outer Casing | Screen Top | Screen Bottom |
| PMW-1 | Downgradient | 154837.44 | 1038382.68 | 5.49 | 5.65 | 2.99 | -3.99 |
| PMW-2 | Downgradient | 154765.07 | 1038372.31 | 6.22 | 6.42 | 4.22 | -0.78 |
| PMW-3R | Side Gradient | 154604.73 | 1038344.55 | 7.50 | 7.78 | 5.50 | -0.50 |
| PMW-4 | Downgradient | 154758.35 | 1038425.64 | 6.93 | 7.21 | 4.93 | -0.07 |
| PMW-5 | Side Gradient | 154715.34 | 1038354.02 | 5.84 | 6.2 | 3.84 | -1.16 |
| PMW-6 | Self-Storage Bldg | 154712.31 | 1038401.99 | 7.72 | 8.03 | 5.72 | 0.72 |
| PMW-7 | Self-Storage Bldg | 154703.71 | 1038437.12 | 7.67 | 8.06 | 5.67 | 0.67 |
| PMW-8R | Upgradient | 154514.36 | 1038404.02 | 6.98 | 7.13 | 2.98 | -3.98 |

Notes:
PMW-3R and PMW-8R are replacement wells installed in October 2025.
Each well was constructed using 2-inch diameter PVC
Northings and Eastings are relative to North American Datum of 1983 (NAD 83)
Elevations are relative to North American Vertical Datum of 1988 (NAVD 88)

Monitoring well construction logs are included in **Appendix E**.

If biofouling or silt accumulation occurs in the on-Site and/or off-Site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC project manager will be notified prior to any repair or decommissioning of any monitoring well for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent Periodic Review Report. Well decommissioning without replacement will be done only with the prior approval of the NYSDEC project manager. Well abandonment will be performed in accordance with NYSDEC's guidance entitled "CP-43: Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be replaced in kind in the nearest available location, unless otherwise approved by the NYSDEC project manager.

The sampling frequency may only be modified with the approval of the NYSDEC project manager. This SMP will be modified to reflect changes in sampling plans approved by the NYSDEC project manager.

### 4.5.1 Groundwater Sampling to Evaluate Injection Effectiveness

Two rounds of groundwater sampling were conducted following the initial CarBstrate™ application to evaluate the reagent's effectiveness in treating the residual CVOCs in the clay layer and groundwater. Anchor QEA sampled each monitoring well (i.e., PMW-1 through PMW-8) during the initial round of groundwater sampling in November 2024. EnviroTrac conducted a subsequent round of groundwater sampling in April 2025 for the parameters listed above in **Table 4-3**. Modifying the frequency or sampling requirements requires approval from the NYSDEC project manager.

Deliverables for the groundwater monitoring program are specified in **Section 7.0** – Reporting Requirements.

## 4.6 Waste Management

The remedial party will properly dispose of all wastes generated by the remedial system at off-Site disposal facilities according to local, state and federal laws and regulations. Wastes will be characterized before disposal to comply with the permit conditions of the disposal facility. Wastes generated at this Site include: disposable sampling materials (tubing, personal protective equipment, purge water, etc.). Waste materials will be placed in new New York State Department of Transportation-certified open-top 55-gallon drums and properly labeled. Based on the waste characterization conducted during Site remediation, the generated materials will be disposed of as non-hazardous to an appropriate Subtitle D or municipal landfill.

# 5.0 OPERATION AND MAINTENANCE PLAN

## 5.1 General

This Operation and Maintenance Plan provides a brief description of the measures necessary to operate, monitor and maintain the mechanical components of the remedy selected for the Site. This Operation and Maintenance Plan:

- Includes the procedures necessary to allow individuals unfamiliar with the Site to operate and maintain the SSD and CarBstrate$^{TM}$ injection systems;
- Will be updated periodically to reflect changes in Site conditions or the manner in which the SSD and CarBstrate$^{TM}$ systems are operated and maintained.

Further detail regarding the Operation and Maintenance of the SSD system is provided in **Appendix K** – Operation and Maintenance and Monitoring Manual. A copy of this Operation and Maintenance Manual, along with the complete SMP, is to be maintained at the Site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of this SMP.

## 5.2 SSD System Performance Criteria

The SSD System performance criteria are presented below in **Table 5-1**.

**Table 5-1 – SSD System Performance Criteria**

| System Component | Monitoring Parameters | Operating Range[1] | Monitoring Schedule |
|---|---|---|---|
| Extraction Points | Flow Rate | 20.1 - 25 inches of water column | Annually |
| Vacuum monitoring points | Vacuum | 0.03 inches of water or greater | Annually |

1. Operating range based on the results of the SSD System pilot test performed by EnviroTrac Engineering P.E. P.C and presented in their *Subslab Depressurization System Pilot Study Report* (EnviroTrac Engineering 2024a).

## 5.3 Operation and Maintenance of the Sub-Slab Depressurization Systems

The following sections describe the operation and maintenance of the SSD systems. Cut sheets and as-built drawings for the SSD systems are provided in **Appendix J** – SSD System Installation Reports.

### 5.3.1 System Start-Up and Testing

*Pre-Startup*

Prior to the safe and successful startup of the SSD system, evaluate and document the following conditions:

- **Electrical Service:** Visually confirm that the electrical service connection is switched OFF at the system circuit breaker in the electrical service distribution panel. Confirm that the blower power switches are in the OFF position. Before any repairs or modifications to the system, the electrical service should be disconnected using the lock out/tag out procedures and only be conducted by qualified personnel.
- **System Installation:** Assess the SSD system components and document that the components are installed per the SSD system design and are free from damage or obstructions that could impede their operation as designed, including the blowers, piping, depressurization points, and all instrumentation. Defects or damage to the SSD System should be repaired or replaced prior to the startup of the system.
- **Electrical connections:** Visually assess the connections to document that the SSD system components are connected to the electrical service and that electrical components are free of any damage, defects or accumulated debris; and confirm that the SSD system components are connected to electrical service that meets the voltage requirements as specified in the SSD system design documents.
- **Discharge Stack:** Confirm the system discharge stack is not obstructed or blocked with debris that might cause unacceptable back pressure on the system.
- **Other Piping:** Confirm piping, including extraction system piping and condensation bypass piping, is free of blockage or damage.

*System Startup*

The SSD system start-up procedure is presented below. This procedure should be conducted after the pre-startup items above have been assessed and confirmed.

1. Confirm the blower is operating correctly and note if there is noise. Check the inlet vacuum and confirm the vacuum is within the normal operating range of the installed blower. Normal operating vacuum should range from 0 - 2.0 inches of water column which can be read using the manometer located at the blower inlet. If the blower is not operating correctly, unplug the blowers and make the proper repairs.
2. Once the blowers are operating, note the operating vacuum at the extraction blower using the manometer. This reading will be used as a baseline to determine if the system is operating correctly in the future.
3. Monitor pressure-field extension by collecting vacuum readings from each vacuum monitoring point.

The system testing described above will be conducted if, or when the SSD system goes down (due to power outages, maintenance, or repair), or significant changes are made to the system such that the system must be restarted.

### 5.3.2 Routine System Operation and Maintenance

**Table 5-2** below provides a summary and schedule of routine maintenance.

**Table 5-2 - SSD System Monitoring Requirements and Schedule**

| Remedial System Component | Monitoring Parameters | Monitoring Schedule |
|---|---|---|
| Blowers | • The blower is operating correctly and free of excess noise or rattle.<br>• The blower is free of any damage or debris.<br>• The blower is generating the proper amount of flow and vacuum. | Monthly |
| Extraction Points and Piping | • Extraction points are accessible, clean and not covered by debris or otherwise damaged.<br>• System piping is clear of condensation that may have accumulated during operation | Monthly |

| Remedial System Component | Monitoring Parameters | Monitoring Schedule |
|---|---|---|
| Gauges | • Vacuum gauges are connected to the system piping and are operational.<br>• Vacuum gauge is registering required amount of vacuum at each of the extraction points. | Monthly |
| Alarms | • Alarms are operating as designed | Monthly |

### 5.3.3 Non-Routine Operation and Maintenance

1. If the system fails to operate or alarms are triggered, the following non-routine operation and maintenance activities should be performed: Confirm that the system is connected correctly to the power supply and that electrical service is not compromised or diverted from the SSD system.
2. Visually inspect discharge stacks and confirm that there are no obstructions or blockages.
3. Visually inspect the piping from the extraction points to the discharge stacks to confirm that it has not been damaged or otherwise compromised.
4. Confirm the system piping has not accumulated condensation fluids during operations. If condensation has accumulated within the piping, power down the system and allow the condensation to drain back to the extraction point(s).

If any system damage has been noted or the alarm warning device is sounding, building tenants will be instructed to immediately contact the owner, who will then contact the consultant retained by the Remedial Party for assistance and/or to schedule any system maintenance.

### 5.3.4 System Monitoring Devices and Alarms

The SSD systems have alarms to indicate that the systems are not operating correctly and currently have signage directing the tenants to contact the property manager if an alarm is triggered. As previously discussed, the SSD system alarms will be connected to a remote monitoring system to allow for phone notifications to the property manager in the event an alarm is activated. If the warning device is activated, applicable

maintenance and repairs will be conducted, as specified in the Operation and Maintenance Plan, and the SSD system will be restarted. NYSDEC and NYSDOH project managers must be notified if the alarm condition is not resolved within 48 hours. Operational problems will be noted in the Periodic Review Report to be prepared for that reporting period.

# 6.0 PERIODIC ASSESSMENTS/EVALUATIONS

## 6.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climatic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given Site and associated remedial systems. Climate Screenings can identify potential impacts to Site or remedy and are used to determine if a full-scale Climate Vulnerability Assessment (CVA) is necessary. CVAs provide an in-depth evaluation of climate hazards and impacts and present adaptation measures to ensure that remedial systems are resilient.

This section provides a discussion of the Climate Screening and, if necessary, a CVA that evaluates the vulnerability of the Site and/or engineering controls to impacts related to potential changes in identified climate hazards. This section also identifies vulnerability assessment updates that will be conducted for the Site in Periodic Review Reports.

- **Flood Plain:** Based on the Flood Insurance Rate Map issued by the Federal Emergency Management Agency (FEMA), the Site is located within the 100-year floodplain (FEMA 2007). The New York City Flood Hazard Mapper classifies the Site and adjacent Lot 14 (where the SSD system will be installed) as Flood Zone AE with a base flood elevation of 10 feet above mean sea level (New York City Planning 2024). Following flood events, the engineering controls should be assessed to confirm that the systems operate as intended.
- **Sea Level Rise:** The Site's northern boundary is Barbadoes Basin, and the Rockaway spit is part of the network of barrier islands that comprise the south shore of Long Island (Tanski 2012). As a barrier island, the Rockaway spit is susceptible to sea level rise or storm surge events (e.g., Super Storm Sandy), as well as shoreline erosion. Following storm surge events, the engineering controls should be assessed to confirm the systems are operating as intended.

- **Site Drainage and Storm Water Management:** Following redevelopment, most of the Site will be covered with the Site building or porous pavement. The existing stormwater outfall into Barbadoes Basin will remain unchanged from pre-development conditions. Additional drainage structures that connect to infiltration-based stormwater retention systems will be installed as part of the Site redevelopment.
- **Erosion:** Following completion of the Site redevelopment, the majority of the Site will paved or covered with the Site building. As part of the Site restoration, a tidally influenced wetland will be created along the northern edge of the Site. This wetland area has been designed to withstand inundation. Based on the Site redevelopment plan, erosion is not anticipated to be an issue should there be increased flooding or rain events due to climate change.
- **High Wind Events** (Hurricanes, Nor'easters, or other high wind events): The redeveloped Site is not anticipated to be susceptible to damage from high wind events.
- **Electrical Service:** Power loss and/or fluctuations in voltage as a result of climate-induced storms or regional electrical system overload could impact the operation of the SSD System.
- **Spill/Contaminant Release:** The Site will be used for a New Building, a commercial self-storage facility, and the off-Site Existing Building, with both buildings now having an installed and operational SSD System. No liquids or regulated materials would be stored at the Site, as part of the long-term remedy, that pose a spill release.

## 6.2 Green Remediation Evaluation

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program, including Site management, to improve the sustainability of the cleanup and summarize the net environmental benefit of any implemented green technology. This section provides an environmental footprint analysis of the remedy, as implemented at the time of this SMP. This section of the SMP also provides a summary of green remediation evaluations to be

completed for the Site during Site management and reported in Periodic Review Reports (PRRs).

- **Waste Generation:** Waste materials (e.g., liquids, PPE, disposable materials) are expected to be generated during periodic groundwater sampling events.
- **Energy usage:** As presented in **Appendix J**, there are two SSD systems.
    - System 1 consists of
        - 15 total suction points (SSD-1 through SSD-15), each 4-inch diameter suction pit through the first-floor slab. Suction points are manifolded into three operating zones (five suction points per zone).
        - Each zone has its own vacuum fan/blower, instrumentation, and associated piping (three blowers total – each Obar Systems GBR-76UD).
    - System 2 consists of:
        - Two suction points (SSD-1 and SSD-2), each 4-inch diameter, located in the office space, connected to a common header/riser. Piping is manifolded into one riser prior to exiting the building..
        - One roof-mounted vacuum fan/blower: RadonAway GX4
    - Assumptions:
        - 24/7 operation = 8,760 hours/year (hr/yr)
        - Existing Building blowers operate on 220 Volt (V) input voltage; New Building blower operated on 110V
        - Obar Systems GBR-76UD indicates that at 220V each blower will draw 800-1,100 Watts (W)
        - RadonAway GX4 indicates that at 110V the blower will draw 2.3 amps (A) at 110 V this is 252 W or 0.252 kW
    - Annual Energy Usage Calculation:
        - kWh/yr = kW * hours/year

  - System 1:
    - Per blower: 0.800 to 1.100 kW * 8,760 hr/yr = 7,000 kWh/yr to 9,636 kWhr/yr
    - Total: Three Blowers = 21,024 to 28,908 kWh/yr
  - System 2:
    - 0.252 kW * 8,760 hr/yr = 2,207 kWhr/yr
  - **TOTAL = 23,231 kWhr/yr to 31,115 kWhr/yr**

- **Emissions:** Stack samples were not collected following SSDS installation. Additionally, sub slab vapor and soil vapor samples collected during site investigation activities focused only on the northeast corner of the Existing Building. Therefore, sufficient data is currently not available to estimate or assess annual emissions from the SSD system. An increase in carbon dioxide emissions is anticipated, related to travel to the Site monthly for inspections, quarterly for groundwater sampling, and annual Site visits. A more local consulting firm (EnviroTrac) is expected to take over operation and maintenance responsibilities for the site which will reduce the travel-related carbon dioxide emissions.
- **Water usage:** Potable water usage increases are anticipated during future CarBstrate™ injection events. Additional CarBstrate™ injection may be necessary to meet remedial goals. The previous CarBstrate™ injection consisted of injecting 8,610 pounds of CarBstrate™ at a one-pound CarBstrate™ to one-gallon water slurry (i.e., 8,610 gallons of water). A regular schedule of CarBstrateTM injection is not anticipated. Additional CarBstrate™ injection will be determined based on quarterly groundwater monitoring results to be reviewed by ETEC as described in **Section 4.5**.
- **Land and/or ecosystems:** The Site redevelopment includes the restoration of tidal wetlands at the northern portion of the Site, which will add new greenspace in areas that are heavily urbanized with little to no vegetation.

### 6.2.1 Timing of Green Remediation Evaluations

For major remedial system components, green remediation evaluations and corresponding modifications will be undertaken as part of a formal Remedial System Optimization (RSO), or at any time that the NYSDEC project manager feels appropriate, (e.g. during significant maintenance events or in conjunction with storm recovery activities).

Modifications resulting from green remediation evaluations will be routinely implemented and scheduled to occur during planned/routine operation and maintenance activities after approval from the DER project manager. Reporting of these modifications will be presented in the PRR.

### 6.2.2 Remedial Systems

Remedial systems will be operated properly considering the current Site conditions to conserve materials and resources to the greatest extent possible. Consideration will be given to operating rates and use of reagents and consumables. Spent materials will be sent for recycling, as appropriate.

### 6.2.3 Frequency of System Checks, Sampling and Other Periodic Activities

Transportation to and from the Site, use of consumables in relation to visiting the Site in order to conduct system checks and/or collect samples, and shipping samples to a laboratory for analyses have direct and/or inherent energy costs. The schedule and/or means of these periodic activities have been prepared so that these tasks can be accomplished in a manner that does not impact remedy protectiveness but reduces the expenditure of energy or resources.

### 6.2.5 Metrics and Reporting

As discussed in **Section 7.0** and as shown in **Appendix M** – Site Management Forms, information on energy usage, solid waste generation, transportation and shipping, water usage and land use and ecosystems will be recorded to facilitate and document consistent implementation of green remediation during Site management and to identify corresponding benefits. A set of metrics has been developed and will be evaluated over time to ensure that green remediation actions are achieving the desired results.

## 6.3 Remedial System Optimization

A Remedial System Optimization (RSO) study will be conducted any time that the NYSDEC project manager or the remedial party requests in writing that an in-depth evaluation of the remedy is needed. An RSO may be appropriate if any of the following occur:

- The remedial actions have not met or are not expected to meet RAOs in the time frame estimated in the Decision Document;
- The management and operation of the remedial system is exceeding the estimated costs;
- The remedial system is not performing as expected or as designed;
- Previously unidentified source material may be suspected;
- Plume shift has potentially occurred;
- Site conditions change due to development, change of use, change in groundwater use, etc.;
- There is an anticipated transfer of the Site management to another remedial party or agency; and
- A new and applicable remedial technology becomes available.

An RSO will provide a critique of a Site's conceptual model, give a summary of past performance, document current cleanup practices, summarize progress made toward the Site's cleanup goals, gather additional performance or media specific data and information and provide recommendations for improvements to enhance the ability of the present system to reach RAOs or to provide a basis for changing the remedial strategy.

The RSO study will focus on overall Site cleanup strategy, process optimization and management with the intent of identifying impediments to cleanup and improvements to Site operations to increase efficiency, cost effectiveness and remedial time frames. Green remediation technology and principles are to be considered when performing the RSO. A Remedial System Optimization Table of Contents is included in **Appendix O**.

# 7.0. REPORTING REQUIREMENTS

## 7.1 Site Management Reports

All Site management inspection, maintenance, and monitoring events will be recorded on the appropriate Site management forms provided in **Appendix M**. These forms are subject to NYSDEC revision. All Site management inspection, maintenance, and monitoring events will be conducted by a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the Site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of **Table 7-1** and summarized in the Periodic Review Report.

**Table 7-1: Schedule of Interim Monitoring/Inspection Reports**

| Task/Report | Reporting Frequency* |
|---|---|
| SSD Systems – General Inspection | Monthly |
| Groundwater Monitoring Reports | Quarterly groundwater monitoring reports – quarterly upon generation<br><br>Annual groundwater monitoring summaries (including appended quarterly reports ) shall be presented in the PRR |
| Inspection Report | Annually |
| Periodic Review Report | Annually |

*The frequency of events will be conducted as specified until otherwise approved by the NYSDEC project manager.

All interim monitoring/inspection reports will include, at a minimum:

- Date of event or reporting period.

- Name, company, and position of person(s) conducting monitoring/inspection activities.
- Description of the activities performed.
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet).
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air).
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation).
- Sampling results in comparison to appropriate standards/criteria.
- A figure illustrating sample type and sampling locations.
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format).
- Any observations, conclusions, or recommendations.
- A determination as to whether contaminant conditions have changed since the last reporting event.

Routine maintenance event reporting forms will include, at a minimum:

- Date of event.
- Name, company, and position of person(s) conducting maintenance activities.
- Description of maintenance activities performed.
- Any modifications to the system.
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet).
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

Non-routine maintenance event reporting forms will include, at a minimum:

- Date of event.
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities.
- Description of non-routine activities performed.
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet).
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

Data will be reported in digital format as determined by the NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC Environmental Quality Information Systems (EQuIS™) database in accordance with the requirements found at this link http://www.dec.ny.gov/chemical/62440.html.

## 7.2 Periodic Review Report

A Periodic Review Report (PRR) will be submitted to the NYSDEC project manager sixteen (16) months after the Certificate of Completion is issued. After submitting the initial PRR, the next PRR shall be submitted annually to the NYSDEC project manager or at a frequency as may be required by the NYSDEC project manager. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the Site.
- Results of the required annual Site inspections, fire inspections and severe condition inspections, if applicable.
- Description of any change of use, import of materials, or excavation that occurred during the certifying period.

- All applicable Site management forms and other records generated for the Site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.
- Identification of any wastes generated during the reporting period, along with waste characterization data, manifests, and disposal documentation.
- A summary of any discharge monitoring data and/or information generated during the reporting period, with comments and conclusions.
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor, etc.), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These tables and figures will include a presentation of past data as part of an evaluation of contaminant concentration trends, including but not limited to:
  - Trend monitoring graphs that present groundwater contaminant levels from before the start of the remedy implementation to the most current sampling data;
  - Trend monitoring graphs depicting system influent analytical data on a per event and cumulative basis;
  - O&M data summary tables;
  - A current plume map for Sites with remaining groundwater contamination; and
  - A groundwater elevation contour map for each gauging event.
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the NYSDEC. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html.
- A Site evaluation, which includes the following:

  - The compliance of the remedy with the requirements of the Site-specific Remedial Action Work Plan (RAWP), Record of Decision or Decision Document.
  - The operation and the effectiveness of all treatment units, etc., including identification of any necessary repairs or modifications.
  - Any new conclusions or observations regarding Site contamination based on inspections or data generated by the Monitoring and Sampling Plan for the monitored media.
  - Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan.
  - An update to the climate screening to determine if the remedy remains resilient to projected climate hazard changes.
  - An update to the CVA if Site or external conditions have changed since the previous assessment or if the Climate Screening determines one is now required, and recommendations to address vulnerabilities.
  - A summary of the Green Remediation evaluation, including a quantitative and qualitative overview of a Site's environmental impacts and recommendations to improve the remedy's environmental footprint. The PRR will include the completed Summary of Green Remediation Metrics form provided in **Appendix M**.

- An evaluation of trends in contaminant levels in the affected media to determine if the remedy continues to be effective in achieving remedial goals as specified by the RAWP or Decision Document.
- The overall performance and effectiveness of the remedy.
- A performance summary for all treatment systems at the Site during the calendar year, including information such as:
- The number of days the system operated for the reporting period.
- The average, high, and low flows per day.

  - The contaminant mass removed and the cost per pound of mass removed during the certification period and during the life of the treatment system.

- A description of breakdowns and/or repairs along with an explanation for any significant downtime.
- A description of the resolution of performance problems.
- Alarm conditions.
- Trends in equipment failure.
- A summary of the performance, effluent and/or effectiveness monitoring.
- Comments, conclusions, and recommendations based on data evaluation. Recommendations must address how receptors would be impacted. Recommendations can include:
  - Proposals to address efficiency and costs such as: instituting remote operation, system changes to decrease maintenance costs and downtime, and system changes to decrease energy use; and
  - Proposals to modify or shut down a treatment system due to remediation completion, system performance or changed conditions. System shutdowns are addressed in Section 6.4 of DER-10.

### 7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a Professional Engineer licensed to practice and registered in New York State will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

"*For each institutional or engineering control identified for the Site, I certify that all of the following statements are true:*

- The inspection of the Site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- The institutional control and/or engineering control employed at this Site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;

- Nothing has occurred that would constitute a violation or failure to comply with any Site management plan for this control;
- Access to the Site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the Site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the Site is compliant with the environmental easement;
- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the Site remedial program and generally accepted engineering practices; and
- The information presented in this report is accurate and complete.

*I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as Owner's Designated Site Representative for the Site."*

*"I certify that the New York State Education Department has granted a Certificate of Authorization to provide Professional Engineering services to the firm that prepared this Periodic Review Report."*

The signed certification will be included in the Periodic Review Report.

The Periodic Review Report will be submitted, in electronic format, to the NYSDEC project manager and the NYSDOH project manager. The Periodic Review Report may also need to be submitted in hard-copy format if requested by the NYSDEC project manager.

### 7.3 Corrective Measures Work Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control or failure to conduct Site management activities, a Corrective Measures Work

Plan will be submitted to the NYSDEC project manager for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Work Plan until it has been approved by the NYSDEC project manager.

### 7.4 Remedial System Optimization Report

If an RSO is to be performed (see **Section 6.3**), upon completion of an RSO, an RSO report must be submitted to the NYSDEC project manager for approval. A general outline for the RSO report is provided in **Appendix O**. The RSO report will document the research/ investigation and data gathering that was conducted, evaluate the results and facts obtained, present a revised conceptual Site model and present recommendations. RSO recommendations are to be implemented upon approval from the NYSDEC. Additional work plans, design documents, HASPs etc., may still be required to implement the recommendations, based upon the actions that need to be taken. A final engineering report and update to the SMP may also be required.

The RSO report will be submitted, in electronic format, to the NYSDEC project manager and the NYSDOH project manager.

## 8.0 REFERENCES

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# TABLES

**Table 1 - Documentation Sample Analytical Results**

| Location ID<br>Sample Type<br>Sample Date | NYSDEC 375-6 Commercial Use | NYSDEC 375-6 Protection of Ground Water | FR-Cell05-B<br>N<br>3/12/2024 | FR-Cell05-S<br>N<br>3/12/2024 | FR-Cell05-W<br>FD<br>3/12/2024 | FR-Cell05-W<br>N<br>3/12/2024 | FR-Cell06-B<br>N<br>3/12/2024 | FR-Cell06-N<br>N<br>3/12/2024 | FR-Cell06-W<br>N<br>3/12/2024 | FR-Cell08-B<br>N<br>3/11/2024 | FR-Cell09-B<br>N<br>3/8/2024 | FR-Cell09-W<br>N<br>3/8/2024 | FR-Cell10-B<br>N<br>3/5/2024 | FR-Cell10-W<br>N<br>3/5/2024 | FR-Cell11-B<br>N<br>3/4/2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organics (mg/kg)** | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 500 | 0.68 | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | **0.14 J** | 1.4 U | 4.9 U | 0.0013 U |
| 1,1,2,2-Tetrachloroethane | -- | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | -- | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| 1,1,2-Trichloroethane | -- | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| 1,1-Dichloroethane | 240 | 0.27 | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | **0.00034 J** | **0.00048 J** | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | **0.00080 J** |
| 1,1-Dichloroethene | 500 | 0.33 | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| 1,2,3-Trichlorobenzene | -- | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| 1,2,4-Trichlorobenzene | -- | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| 1,2-Dibromo-3-chloropropane | -- | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 UJ | 0.0016 UJ | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| 1,2-Dichlorobenzene | 500 | 1.1 | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| 1,2-Dichloroethane | 30 | 0.02 | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| cis-1,2-Dichloroethene | 500 | 0.25 | **0.013** | **0.013** | **0.0012 J** | **0.0015 J** | **0.026** | **0.13** | **0.059** | **0.02** | **1700** | **79** | **440** | **92** | **0.073** |
| trans-1,2-Dichloroethene, | 500 | 0.19 | **0.0013 J** | **0.0016 J** | 0.0025 U | 0.0030 U | **0.00092 J** | **0.012** | **0.0064** | **0.00092 J** | 34 U | **4.6** | **2** | **1.7 J** | **0.0014** |
| 1,2-Dichloropropane | -- | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | **0.005** | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | **7.4** | **0.0023** |
| 1,3-Dichlorobenzene | 280 | 2.4 | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| cis-1,3-Dichloropropene | -- | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| trans-1,3-Dichloropropene | -- | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| 1,4-Dichlorobenzene | 130 | 1.8 | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| 1,4-Dioxane | 130 | 0.1 | 0.17 U | 0.21 U | 0.25 U | 0.3 U | 0.14 U | 0.16 U | 0.24 U | 0.16 U | 1700 U | 20 U | 69 U | 240 U | 0.13 U |
| 2-Hexanone (Methyl butyl ketone) | -- | -- | 0.0084 U | 0.01 U | 0.012 U | 0.015 U | 0.0070 U | 0.0080 U | 0.012 U | 0.0078 U | 170 U | 2 U | 6.9 U | 24 U | 0.0063 U |
| 4-Methyl-2-pentanone (Methyl isobutyl ketone) | -- | -- | 0.0084 U | 0.01 U | 0.012 U | 0.015 U | 0.0070 U | 0.0080 U | 0.012 U | 0.0078 U | 170 U | 2 U | 6.9 U | 24 U | 0.0063 U |
| Acetone | 500 | 0.05 | **0.14** | **0.097** | **0.15** | **0.14** | **0.031** | **0.071** | **0.11 J** | **0.06** | 170 U | 2 U | 6.9 U | 24 U | **0.036** |
| Benzene | 44 | 0.06 | **0.0011 J** | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| Bromochloromethane | -- | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| Bromodichloromethane | -- | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| Bromoform (Tribromomethane) | -- | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 UJ | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| Bromomethane (Methyl bromide) | -- | -- | 0.0033 U | 0.0042 U | 0.0049 U | 0.0059 U | 0.0028 U | 0.0032 U | 0.0048 U | 0.0031 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0025 U |
| Carbon disulfide | -- | -- | **0.05** | **0.013** | **0.019** | **0.0052** | **0.045** | 0.0016 U | **0.015 J** | **0.025 J** | 34 U | 0.4 U | 1.4 U | 4.9 U | **0.0018** |
| Carbon tetrachloride (Tetrachloromethane) | 22 | 0.76 | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| Chlorobenzene | 500 | 1.1 | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| Chloroethane | | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| Chloroform | 350 | 0.37 | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| Chloromethane | -- | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| Cyclohexane | -- | -- | **0.016** | **0.00092 J** | **0.00093 J** | **0.00079 J** | 0.0014 U | 0.0016 U | **0.0021 J** | **0.00048 J** | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| Dibromochloromethane | -- | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| Dichlorodifluoromethane | -- | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| Dichloromethane (Methylene chloride) | 500 | 0.05 | 0.0033 U | 0.0042 U | 0.0049 U | 0.0059 U | 0.0028 U | 0.0032 U | 0.0048 U | 0.0031 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0025 U |
| Ethylbenzene | 390 | 1 | **0.0036** | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | **0.00052 J** | 0.0016 U | 34 U | **0.13 J** | 1.4 U | 4.9 U | 0.0013 U |
| Ethylene dibromide (1,2-Dibromoethane) | -- | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| Isopropylbenzene (Cumene) | -- | -- | **0.1** | **0.0013 J** | **0.0041** | **0.004** | 0.0014 U | 0.0016 U | **0.0035** | **0.00092 J** | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| m,p-Xylene | 500 | 1.6 | **0.043** | **0.00069 J** | **0.0020 J** | **0.0012 J** | 0.0014 U | **0.00052 J** | **0.0014 J** | **0.00049 J** | 34 U | **0.51** | 1.4 U | 4.9 U | **0.00062 J** |
| Methyl acetate | -- | -- | 0.0084 U | 0.01 U | 0.012 U | 0.015 U | 0.0070 U | **0.038** | 0.012 U | 0.0078 U | 170 U | 2 U | 6.9 U | 24 U | 0.0063 U |
| Methyl ethyl ketone (2-Butanone) | 500 | 0.12 | **0.03** | **0.018** | **0.036** | **0.034** | **0.0065 J** | **0.027** | **0.023 J** | **0.015** | 170 U | 2 U | 6.9 U | 24 U | 0.0063 U |
| Methyl tert-butyl ether (MTBE) | 500 | 0.93 | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| Methylcyclohexane | -- | -- | **0.15** | **0.0041** | **0.0073** | **0.0054** | 0.0014 U | 0.0016 U | **0.024** | **0.0015 J** | 34 U | 0.4 U | 1.4 U | 4.9 U | **0.0016** |
| o-Xylene | 500 | 1.6 | **0.11** | **0.0015 J** | **0.0031** | **0.0033** | **0.00030 J** | 0.0016 U | **0.0022 J** | **0.00045 J** | 34 U | **0.2 J** | 1.4 U | 4.9 U | 0.0013 U |
| Styrene | -- | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| Tetrachloroethene (PCE) | 150 | 1.3 | 0.0017 U | **0.0010 J** | 0.0025 U | 0.0030 U | 0.0014 U | **0.0014 J** | **0.003** | 0.0016 U | **47** | **3.1** | **2.2** | **220** | **0.011** |
| Toluene | 500 | 0.7 | **0.0059** | **0.0017 J** | **0.0032** | **0.0015 J** | **0.0013 J** | **0.0019** | **0.0024** | **0.0021** | 34 U | **0.3 J** | 1.4 U | 4.9 U | **0.0015** |
| Trichloroethene (TCE) | 200 | 0.47 | **0.026** | **0.039** | **0.0017 J** | **0.0017 J** | **0.0072** | **0.018** | **0.063** | **0.019** | **9000** | **140** | **41** | **1500** | **0.046** |
| Trichlorofluoromethane (Fluorotrichloromethane) | -- | -- | 0.0017 U | 0.0021 U | 0.0025 U | 0.0030 U | 0.0014 U | 0.0016 U | 0.0024 U | 0.0016 U | 34 U | 0.4 U | 1.4 U | 4.9 U | 0.0013 U |
| Vinyl chloride | 13 | 0.02 | **0.0032** | **0.0042** | 0.0025 U | 0.0030 U | **0.13** | **0.018** | **0.015** | **0.0054** | 34 U | **0.14 J** | **27** | 4.9 U | **0.095** |

**Table 1 - Documentation Sample Analytical Results**

| Location ID<br>Sample Type<br>Sample Date | NYSDEC 375-6 Commercial Use | NYSDEC 375-6 Protection of Ground Water | FR-Cell11-W<br>N<br>3/4/2024 | FR-Cell12-B<br>FD<br>3/1/2024 | FR-Cell12-B<br>N<br>3/1/2024 | FR-Cell12-N<br>N<br>3/1/2024 | FR-Cell12-W<br>N<br>3/1/2024 | FR-Cell14-B<br>N<br>3/11/2024 | FR-Cell14-S<br>N<br>3/11/2024 | FR-Cell15-B<br>N<br>3/8/2024 | FR-Cell16-B<br>FD<br>3/5/2024 | FR-Cell16-B<br>N<br>3/5/2024 | FR-Cell16-S<br>N<br>3/5/2024 | FR-Cell17-B<br>N<br>3/4/2024 | FR-Cell18-B<br>N<br>3/1/2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organics (mg/kg)** | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 500 | 0.68 | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | **0.13 J** | 0.0019 U | **1.3 J** | **0.1 J** | 0.0010 U |
| 1,1,2,2-Tetrachloroethane | -- | -- | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | -- | -- | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| 1,1,2-Trichloroethane | -- | -- | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| 1,1-Dichloroethane | 240 | 0.27 | 0.086 U | **0.063 J** | **0.00068 J** | **0.00032 J** | **0.00023 J** | **0.00050 J** | **0.00030 J** | 1.8 U | 0.23 U | **0.0094** | 1.9 U | 0.15 U | **0.00053 J** |
| 1,1-Dichloroethene | 500 | 0.33 | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| 1,2,3-Trichlorobenzene | -- | -- | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| 1,2,4-Trichlorobenzene | -- | -- | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| 1,2-Dibromo-3-chloropropane | -- | -- | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| 1,2-Dichlorobenzene | 500 | 1.1 | 0.086 U | **0.042 J** | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | **0.075 J** | 0.0019 U | 1.9 U | 0.15 U | **0.00058 J** |
| 1,2-Dichloroethane | 30 | 0.02 | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| cis-1,2-Dichloroethene | 500 | 0.25 | **1.6** | **21** | **0.094** | **0.024** | **0.032** | **0.0044** | **0.00059 J** | **460** | **21** | **0.4** | **330** | **3.6** | **0.0014** |
| trans-1,2-Dichloroethene, | 500 | 0.19 | **0.051 J** | **1.9** | **0.011** | **0.0015** | **0.0015** | **0.00054 J** | 0.0012 U | **2.4** | **0.82** | **0.032** | **13** | **0.16** | **0.00098 J** |
| 1,2-Dichloropropane | -- | -- | **0.049 J** | **1.3** | **0.0027** | **0.0016** | **0.0013** | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | **0.058 J** | 0.0010 U |
| 1,3-Dichlorobenzene | 280 | 2.4 | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| cis-1,3-Dichloropropene | -- | -- | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| trans-1,3-Dichloropropene | -- | -- | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| 1,4-Dichlorobenzene | 130 | 1.8 | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| 1,4-Dioxane | 130 | 0.1 | 4.3 U | 8.8 U | 0.22 U | 0.091 U | 0.099 U | 0.18 U | 0.12 U | 92 U | 12 U | 0.19 U | 94 U | 7.7 U | 0.1 U |
| 2-Hexanone (Methyl butyl ketone) | -- | -- | 0.43 U | 0.88 U | 0.011 U | 0.0046 U | 0.0050 U | 0.0089 U | **0.037** | 9.2 U | 1.2 U | 0.0095 U | 9.4 U | 0.77 U | 0.0050 U |
| 4-Methyl-2-pentanone (Methyl isobutyl ketone) | -- | -- | 0.43 U | 0.88 U | 0.011 U | 0.0046 U | 0.0050 U | 0.0089 U | **0.01** | 9.2 U | 1.2 U | 0.0095 U | 9.4 U | 0.77 U | 0.0050 U |
| Acetone | 500 | 0.05 | 0.43 UJ | 0.88 U | **0.086** | **0.016** | **0.012** | **0.18** | **0.44** | 9.2 U | 1.2 U | **0.08** | 9.4 U | 0.77 U | **0.019** |
| Benzene | 44 | 0.06 | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | **0.00052 J** | **0.00046 J** | 1.8 U | 0.23 U | **0.00096 J** | 1.9 U | 0.15 U | 0.0010 U |
| Bromochloromethane | -- | -- | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| Bromodichloromethane | -- | -- | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| Bromoform (Tribromomethane) | -- | -- | 0.086 UJ | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| Bromomethane (Methyl bromide) | -- | -- | 0.086 U | 0.18 U | 0.0044 U | 0.0018 U | 0.0020 U | 0.0036 U | 0.0025 U | 1.8 U | 0.23 U | 0.0038 U | 1.9 U | 0.15 U | 0.0020 U |
| Carbon disulfide | -- | -- | 0.086 U | 0.18 U | **0.024** | 0.00091 U | 0.00099 U | **0.031** | **0.048** | 1.8 U | 0.23 U | **0.064** | 1.9 U | 0.15 U | **0.033** |
| Carbon tetrachloride (Tetrachloromethane) | 22 | 0.76 | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| Chlorobenzene | 500 | 1.1 | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| Chloroethane | | -- | 0.086 UJ | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| Chloroform | 350 | 0.37 | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| Chloromethane | -- | -- | 0.086 UJ | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| Cyclohexane | -- | -- | 0.086 U | 0.18 U | **0.00070 J** | 0.00091 U | 0.00099 U | **0.0069** | **0.0068** | 1.8 U | 0.23 U | **0.0012 J** | 1.9 U | 0.15 U | 0.0010 U |
| Dibromochloromethane | -- | -- | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| Dichlorodifluoromethane | -- | -- | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| Dichloromethane (Methylene chloride) | 500 | 0.05 | 0.086 U | 0.18 U | 0.0044 U | 0.0018 U | 0.0020 U | 0.0036 U | 0.0025 U | 1.8 U | **0.082 J** | 0.0038 U | 1.9 U | 0.15 U | 0.0020 U |
| Ethylbenzene | 390 | 1 | 0.086 U | **0.11 J** | **0.00095 J** | 0.00091 U | 0.00099 U | **0.0021** | **0.0019** | 1.8 U | 0.23 U | **0.0011 J** | 1.9 U | 0.15 U | 0.0010 U |
| Ethylene dibromide (1,2-Dibromoethane) | -- | -- | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| Isopropylbenzene (Cumene) | -- | -- | 0.086 U | 0.18 U | **0.0057** | 0.00091 U | 0.00099 U | **0.0094** | **0.0048** | 1.8 U | 0.23 U | **0.0014 J** | 1.9 U | 0.15 U | 0.0010 U |
| m,p-Xylene | 500 | 1.6 | **0.036 J** | **0.16 J** | **0.0086** | **0.00024 J** | **0.00032 J** | **0.0039** | **0.0048** | 1.8 U | 0.23 U | **0.0016 J** | 1.9 U | 0.15 U | 0.0010 U |
| Methyl acetate | -- | -- | 0.43 U | **0.15 J** | 0.011 U | 0.0046 U | 0.0050 U | 0.0089 U | 0.0061 U | 9.2 U | **0.44 J** | 0.0095 U | 9.4 U | **0.18 J** | 0.0050 U |
| Methyl ethyl ketone (2-Butanone) | 500 | 0.12 | 0.43 U | 0.88 U | **0.024** | **0.009** | **0.0041 J** | **0.052** | **0.16** | 9.2 U | 1.2 U | **0.046** | 9.4 U | 0.77 U | **0.0048 J** |
| Methyl tert-butyl ether (MTBE) | 500 | 0.93 | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| Methylcyclohexane | -- | -- | 0.086 U | 0.18 U | **0.0042** | 0.00091 U | 0.00099 U | **0.063** | **0.024** | 1.8 U | 0.23 U | **0.008** | 1.9 U | 0.15 U | 0.0010 U |
| o-Xylene | 500 | 1.6 | 0.086 U | 0.18 U | **0.0017 J** | 0.00091 U | 0.00099 U | **0.0031** | **0.0021** | 1.8 U | 0.23 U | **0.0015 J** | 1.9 U | 0.15 U | 0.0010 U |
| Styrene | -- | -- | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| Tetrachloroethene (PCE) | 150 | 1.3 | **2.6 J** | **2** | **0.0066** | **0.004** | **0.037** | 0.0018 U | 0.0012 U | 1.8 U | **2.1** | **0.014** | **2.9** | **7.6** | 0.0010 U |
| Toluene | 500 | 0.7 | 0.086 U | **0.081 J** | **0.0016 J** | **0.00037 J** | **0.00055 J** | **0.0044** | **0.0029** | 1.8 U | 0.23 U | **0.0081** | 1.9 U | 0.15 U | **0.00036 J** |
| Trichloroethene (TCE) | 200 | 0.47 | **12** | **7** | **0.025** | **0.011** | **0.046** | **0.0066** | **0.0018** | **56** | **40** | **0.22** | **350** | **21** | **0.00032 J** |
| Trichlorofluoromethane (Fluorotrichloromethane) | -- | -- | 0.086 U | 0.18 U | 0.0022 U | 0.00091 U | 0.00099 U | 0.0018 U | 0.0012 U | 1.8 U | 0.23 U | 0.0019 U | 1.9 U | 0.15 U | 0.0010 U |
| Vinyl chloride | 13 | 0.02 | 0.086 UJ | **0.31** | **0.0052** | **0.00073 J** | 0.00099 U | **0.003** | 0.0012 U | **8.4** | **1.3** | **0.93** | **1.4 J** | 0.15 U | **0.00067 J** |

**Table 1 - Documentation Sample Analytical Results**

| Location ID<br>Sample Type<br>Sample Date | NYSDEC 375-6 Commercial Use | NYSDEC 375-6 Protection of Ground Water | FR-Cell18-E<br>N<br>3/1/2024 | FR-Cell18-N<br>N<br>3/1/2024 | FR-Cell20-B<br>N<br>3/18/2024 | FR-Cell20-S<br>FD<br>3/18/2024 | FR-Cell20-S<br>N<br>3/18/2024 | FR-Cell21-B<br>N<br>3/7/2024 | FR-Cell22-B<br>N<br>3/7/2024 | FR-Cell22-N<br>N<br>3/7/2024 | FR-Cell23-B<br>N<br>3/19/2024 | FR-Cell23-E<br>N<br>3/19/2024 | FR-Cell23-S<br>N<br>3/19/2024 | FR-Cell24-B<br>N<br>3/15/2024 | FR-Cell25-B<br>N<br>3/14/2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organics (mg/kg)** | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 500 | 0.68 | **0.042 J** | **0.079 J** | 0.12 U | 0.083 U | 0.14 U | **0.096 J** | **0.056 J** | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 UJ | 0.00078 U |
| 1,1,2,2-Tetrachloroethane | -- | -- | 0.15 UJ | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 U | 0.00078 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | -- | -- | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 UJ | 0.00078 U |
| 1,1,2-Trichloroethane | -- | -- | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 U | 0.00078 U |
| 1,1-Dichloroethane | 240 | 0.27 | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | **0.13 J** | 0.16 U | 0.82 U | 0.22 U | 0.00080 UJ | 0.00078 U |
| 1,1-Dichloroethene | 500 | 0.33 | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | **0.076 J** | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 UJ | 0.00078 U |
| 1,2,3-Trichlorobenzene | -- | -- | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 UJ | 0.00078 U |
| 1,2,4-Trichlorobenzene | -- | -- | 0.15 UJ | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 UJ | 0.00078 U |
| 1,2-Dibromo-3-chloropropane | -- | -- | 0.15 UJ | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 U | 0.00078 U |
| 1,2-Dichlorobenzene | 500 | 1.1 | **2.5** | 0.16 U | 0.12 U | 0.083 U | 0.14 U | **0.51** | **0.31** | **0.25** | 0.16 U | 0.82 U | 0.22 U | 0.00080 UJ | **0.00069 J** |
| 1,2-Dichloroethane | 30 | 0.02 | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 U | 0.00078 U |
| cis-1,2-Dichloroethene | 500 | 0.25 | **11** | **2.3** | **30** | **0.33** | **10** | **57** | **8.6** | **18** | **0.54** | **18** | **27** | 0.00080 U | **0.0043** |
| trans-1,2-Dichloroethene, | 500 | 0.19 | **0.092 J** | **0.066 J** | **1** | 0.083 U | **0.14** | **2.5** | **0.27** | **0.45** | 0.16 U | **0.84** | **3** | 0.00080 UJ | 0.00078 U |
| 1,2-Dichloropropane | -- | -- | **0.069 J** | **0.13 J** | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 U | 0.00078 U |
| 1,3-Dichlorobenzene | 280 | 2.4 | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 UJ | 0.00078 U |
| cis-1,3-Dichloropropene | -- | -- | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 U | 0.00078 U |
| trans-1,3-Dichloropropene | -- | -- | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 U | 0.00078 U |
| 1,4-Dichlorobenzene | 130 | 1.8 | **0.35** | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | **0.083 J** | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 UJ | 0.00078 U |
| 1,4-Dioxane | 130 | 0.1 | 7.5 U | 7.8 U | 5.9 U | 4.2 U | 6.8 U | 9.3 U | 9.3 U | 7.5 U | 8.2 U | 41 U | 11 U | 0.08 U | 0.078 U |
| 2-Hexanone (Methyl butyl ketone) | -- | -- | 0.75 U | 0.78 U | 0.59 U | 0.42 U | 0.68 U | 0.93 U | 0.93 U | 0.75 U | 0.82 U | 4.1 U | 1.1 U | 0.0040 U | 0.0039 U |
| 4-Methyl-2-pentanone (Methyl isobutyl ketone) | -- | -- | 0.75 U | 0.78 U | 0.59 U | 0.42 U | 0.68 U | 0.93 U | 0.93 U | 0.75 U | 0.82 U | 4.1 U | 1.1 U | 0.0040 U | 0.0039 U |
| Acetone | 500 | 0.05 | 0.75 U | 0.78 U | 0.59 U | 0.42 U | 0.68 U | 0.93 U | 0.93 U | 0.75 UJ | 0.82 U | 4.1 U | 1.1 U | **0.014** | **0.024** |
| Benzene | 44 | 0.06 | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 UJ | 0.00078 U |
| Bromochloromethane | -- | -- | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 U | 0.00078 U |
| Bromodichloromethane | -- | -- | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 U | 0.00078 U |
| Bromoform (Tribromomethane) | -- | -- | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 U | 0.00078 U |
| Bromomethane (Methyl bromide) | -- | -- | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.0016 UJ | 0.0016 U |
| Carbon disulfide | -- | -- | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | **0.11 J** | 0.82 U | 0.22 U | **0.03 J** | **0.07 J** |
| Carbon tetrachloride (Tetrachloromethane) | 22 | 0.76 | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 UJ | 0.00078 U |
| Chlorobenzene | 500 | 1.1 | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | **0.089 J** | 0.16 U | 0.82 U | 0.22 U | 0.00080 UJ | **0.00055 J** |
| Chloroethane | | -- | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 U | 0.00078 U |
| Chloroform | 350 | 0.37 | **0.075 J** | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 UJ | 0.00078 U |
| Chloromethane | -- | -- | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 U | 0.00078 UJ |
| Cyclohexane | -- | -- | **0.091 J** | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 UJ | 0.00078 U |
| Dibromochloromethane | -- | -- | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 U | 0.00078 U |
| Dichlorodifluoromethane | -- | -- | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 U | 0.00078 U |
| Dichloromethane (Methylene chloride) | 500 | 0.05 | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.0016 U | 0.0016 U |
| Ethylbenzene | 390 | 1 | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | **0.073 J** | 0.19 U | **0.14 J** | 0.16 U | **1.3** | **0.15 J** | **0.00021 J** | **0.00030 J** |
| Ethylene dibromide (1,2-Dibromoethane) | -- | -- | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 UJ | 0.00078 U |
| Isopropylbenzene (Cumene) | -- | -- | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | **0.06 J** | 0.16 U | 0.82 U | 0.22 U | 0.00080 UJ | 0.00078 U |
| m,p-Xylene | 500 | 1.6 | **0.083 J** | 0.16 U | 0.12 U | 0.083 U | **0.073 J** | **0.087 J** | **0.086 J** | **0.16** | 0.16 U | **4.4** | **0.32** | **0.00098 J** | **0.0014** |
| Methyl acetate | -- | -- | **0.28 J** | 0.78 U | **0.15 J** | **0.3 J** | **0.46 J** | **0.3 J** | **0.19 J** | **0.37 J** | **0.45 J** | **4 J** | **0.63 J** | 0.0040 U | 0.0039 U |
| Methyl ethyl ketone (2-Butanone) | 500 | 0.12 | 0.75 U | 0.78 U | 0.59 U | 0.42 U | 0.68 U | 0.93 U | 0.93 U | 0.75 U | 0.82 U | 4.1 U | 1.1 U | **0.0024 J** | **0.0055** |
| Methyl tert-butyl ether (MTBE) | 500 | 0.93 | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 U | 0.00078 U |
| Methylcyclohexane | -- | -- | **0.59** | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 UJ | 0.00078 U |
| o-Xylene | 500 | 1.6 | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | **0.055 J** | 0.16 U | **1.3** | **0.099 J** | **0.00033 J** | **0.00048 J** |
| Styrene | -- | -- | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | **0.13 J** | 0.00080 UJ | 0.00078 U |
| Tetrachloroethene (PCE) | 150 | 1.3 | **4.6** | **5.6** | **0.3** | **0.16** | **0.49** | **0.57** | **3.7** | **0.19** | 0.16 U | **5.9** | **1.2** | 0.00080 UJ | **0.00034 J** |
| Toluene | 500 | 0.7 | **0.065 J** | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | **0.13 J** | **0.36** | 0.16 U | **1.1** | **0.24** | **0.0012 J** | **0.0012** |
| Trichloroethene (TCE) | 200 | 0.47 | **31** | **9.4** | **13** | **4.3** | **34** | **23** | **19** | **0.39** | **1.5 J** | **240** | **79** | 0.00080 UJ | **0.0021** |
| Trichlorofluoromethane (Fluorotrichloromethane) | -- | -- | 0.15 U | 0.16 U | 0.12 U | 0.083 U | 0.14 U | 0.19 U | 0.19 U | 0.15 U | 0.16 U | 0.82 U | 0.22 U | 0.00080 UJ | 0.00078 UJ |
| Vinyl chloride | 13 | 0.02 | 0.15 U | 0.16 U | **4** | 0.083 U | **0.03 J** | **3.2** | **0.083 J** | **2.6** | 0.16 U | 0.82 U | **1** | 0.00080 U | 0.00078 U |

**Table 1 - Documentation Sample Analytical Results**

| Location ID<br>Sample Type<br>Sample Date | NYSDEC 375-6 Commercial Use | NYSDEC 375-6 Protection of Ground Water | FR-Cell25-E<br>N<br>3/14/2024 | FR-Cell25-N<br>N<br>3/14/2024 | FR-Cell26-B<br>N<br>3/13/2024 | FR-Cell26-N<br>N<br>3/13/2024 | FR-Cell28-B<br>N<br>3/15/2024 | FR-Cell28-S<br>N<br>3/15/2024 | FR-Cell29-B<br>N<br>3/14/2024 | FR-Cell29-E<br>N<br>3/14/2024 | FR-Cell29-S<br>N<br>3/14/2024 | FR-Cell30-B<br>N<br>3/13/2024 | FR-Cell30-E<br>N<br>3/13/2024 | FR-Cell30-N<br>N<br>3/13/2024 | FR-Cell33-B<br>N<br>2/27/2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organics (mg/kg)** | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 500 | 0.68 | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| 1,1,2,2-Tetrachloroethane | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 UJ |
| 1,1,2-Trichloroethane | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | **0.043 J** | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| 1,1-Dichloroethane | 240 | 0.27 | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | **0.16** | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| 1,1-Dichloroethene | 500 | 0.33 | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 UJ |
| 1,2,3-Trichlorobenzene | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| 1,2,4-Trichlorobenzene | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| 1,2-Dibromo-3-chloropropane | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| 1,2-Dichlorobenzene | 500 | 1.1 | **0.00049 J** | 0.1 U | 0.00072 U | **1.3** | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| 1,2-Dichloroethane | 30 | 0.02 | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| cis-1,2-Dichloroethene | 500 | 0.25 | 0.00077 U | **0.7** | **0.0028** | **110** | **0.024** | **42** | **0.00081** | 0.00075 U | **0.21** | **0.0025** | 0.00074 U | 0.00084 U | **0.00089** |
| trans-1,2-Dichloroethene, | 500 | 0.19 | 0.00077 U | **0.091 J** | 0.00072 U | **4** | **0.00064 J** | **1.9** | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | **0.00040 J** |
| 1,2-Dichloropropane | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| 1,3-Dichlorobenzene | 280 | 2.4 | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| cis-1,3-Dichloropropene | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| trans-1,3-Dichloropropene | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| 1,4-Dichlorobenzene | 130 | 1.8 | 0.00077 U | 0.1 U | 0.00072 U | **0.67** | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| 1,4-Dioxane | 130 | 0.1 | 0.077 U | 5.1 U | 0.072 U | 29 U | 0.084 U | 8 U | 0.071 U | 0.075 U | 7.8 U | 0.09 U | 0.074 U | 0.084 U | 0.082 U |
| 2-Hexanone (Methyl butyl ketone) | -- | -- | 0.0038 U | 0.51 U | 0.0036 U | 2.9 U | 0.0042 U | 0.8 U | 0.0035 U | 0.0037 U | 0.78 U | 0.0045 U | 0.0037 U | 0.0042 U | 0.0041 U |
| 4-Methyl-2-pentanone (Methyl isobutyl ketone) | -- | -- | 0.0038 U | 0.51 U | 0.0036 U | 2.9 U | 0.0042 U | **0.56 J** | 0.0035 U | 0.0037 U | 0.78 U | 0.0045 U | 0.0037 U | 0.0042 U | 0.0041 U |
| Acetone | 500 | 0.05 | **0.0058** | 0.51 U | **0.0046** | 2.9 U | 0.0050 U | 0.8 U | **0.014** | 0.0045 U | 0.78 U | **0.018** | 0.0044 U | **0.0093** | **0.017** |
| Benzene | 44 | 0.06 | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| Bromochloromethane | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| Bromodichloromethane | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| Bromoform (Tribromomethane) | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| Bromomethane (Methyl bromide) | -- | -- | 0.0015 U | 0.1 U | 0.0014 U | 0.57 U | 0.0017 U | 0.16 U | 0.0014 U | 0.0015 U | 0.16 U | 0.0018 UJ | 0.0015 U | 0.0017 U | 0.0016 UJ |
| Carbon disulfide | -- | -- | **0.007** | 0.1 U | **0.0056** | 0.57 U | **0.0056** | 0.16 U | **0.0046** | 0.00075 U | 0.16 U | **0.045** | 0.00074 U | **0.0073** | **0.011** |
| Carbon tetrachloride (Tetrachloromethane) | 22 | 0.76 | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| Chlorobenzene | 500 | 1.1 | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| Chloroethane | | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 UJ |
| Chloroform | 350 | 0.37 | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| Chloromethane | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 UJ |
| Cyclohexane | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| Dibromochloromethane | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| Dichlorodifluoromethane | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 UJ |
| Dichloromethane (Methylene chloride) | 500 | 0.05 | 0.0015 U | 0.1 U | 0.0014 U | 0.57 U | 0.0017 U | 0.16 U | 0.0014 U | 0.0015 U | 0.16 U | 0.0018 U | 0.0015 U | 0.0017 U | 0.0016 U |
| Ethylbenzene | 390 | 1 | 0.00077 U | **0.031 J** | 0.00072 U | 0.57 U | **0.00021 J** | **0.18** | 0.00071 U | 0.00075 U | 0.16 U | **0.00021 J** | 0.00074 U | 0.00084 U | **0.00020 J** |
| Ethylene dibromide (1,2-Dibromoethane) | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| Isopropylbenzene (Cumene) | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| m,p-Xylene | 500 | 1.6 | **0.00075 J** | **0.038 J** | 0.00072 U | 0.57 U | **0.00054 J** | **0.24** | **0.00081** | **0.00044 J** | 0.16 U | **0.00042 J** | **0.00013 J** | **0.00018 J** | **0.00062 J** |
| Methyl acetate | -- | -- | 0.0038 U | **0.1 J** | 0.0036 U | 2.9 U | 0.0042 U | **0.19 J** | 0.0035 U | 0.0037 U | 0.78 U | 0.0045 U | 0.0037 U | 0.0042 U | 0.0041 U |
| Methyl ethyl ketone (2-Butanone) | 500 | 0.12 | 0.0038 U | 0.51 U | 0.0036 U | 2.9 U | 0.0042 U | 0.8 U | 0.0035 U | 0.0037 U | 0.78 U | **0.0042 J** | 0.0037 U | **0.0036 J** | **0.0028 J** |
| Methyl tert-butyl ether (MTBE) | 500 | 0.93 | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| Methylcyclohexane | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| o-Xylene | 500 | 1.6 | **0.00034 J** | 0.1 U | 0.00072 U | 0.57 U | **0.00027 J** | **0.067 J** | 0.00071 U | 0.00075 U | 0.16 U | **0.00022 J** | 0.00074 U | 0.00084 U | **0.00028 J** |
| Styrene | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| Tetrachloroethene (PCE) | 150 | 1.3 | 0.00077 U | **1.3** | 0.00072 U | **0.74** | 0.00084 U | 0.16 U | 0.00071 U | **0.00025 J** | **0.4** | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 U |
| Toluene | 500 | 0.7 | **0.0011** | 0.1 U | **0.00038 J** | 0.57 U | **0.0015** | **0.29** | **0.0019** | **0.00088** | 0.16 U | **0.00056 J** | 0.00074 U | 0.00084 U | **0.00039 J** |
| Trichloroethene (TCE) | 200 | 0.47 | 0.00077 U | **1.5** | **0.00028 J** | **210** | **0.0011** | **5.6** | **0.00074** | **0.0063** | **7.2** | **0.00068 J** | **0.0012** | 0.00084 U | **0.00047 J** |
| Trichlorofluoromethane (Fluorotrichloromethane) | -- | -- | 0.00077 U | 0.1 U | 0.00072 U | 0.57 U | 0.00084 U | 0.16 U | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 UJ |
| Vinyl chloride | 13 | 0.02 | 0.00077 U | **0.046 J** | 0.00072 U | **1.7** | **0.0015** | **0.87** | 0.00071 U | 0.00075 U | 0.16 U | 0.00090 U | 0.00074 U | 0.00084 U | 0.00082 UJ |

**Table 1 - Documentation Sample Analytical Results**

| Location ID<br>Sample Type<br>Sample Date | NYSDEC 375-6 Commercial Use | NYSDEC 375-6 Protection of Ground Water | FR-Cell33-E<br>N<br>2/27/2024 | FR-Cell33-S<br>N<br>2/27/2024 | FR-Cell33-W<br>N<br>2/27/2024 | FR-Cell34-B<br>N<br>2/27/2024 | FR-Cell34-W<br>N<br>2/27/2024 | FR-Cell35-B<br>N<br>2/26/2024 | FR-Cell35-E<br>N<br>2/26/2024 | FR-Cell35-N<br>N<br>2/26/2024 | FR-Cell35-W<br>N<br>2/26/2024 | FR-Cell36-B<br>N<br>2/28/2024 | FR-Cell36-E<br>N<br>2/28/2024 | FR-Cell36-N<br>N<br>2/28/2024 | FR-Cell36-S<br>N<br>2/28/2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organics (mg/kg)** | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 500 | 0.68 | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 UJ | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| 1,1,2,2-Tetrachloroethane | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 UJ | 0.00091 U | 0.081 U | 0.00077 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 UJ | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| 1,1,2-Trichloroethane | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| 1,1-Dichloroethane | 240 | 0.27 | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| 1,1-Dichloroethene | 500 | 0.33 | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 UJ | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| 1,2,3-Trichlorobenzene | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| 1,2,4-Trichlorobenzene | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 UJ | 0.00091 U | 0.081 U | 0.00077 U |
| 1,2-Dibromo-3-chloropropane | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 UJ | 0.00091 U | 0.081 U | 0.00077 U |
| 1,2-Dichlorobenzene | 500 | 1.1 | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| 1,2-Dichloroethane | 30 | 0.02 | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| cis-1,2-Dichloroethene | 500 | 0.25 | **0.0047** | 0.00090 U | 0.0012 U | 0.00082 U | **0.13** | 0.078 U | **0.33** | 0.083 U | 0.00083 U | **0.091** | 0.00091 U | **0.05 J** | 0.00077 U |
| trans-1,2-Dichloroethene, | 500 | 0.19 | **0.00051 J** | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| 1,2-Dichloropropane | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| 1,3-Dichlorobenzene | 280 | 2.4 | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| cis-1,3-Dichloropropene | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| trans-1,3-Dichloropropene | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| 1,4-Dichlorobenzene | 130 | 1.8 | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| 1,4-Dioxane | 130 | 0.1 | 0.1 U | 0.09 U | 0.12 U | 0.082 U | 5.3 U | 3.9 U | 5.2 U | 4.2 U | 0.083 U | 3.8 U | 0.091 U | 4 U | 0.077 U |
| 2-Hexanone (Methyl butyl ketone) | -- | -- | 0.0052 U | 0.0045 U | 0.0060 U | 0.0041 U | 0.53 U | 0.39 U | 0.52 U | 0.42 U | 0.0042 U | 0.38 U | 0.0046 U | 0.4 U | 0.0038 U |
| 4-Methyl-2-pentanone (Methyl isobutyl ketone) | -- | -- | 0.0052 U | 0.0045 U | 0.0060 U | 0.0041 U | 0.53 U | 0.39 U | 0.52 U | 0.42 U | 0.0042 U | 0.38 U | 0.0046 U | 0.4 U | 0.0038 U |
| Acetone | 500 | 0.05 | **0.013** | **0.028** | **0.02** | **0.0093 J** | 0.53 U | 0.39 U | 0.52 UJ | 0.42 U | 0.0050 U | 0.38 U | 0.0055 U | 0.4 U | **0.0061** |
| Benzene | 44 | 0.06 | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Bromochloromethane | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Bromodichloromethane | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Bromoform (Tribromomethane) | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Bromomethane (Methyl bromide) | -- | -- | 0.0021 U | 0.0018 U | 0.0024 U | 0.0016 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.0017 U | 0.075 U | 0.0018 U | 0.081 U | 0.0015 U |
| Carbon disulfide | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | **0.0092 J** | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Carbon tetrachloride (Tetrachloromethane) | 22 | 0.76 | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 UJ | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Chlorobenzene | 500 | 1.1 | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Chloroethane | | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Chloroform | 350 | 0.37 | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | **0.093 J** | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Chloromethane | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 UJ | 0.11 U | 0.078 U | **0.053 J** | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Cyclohexane | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 UJ | 0.11 U | 0.078 U | **0.032 J** | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Dibromochloromethane | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Dichlorodifluoromethane | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Dichloromethane (Methylene chloride) | 500 | 0.05 | 0.0021 U | 0.0018 U | 0.0024 U | 0.0016 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.0017 U | 0.075 U | 0.0018 U | 0.081 U | 0.0015 U |
| Ethylbenzene | 390 | 1 | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Ethylene dibromide (1,2-Dibromoethane) | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Isopropylbenzene (Cumene) | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| m,p-Xylene | 500 | 1.6 | **0.00025 J** | 0.00090 U | **0.00022 J** | **0.00058 J** | 0.11 U | 0.078 U | **0.11** | 0.083 U | **0.00035 J** | 0.075 U | **0.00033 J** | 0.081 U | 0.00077 U |
| Methyl acetate | -- | -- | 0.0052 U | 0.0045 U | 0.0060 U | 0.0041 U | 0.53 U | 0.39 U | 0.52 UJ | 0.42 U | 0.0042 U | 0.38 U | 0.0046 U | 0.4 U | 0.0038 U |
| Methyl ethyl ketone (2-Butanone) | 500 | 0.12 | **0.0046 J** | **0.0028 J** | **0.0037 J** | 0.0041 U | 0.53 U | 0.39 U | 0.52 U | 0.42 U | 0.0042 U | 0.38 U | 0.0046 U | 0.4 U | 0.0038 U |
| Methyl tert-butyl ether (MTBE) | 500 | 0.93 | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Methylcyclohexane | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| o-Xylene | 500 | 1.6 | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Styrene | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | **0.036 J** | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Tetrachloroethene (PCE) | 150 | 1.3 | **0.0013** | 0.00090 U | 0.0012 U | 0.00082 U | **32** | **2.1** | **6.6** | **8.7** | **0.015** | **1.4** | 0.00091 U | **0.48** | 0.00077 U |
| Toluene | 500 | 0.7 | **0.00042 J** | 0.00090 U | **0.00063 J** | **0.00044 J** | 0.11 U | **0.036 J** | **0.22** | 0.083 U | **0.00057 J** | **0.057 J** | **0.00065 J** | 0.081 U | **0.00037 J** |
| Trichloroethene (TCE) | 200 | 0.47 | **0.017** | 0.00090 U | 0.0012 U | **0.00059 J** | **0.52** | **0.3** | **18** | **0.067 J** | **0.00050 J** | **19** | **0.013** | **4.8** | **0.015** |
| Trichlorofluoromethane (Fluorotrichloromethane) | -- | -- | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 UJ | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |
| Vinyl chloride | 13 | 0.02 | 0.0010 U | 0.00090 U | 0.0012 U | 0.00082 U | 0.11 U | 0.078 U | 0.1 U | 0.083 U | 0.00083 U | 0.075 U | 0.00091 U | 0.081 U | 0.00077 U |

**Table 1 - Documentation Sample Analytical Results**

| Location ID<br>Sample Type<br>Sample Date | NYSDEC 375-6 Commercial Use | NYSDEC 375-6 Protection of Ground Water | FR-Cell38-BN<br>3/18/2024 | FR-Cell39-BN<br>3/14/2024 | FR-Cell39-NN<br>3/14/2024 |
|---|---|---|---|---|---|
| **Volatile Organics (mg/kg)** | | | | | |
| 1,1,1-Trichloroethane | 500 | 0.68 | 9.3 U | 0.09 U | 0.00082 U |
| 1,1,2,2-Tetrachloroethane | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| 1,1,2-Trichloroethane | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| 1,1-Dichloroethane | 240 | 0.27 | 9.3 U | 0.09 U | 0.00082 U |
| 1,1-Dichloroethene | 500 | 0.33 | 9.3 U | 0.09 U | 0.00082 U |
| 1,2,3-Trichlorobenzene | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| 1,2,4-Trichlorobenzene | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| 1,2-Dibromo-3-chloropropane | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| 1,2-Dichlorobenzene | 500 | 1.1 | 9.3 U | **0.041 J** | **0.00039 J** |
| 1,2-Dichloroethane | 30 | 0.02 | 9.3 U | 0.09 U | 0.00082 U |
| cis-1,2-Dichloroethene | 500 | 0.25 | **250** | **6.2** | **0.0011** |
| trans-1,2-Dichloroethene, | 500 | 0.19 | **1.8 J** | **0.23** | 0.00082 U |
| 1,2-Dichloropropane | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| 1,3-Dichlorobenzene | 280 | 2.4 | 9.3 U | 0.09 U | 0.00082 U |
| cis-1,3-Dichloropropene | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| trans-1,3-Dichloropropene | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| 1,4-Dichlorobenzene | 130 | 1.8 | 9.3 U | 0.09 U | 0.00082 U |
| 1,4-Dioxane | 130 | 0.1 | 470 U | 4.5 U | 0.082 U |
| 2-Hexanone (Methyl butyl ketone) | -- | -- | 47 U | 0.45 U | 0.0041 U |
| 4-Methyl-2-pentanone (Methyl isobutyl ketone) | -- | -- | 47 U | 0.45 U | 0.0041 U |
| Acetone | 500 | 0.05 | 47 U | 0.45 U | **0.01** |
| Benzene | 44 | 0.06 | 9.3 U | 0.09 U | 0.00082 U |
| Bromochloromethane | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| Bromodichloromethane | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| Bromoform (Tribromomethane) | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| Bromomethane (Methyl bromide) | -- | -- | 9.3 U | 0.09 U | 0.0016 U |
| Carbon disulfide | -- | -- | 9.3 U | 0.09 U | **0.0033** |
| Carbon tetrachloride (Tetrachloromethane) | 22 | 0.76 | 9.3 U | 0.09 U | 0.00082 U |
| Chlorobenzene | 500 | 1.1 | 9.3 U | 0.09 U | 0.00082 U |
| Chloroethane | | -- | 9.3 U | 0.09 U | 0.00082 U |
| Chloroform | 350 | 0.37 | 9.3 U | 0.09 U | 0.00082 U |
| Chloromethane | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| Cyclohexane | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| Dibromochloromethane | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| Dichlorodifluoromethane | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| Dichloromethane (Methylene chloride) | 500 | 0.05 | 9.3 U | 0.09 U | 0.0016 U |
| Ethylbenzene | 390 | 1 | 9.3 U | 0.09 U | **0.00027 J** |
| Ethylene dibromide (1,2-Dibromoethane) | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| Isopropylbenzene (Cumene) | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| m,p-Xylene | 500 | 1.6 | **5.6 J** | **0.036 J** | **0.0011** |
| Methyl acetate | -- | -- | 47 U | 0.45 U | 0.0041 U |
| Methyl ethyl ketone (2-Butanone) | 500 | 0.12 | 47 U | 0.45 U | 0.0041 U |
| Methyl tert-butyl ether (MTBE) | 500 | 0.93 | 9.3 U | 0.09 U | 0.00082 U |
| Methylcyclohexane | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| o-Xylene | 500 | 1.6 | 9.3 U | 0.09 U | **0.00038 J** |
| Styrene | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| Tetrachloroethene (PCE) | 150 | 1.3 | **99** | **0.72** | 0.00082 U |
| Toluene | 500 | 0.7 | 9.3 U | **0.04 J** | **0.0015** |
| Trichloroethene (TCE) | 200 | 0.47 | **3600** | **26** | **0.00056 J** |
| Trichlorofluoromethane (Fluorotrichloromethane) | -- | -- | 9.3 U | 0.09 U | 0.00082 U |
| Vinyl chloride | 13 | 0.02 | 9.3 U | **0.035 J** | 0.00082 U |

## Table 1 - Documentation Sample Results

**Notes:**

Detected concentration is greater than NYSDEC 375-6 Unrestricted Use and Protection of Ground Water screening level

Detected concentration is greater than NYSDEC 375-6 Commercial Site Use screening level

**Bold** - Indicates that the compound was detected at a concentration exceeding the Method Detection Limit

Anchor QEA collected the documentation samples on the dates indicated.

Laboratory analyses conducted by Eurofins out of Edison, NJ 08817.

Calculated values have been rounded to laboratory-reported significant digits

J: Estimated value

U: Compound analyzed for, but not detected above detection limit

UJ: Compound analyzed for, but not detected above estimated detection limit

All non-detect results are reported at the reporting detection limit

10% Catergory B data validation was completed by Laboratory Data Consultants (LDC)

mg/kg: milligrams per kilogram

FD: field duplicate sample

**Table 2 - Post-Remediation Groundwater Sampling**

| Location ID: | NYSDEC TOGS 1.1.1 Class GA Standards and | Units | PMW-1 | PMW-2 | PMW-3 | PMW-3 (Duplicate) | PMW-3 | PMW-4 | | PMW-5 | | PMW-6 | | PMW-6 DUP | PMW-7 | | PMW-8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date Collected | Guidance Values | | 11/4/24 | 11/4/24 | 11/4/24 | | 4/14/25 | 11/4/24 | 4/14/25 | 11/4/24 | 4/14/25 | 11/4/24 | 4/14/25 | 4/14/25 | 11/4/24 | 4/14/25 | 11/4/24 |
| **Volatile Organics** | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| 1,1,2,2-Tetrachloroethane | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.17 U | 1.0 U | 0.17 U | 1.0 U | 0.17 U | 1.0 U | 0.17 U | 0.17 U | 1.0 U | 0.17 U | 1.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA | 1.0 U | NA | 1.0 U | NA | 1.0 U | NA | NA | 1.0 U | NA | 1.0 U |
| 1,1,2-Trichloroethane | 1 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.50 U | 1.0 U | 0.50 U | 1.0 U | 0.50 U | 1.0 U | 0.50 U | 0.50 U | 1.0 U | 0.50 U | 1.0 U |
| 1,1-Dichloroethane | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | **0.85 J** | 0.70 U | **0.29 J** | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| 1,1-Dichloroethene | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.17 U | 1.0 U | 0.17 U | 1.0 U | 0.17 U | 1.0 U | 0.17 U | 0.17 U | 1.0 U | 0.17 U | 1.0 U |
| 1,2,3-Trichlorobenzene | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| 1,2,4-Trichlorobenzene | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| 1,2-Dibromo-3-chloropropane | 0.04 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| 1,2-Dichlorobenzene | 3 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | **4.8** | **6.3** | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| 1,2-Dichloroethane | 0.6 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.13 U | 1.0 U | 0.13 U | 1.0 U | 0.13 U | 1.0 U | 0.13 U | 0.13 U | 1.0 U | 0.13 | 1.0 U |
| 1,2-Dichloroethene, cis- | 5 | µg/L | **0.86 J** | **1.3** | **3.8** | **3.7** | **5.2** | **22** | **15** | **77** | **51** | **7.7** | **6.8** | **6.8** | **1.6** | **7.0** | 1.0 U |
| 1,2-Dichloroethene, trans- | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | **0.26 J** | 0.70 U | **1.5** | **1.4 J** | **3.5** | **3.3** | **3.7** | 0.70 U | 0.70 U | **0.52 J** | 0.70 U | 1.0 U |
| 1,2-Dichloropropane | 1 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.14 U | 1.0 U | 0.14 U | **11** | **10** | **0.40 J** | 0.14 U | 0.14 U | 1.0 U | 0.14 U | 1.0 U |
| 1,3-Dichlorobenzene | 3 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| 1,3-Dichloropropene, cis- | 0.4 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.14 U | 1.0 U | 0.14 U | 1.0 U | 0.14 U | 1.0 U | 0.14 U | 0.14 U | 1.0 U | 0.14 U | 1.0 U |
| 1,3-Dichloropropene, trans- | 0.4 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.16 U | 1.0 U | 0.16 U | 1.0 U | 0.16 U | 1.0 U | 0.16 U | 0.16 U | 1.0 U | 0.16 U | 1.0 U |
| 1,4-Dichlorobenzene | 3 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | **0.44 J** | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| 1,4-Dioxane | 0.35 | µg/L | 50 U | 50 U | 50 U | 50 U | 61 U | 50 U | 61 U | 50 U | 61 U | 50 U | 61 U | 61 U | 50 U | 61 U | 50 U |
| 2-Hexanone (Methyl butyl ketone) | 50 | µg/L | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 1.0 U | 5.0 U | 1.0 U | 5.0 UJ | 1.0 U | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 1.0 U | 5.0 U |
| 4-Methyl-2-pentanone (Methyl isobutyl ketone) | | µg/L | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 1.0 U | 5.0 U | 1.0 U | 5.0 U | 1.0 U | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 1.0 U | 5.0 U |
| Acetone | 50 | µg/L | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 1.5 U | 5.0 U | 1.5 U | 5.0 UJ | 1.5 U | 5.0 U | 1.5 U | **1.5 J** | 5.0 U | 1.5 U | 5.0 U |
| Benzene | 1 | µg/L | 1.0 U | 1.0 U | **0.72 J** | **0.78 J** | **1.6** | 1.0 U | 0.16 U | 1.0 U | 0.16 U | 1.0 U | 0.16 U | 0.16 U | 1.0 U | 0.16 U | 1.0 U |
| Bromochloromethane | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| Bromodichloromethane | 50 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.19 U | 1.0 U | 0.19 U | 1.0 U | 0.19 U | 1.0 U | 0.19 U | 0.19 U | 1.0 U | 0.19 U | 1.0 U |
| Bromoform (Tribromomethane) | 50 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.65 U | 1.0 U | 0.65 U | 1.0 U | 0.65 U | 1.0 U | 0.65 U | 0.65 U | 1.0 U | 0.65 U | 1.0 U |
| Bromomethane (Methyl bromide) | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| Carbon disulfide | 60 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Carbon tetrachloride (Tetrachloromethane) | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.13 U | 1.0 U | 0.13 U | 1.0 U | 0.13 U | 1.0 U | 0.13 U | 0.13 U | 1.0 U | 0.13 U | 1.0 U |
| Chlorobenzene | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| Chloroethane | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 UJ | 0.70 U | **0.70 J** | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| Chloroform | 7 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | **2.5** | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| Chloromethane | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| Cyclohexane | | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA | 1.0 U | NA | 1.0 U | NA | 1.0 U | NA | NA | 1.0 U | NA | 1.0 U |
| Dibromochloromethane | 50 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.15 U | 1.0 U | 0.15 U | 1.0 U | 0.15 U | 1.0 U | 0.15 U | 0.15 U | 1.0 U | 0.15 U | 1.0 U |
| Dichlorodifluoromethane | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Dichloromethane (Methylene chloride) | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| Ethylbenzene | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| Ethylene dibromide (1,2-Dibromoethane) | 0.0006 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.65 U | 1.0 U | 0.65 U | 1.0 U | 0.65 U | 1.0 U | 0.65 U | 0.65 U | 1.0 U | 0.65 U | 1.0 U |
| Isopropylbenzene (Cumene) | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| m,p-Xylene | | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| Methyl acetate | | µg/L | 5.0 U | 5.0 U | 5.0 U | 5.0 U | NA | 5.0 U | NA | 5.0 UJ | NA | 5.0 U | NA | NA | 5.0 U | NA | 5.0 U |
| Methyl ethyl ketone (2-Butanone) | 50 | µg/L | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 1.9 U | 5.0 U | 1.9 U | 5.0 UJ | 1.9 U | 5.0 U | 1.9 U | 1.9 U | 5.0 U | 1.9 U | 5.0 U |
| Methyl tert-butyl ether (MTBE) | 10 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.17 U | 1.0 U | 0.17 U | 1.0 U | 0.17 U | 1.0 U | 0.17 U | 0.17 U | 1.0 U | 0.17 U | 1.0 U |

**Table 2 - Post-Remediation Groundwater Sampling**

| Location ID: | NYSDEC TOGS 1.1.1 Class GA Standards and | Units | PMW-1 | PMW-2 | PMW-3 | PMW-3 (Duplicate) | PMW-3 | PMW-4 | | PMW-5 | | PMW-6 | | PMW-6 DUP | PMW-7 | | PMW-8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methylcyclohexane | | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA | 1.0 U | NA | 1.0 U | NA | 1.0 U | NA | NA | 1.0 U | NA | 1.0 U |
| o-Xylene | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| Styrene | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| Tetrachloroethene (PCE) | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.18 U | 1.0 U | 0.18 U | **0.77 J** | **4.7** | 1.0 U | **0.67** | **0.66** | 1.0 U | 0.18 U | 1.0 U |
| Toluene | 5 | µg/L | 1.0 U | 1.0 U | **0.62 J** | **0.66 J** | 0.70 U | 1.0 U | 0.70 U | **0.76 J** | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| Trichloroethene (TCE) | 5 | µg/L | **7.4** | **0.88 J** | **7.5** | **7.7** | **1.6** | **2.9** | **2.1** | **15** | **6.4** | **1** | **6.4** | **6.2** | **0.33 J** | **3.2** | 1.0 U |
| Trichlorofluoromethane (Fluorotrichloromethane) | 5 | µg/L | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U | 0.70 U | 0.70 U | 1.0 U | 0.70 U | 1.0 U |
| Vinyl chloride | 2 | µg/L | 1.0 U | **0.66 J** | **0.77 J** | **0.73 J** | **12** | **0.45 J** | **0.12 J** | **54** | **11** | **2.9** | **0.95 J** | **0.99 J** | **0.98 J** | **4.6** | 1.0 U |
| **Miscellaneous** | | | | | | | | | | | | | | | | | |
| Total organic carbon | | mg/L | **2.7** | **19.3** | **19.9** | **20.7** | NA | **11.1** | NA | **8.3** | NA | **23.6** | NA | NA | **29.4** | NA | **9.8** |
| Ethane | | ug/L | 5.0 U | 5.0 U | **32** | **31** | NA | **11** | NA | **5.1 J** | NA | **17** | NA | NA | **120** | NA | 5.0 U |
| Ethene | | ug/L | 5.0 U | 5.0 U | 5.0 U | 5.0 U | NA | 5.0 U | NA | **4.0 J** | NA | **1.4 J** | NA | NA | 5.0 U | NA | 5.0 U |
| Methane | | µg/L | 5.0 U | **910** | **8,700** | **8,900** | NA | **1,700** | NA | **2,900** | NA | **5,100** | NA | NA | **11,000** | NA | **4,000** |
| Iron | 300 | µg/L | **153** | **167** | **24,800** | **26,300** | NA | **41,700** | NA | **6,860** | NA | **6,280** | NA | NA | **1,240** | NA | **4,980** |
| Manganese | 300 | µg/L | **34** | **170** | **918** | **900** | NA | **157** | NA | **180** | NA | **1,110** | NA | NA | **269** | NA | **630** |
| Alkalinity, total as calcium carbonate (CaCO3) | | mg/L | **87** | **421** | **231** | **225** | NA | **169** | NA | **179** | NA | **345** | NA | NA | **470** | NA | **539** |
| Alkalinity, bicarbonate as calcium carbonate (CaCO3) | | mg/L | **87** | **421** | **231** | **225** | NA | **169** | NA | **179** | NA | **345** | NA | NA | **470** | NA | **539** |
| Alkalinity, carbonate as calcium carbonate (CaCO3) | | mg/L | 5.0 U | 5.0 U | 5.0 U | 5.0 U | NA | 5.0 U | NA | 5.0 U | NA | 5.0 U | NA | NA | 5.0 U | NA | 5.0 U |
| Alkalinity, hydroxide as calcium carbonate (CaCO3) | | mg/L | 5.0 U | 5.0 U | 5.0 U | 5.0 U | NA | 5.0 U | NA | 5.0 U | NA | 5.0 U | NA | NA | 5.0 U | NA | 5.0 U |
| Ammonia as nitrogen | | mg/L | 0.10 U | **0** | **7** | **7** | NA | **2** | NA | **0** | NA | **7** | NA | NA | **17** | NA | **0** |
| Nitrate + nitrite as nitrogen (EPA Method 300.0) | 10 | mg/L | 16.0 U | 16.0 U | 8.00 U | 8.00 U | NA | 8.00 U | NA | 16.0 UJ | NA | 8.00 U | NA | NA | 8.00 U | NA | 8.00 U |
| Nitrate + nitrite as nitrogen (EPA Method 353.2) | 10 | mg/L | **1** | **0** | 0.10 U | 0.10 U | NA | 0.10 U | NA | 0.10 U | NA | 0.10 U | NA | NA | 0.10 U | NA | 0.10 U |
| Nitrate as nitrogen | 1 | mg/L | 16.0 U | 16.0 U | 8.00 U | 8.00 U | NA | 8.00 U | NA | 16.0 UJ | NA | 8.00 U | NA | NA | 8.00 U | NA | 8.00 U |
| Nitrite as nitrogen | 10 | mg/L | 16.0 U | 16.0 U | 8.00 U | 8.00 U | NA | 8.00 U | NA | 16.0 UJ | NA | 8.00 U | NA | NA | 8.00 U | NA | 8.00 U |
| Sulfate | 250 | mg/L | **2,010** | **92** | **176** | **175** | NA | **1,230** | NA | **49** | NA | **661** | NA | NA | **109** | NA | **173** |

## Table 2 - Post-Remediation Groundwater Sampling

**Notes:**

1. November 2024 samples collected by Anchor QEA.
2. April 2025 samples collected by EnviroTrac.
3. Samples analyzed by Eurofins Environmental Testing out of Edison, NJ and Lancaster, PA
4. Criteria are from NYSDEC (1998) Technical and Operational Guidance Series (TOGS) 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998. Criteria are for Class GA waters, source of drinking water.
5. Shaded data exceed criteria.
6. -- = Indicates screening criteria is not available for the given compound.
7. U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
8. J = Estimated concentration. Presented concentration is less than the method detection limit but greater than the instrument detection limit.
9. UJ = Compound analyzed for, but not detected above estimated detection limit
10. ug/L - micrograms per liter, equivalent to parts per billion.
11. mg/L - milligrams per liter, equivalent to parts per million.
12. Laboratory analytical methodologies:
    - Volatile Organic Compounds (VOCs) - EPA Method 8260D
    - Alkalinity - EPA Method 2320B
    - Ammonia-Nitrogen - EPA Method 350.1
    - Nitrate-Nitrogen - EPA Method 353.2 or 300.0
    - Sulfate - EPA Method 300.0
    - Methane/Ethene/Ethane (low-level analysis) - RSK-175
    - Total Organic Carbon (TOC) - EPA Method 5310B
    - Dissolved Iron - EPA Method 200.8 (ICP-MS)
    - Dissolved Manganese - EPA Method 200.8 (ICP-MS)

**Table 3**
**Indoor Air Monitoring Results**

| Parameter | NYSDOH Decision Matrix | Sample ID | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | IA-1 µg/m³ 4/13/25 | IA-1 (DUP) µg/m³ 4/13/25 | IA-2 µg/m³ 4/13/25 | IA-3 µg/m³ 4/13/25 | IA-4 µg/m³ 4/13/25 | IA-5 µg/m³ 4/13/25 | IA-6 µg/m³ 4/13/25 | IA-7 µg/m³ 4/13/25 | IA-8 µg/m³ 4/13/25 | IA-8 µg/m³ 11/3/25 | IA-8 (DUP) µg/m³ 11/3/25 | OA-1 µg/m³ 4/13/25 |
| *1,1,1-Trichloroethane* | 0.2[B] | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *1,1,2,2-Tetrachloroethane* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *1,1,2-Trichloroethane* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *1,1-Dichloroethane* | | ND | ND | ND | 0.809 | ND | ND | ND | ND | ND | ND | ND | ND |
| *1,1-Dichloroethene* | 0.2[A] | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,2,4-Trimethylbenzene | 2[D] | ND | ND | ND | 1.04 | ND | ND | **5.36** | **3.83** | ND | 1.37 | 1.28 | ND |
| *1,2,4-Trlchlorobenzene* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,2-Dibromoethane | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *1,2-Dichlorobenzene* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *1,2-Dichloroethane* | | ND | ND | ND | 0.809 | ND | ND | ND | ND | ND | ND | ND | ND |
| *1,2-Dichloropropane* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,3,5-Trimethylbenzene | 2[D] | ND | ND | ND | ND | ND | ND | 1.43 | ND | ND | ND | ND | ND |
| 1,3-Butadiene | | ND | ND | ND | 0.442 | ND | ND | ND | ND | ND | ND | ND | ND |
| *1,3-Dichlorobenzene* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *1,4-Dichlorobenzene* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,4-Dioxane | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2,2,4-Trimethylpentane | 2[D] | ND | ND | ND | **2.38** | ND | ND | ND | ND | ND | **3.97** | **4.10** | ND |
| 2-Butanone | | ND | ND | ND | 1.47 | 1.8 | 2.85 | 13.7 | 16.9 | ND | ND | ND | ND |
| 2-Hexanone | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *3-Chloropropene* | | ND | ND | ND | 0.626 | ND | ND | ND | ND | ND | ND | ND | ND |
| 4-Ethyltoluene | | ND | ND | ND | ND | ND | ND | 1.21 | ND | ND | ND | ND | ND |
| 4-Methyl-2-pentanone | | ND | ND | ND | ND | ND | ND | 18.4 | 13.9 | ND | ND | ND | ND |
| Acetone | | 22 | 7.97 | 20.3 | 2.38 | 43.2 | 122 | 113 | 70.8 | 4.99 | 9.07 | 8.62 | 7.46 |
| Benzene | 2[D] | **2.25** | **2.23** | 1.54 | **2.29** | ND | ND | ND | ND | ND | 1.01 | 1.07 | ND |
| *Benzyl chloride* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *Bromodichloromethane* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Bromoform | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |

**Table 3**
**Indoor Air Monitoring Results**

| Parameter | NYSDOH Decision Matrix | Sample ID | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | IA-1 µg/m³ 4/13/25 | IA-1 (DUP) µg/m³ 4/13/25 | IA-2 µg/m³ 4/13/25 | IA-3 µg/m³ 4/13/25 | IA-4 µg/m³ 4/13/25 | IA-5 µg/m³ 4/13/25 | IA-6 µg/m³ 4/13/25 | IA-7 µg/m³ 4/13/25 | IA-8 µg/m³ 4/13/25 | IA-8 µg/m³ 11/3/25 | IA-8 (DUP) µg/m³ 11/3/25 | OA-1 µg/m³ 4/13/25 |
| Bromomethane | | ND | ND | ND | 0.777 | ND | ND | ND | ND | 7.49 | ND | ND | ND |
| Carbon disulfide | | ND | ND | ND | 0.623 | ND | ND | ND | ND | ND | ND | ND | ND |
| *Carbon tetrachloride* | 0.2[A] | **0.510** | **0.459** | **0.434** | **0.365** | **0.421** | **0.308** | **0.390** | **0.384** | **0.396** | ND | ND | 0.065 |
| *Chlorobenzene* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *Chloroethane* | | ND | ND | ND | 0.528 | ND | ND | ND | ND | ND | ND | ND | ND |
| *Chloroform* | | ND | ND | ND | 0.977 | ND | ND | ND | ND | ND | ND | ND | ND |
| *Chloromethane* | | 1.21 | 1.23 | 1.22 | 0.413 | 1.16 | 1.21 | 1.19 | 1.18 | 1.25 | 1.12 | 1.02 | 1.23 |
| *cis-1,2 Dichloroethene* | 0.2[A] | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *cis-1,3-Dichloropropene* | | ND | ND | ND | ND | ND | ND | NO | ND | ND | ND | ND | ND |
| Cyclohexane | 2[D] | ND | ND | ND | 1.37 | 1.14 | **4.37** | **2.6** | ND | ND | ND | ND | ND |
| *Dibromochloromethane* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *Dichlorodlfluoromethane* | | 2.56 | 2.47 | 2.57 | 0.989 | 2.36 | 2.31 | 2.38 | 2.49 | 2.50 | 2.20 | 2.12 | 2.49 |
| Ethanol | | 14.6 | 7.45 | 12.9 | 9.42 | 22.8 | 44.5 | 35.6 | 26 | 11.4 | 24.1 | 22.4 | ND |
| Ethyl Acetate | | ND | ND | ND | 1.8 | 3.93 | ND | 5.12 | 5.41 | ND | 3.45 | 3.25 | ND |
| Ethylbenzene | 2[D] | 1.31 | 1.33 | 1.42 | 1.73 | 1.33 | 1.75 | **11.5** | **6.69** | ND | ND | ND | ND |
| *Freon-113* | | ND | ND | ND | 1.53 | ND | ND | ND | ND | ND | ND | ND | ND |
| *Freon-114* | | ND | ND | ND | 1.4 | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane | 6[E] | ND | 0.210 | ND | 1.11 | ND | ND | 1.43 | ND | ND | ND | 1.29 | ND |
| *Hexachlorobutadiene* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Isopropanol | | 7.77 | 2.79 | 7.08 | 2.46 | 7.57 | 11.5 | 44.7 | 51.4 | 2.73 | 4.25 | 4.08 | 4.94 |
| Methyl tert butyl ether | | ND | ND | ND | 0.721 | ND | ND | ND | ND | ND | ND | ND | ND |
| *Methylene chloride* | 3[B] | ND | ND | ND | 1.74 | ND | **3.05** | ND | ND | ND | ND | ND | ND |
| Naphthalene | 2[D] | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| n-Hexane | 6[E] | 3.09 | 2.40 | 2.22 | 5.89 | 4.26 | 4.02 | 2.72 | 1.08 | 0.846 | 1.10 | 1.07 | 0.973 |
| o-Xylene | 2[D] | 1.55 | 1.62 | 1.78 | **2.09** | 1.58 | 1.89 | **14.9** | **8.73** | ND | ND | ND | ND |
| m,p-Xylene | 6[E] | 5.3 | 5.34 | 5.86 | **7.04** | 5.47 | **7.12** | **59.5** | **35.7** | ND | ND | ND | ND |
| Styrene | | ND | ND | ND | 0.992 | 0.975 | 1.32 | 1.88 | ND | ND | ND | ND | ND |

**Table 3**
**Indoor Air Monitoring Results**

| Parameter | NYSDOH Decision Matrix | Sample ID | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | IA-1 µg/m³ 4/13/25 | IA-1 (DUP) µg/m³ 4/13/25 | IA-2 µg/m³ 4/13/25 | IA-3 µg/m³ 4/13/25 | IA-4 µg/m³ 4/13/25 | IA-5 µg/m³ 4/13/25 | IA-6 µg/m³ 4/13/25 | IA-7 µg/m³ 4/13/25 | IA-8 µg/m³ 4/13/25 | IA-8 µg/m³ 11/3/25 | IA-8 (DUP) µg/m³ 11/3/25 | OA-1 µg/m³ 4/13/25 |
| Tertiary butyl Alcohol | | ND | ND | ND | 1.52 | ND | ND | ND | ND | ND | ND | ND | ND |
| *Tetrachloroethene* | 3[B] | 0.448 | 0.495 | 0.481 | 1.96 | 2.22 | 0.773 | 0.312 | 1.42 | ND | ND | ND | ND |
| Tetrahydrofuran | | ND | ND | ND | **1.47** | 3.04 | 1.78 | 11 | ND | ND | ND | 2.11 | ND |
| Toluene | 10[F] | 5.09 | 4.71 | 4.03 | **11.5** | 9.2 | **19.7** | **165** | **61** | ND | 5.13 | 5.54 | ND |
| *trans-1,2-Dichloroethene* | | ND | ND | ND | 0.793 | ND | ND | ND | ND | 73.7 | 6.58 | 6.42 | ND |
| *trans-1,3-Dichloropropene* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *Trichloroethene* | 0.2[A] | 0.161 | 0.161 | 0.145 | 0.150 | 0.145 | 0.140 | 0.145 | 0.134 | ND | ND | ND | ND |
| *Trichlorofluoromethane* | | 1.14 | 0.202 | 1.56 | 1.12 | ND | ND | ND | ND | 1.3 | ND | ND | ND |
| Vinyl bromide | | ND | ND | ND | 0.874 | ND | ND | ND | ND | ND | ND | ND | ND |
| *Vinyl Chloride* | 0.2[C] | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |

## Table 3
## Indoor Air Monitoring Results

**Notes:**

- Samples collected by EnviroTrac on dates indicated.
- Samples analyzed by Pace Laboratories out of Mansfield, MA usgin methids TO-15 and TO-15 SIM.
- Analytical data were validated by Environmental Data Services, Inc. out of Palm Beach Gardens, FL.
- NYSDOH Decision Matrix values reflect the lowest criteria for indoor air comparison. The potential for vapor intrusion is being mitigated in both the pre-existing and new self-storage building.
- All results are presented in $\mu g/m^3$
- *Italicised* values indicate chlorinated compounds.
- ND - Non Detect
- NA - Not analyzed for
- **BOLD** values indicate that the detected indoor air concentration was greater than the NYSDOH's lowest decision concentration presented in their Soil Vapor/Indoor Air matrices.
- NYSDOH Decision Matrix - these matrices rely on a comparison of subslab and ambient air concentrations. The post-remediation sampling did not include subslab monitoring. The presented values represent the lowest concentrations in their respective matrix. Since both buildings have operating SSD systems, mitigation is already occuring.

  A - Matrix A

  B - Matrix B

  C - Marrix C

  D - Matrix D

  E - Matrix E

  F - Matrix F

# FIGURES

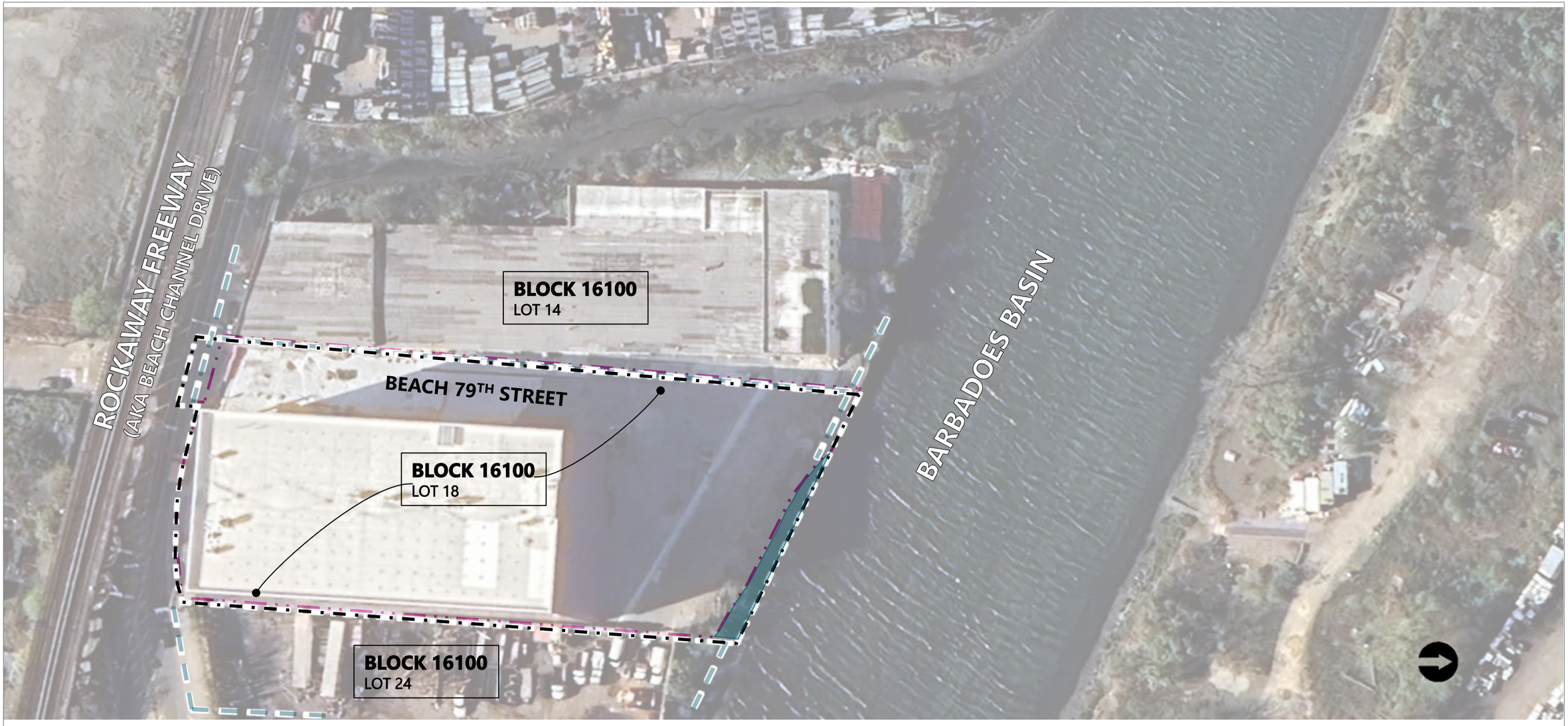
NOTES

1. SOURCE**:** USGS TOPOGRAPHIC QUADRANGLE, 7.5 MINUTE SERIES: FAR ROCKAWAY, NY, 2023.
2. ☆ = APPROXIMATE SITE LOCATION
3. NOT TO SCALE.

ANCHOR QEA

**Figure 1**
**Site Location Map**

Site Management Plan
3-60 Beach 79th Street
Far Rockaway, Queens, New York
NYSDEC BCP Site #C241207




**NOTES:**

1. MAP SOURCE: AERIAL ©2025 GOOGLE EARTH PRO DATED OCTOBER 2025.
2. LINEWORK FROM SURVEY "G17145" BY GREGORY S. GALLAS, DATED JUNE 21, 2023.
3. TAX LOT BOUNDARIES AS DESIGNATED ON THE NEW YORK CITY DIGITAL TAX MAP, DATED AUGUST 1, 2023.
4. HORIZONTAL DATUM: NEW YORK STATE PLANE, LONG ISLAND ZONE, U.S. SURVEY FEET. VERTICAL DATUM: NAD 1988.
5. MEAN HIGH WATER ELEVATION FOR THE SITE IS BASED ON TIDE GUAGE PID# KU1218.
6. REFER TO APPENDIX A FOR METES AND BOUNDS OF THE BCP LIMITS.
7. BCP = NEW YORK STATE BROWNFIELD CLEANUP PROGRAM.

**LEGEND**

- AREA OF LANDS OR WATER LYING AT OR BELOW THE MEAN HIGH-WATER ELEVATION OF 2.37 FEET
- TAX LOT BOUNDARY
- BCP LIMITS
- PROPERTY LINE
- BLOCK 16100 / LOT 18 — TAX BLOCK ID / TAX LOT ID

**SCALE**

0 — 80

Feet

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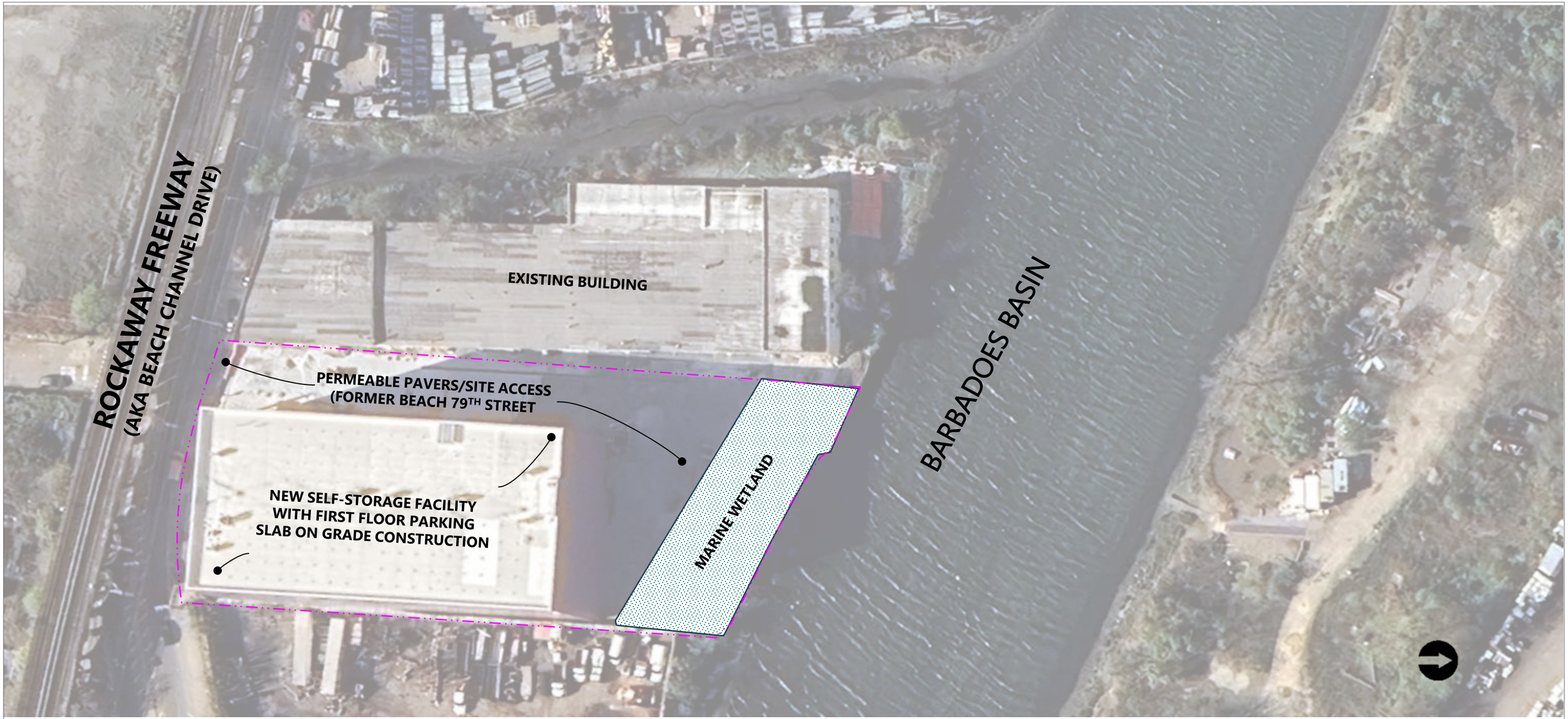
**Figure 2**
**Property Line/BCP Limits/Tax Lot Information**
Site Management Plan
3-60 Beach 79th Street
Far Rockaway, Queens, New York
NYSDEC BCP Site #C241207




**NOTES:**

1. MAP SOURCE: AERIAL ©2025 GOOGLE EARTH PRO DATED OCTOBER 2025.
2. LINEWORK FROM SURVEY "G17145" BY GREGORY S. GALLAS, DATED JUNE 21, 2023.
3. TAX LOT BOUNDARIES AS DESIGNATED ON THE NEW YORK CITY DIGITAL TAX MAP, DATED AUGUST 1, 2023.
4. HORIZONTAL DATUM: NEW YORK STATE PLANE, LONG ISLAND ZONE, U.S. SURVEY FEET.
5. REFER TO APPENDIX A FOR METES AND BOUNDS OF THE BCP LIMITS.
6. BCP = NEW YORK STATE BROWNFIELD CLEANUP PROGRAM.

**LEGEND**

BCP LIMITS

CONSTRUCTED MARINE WETLANDS

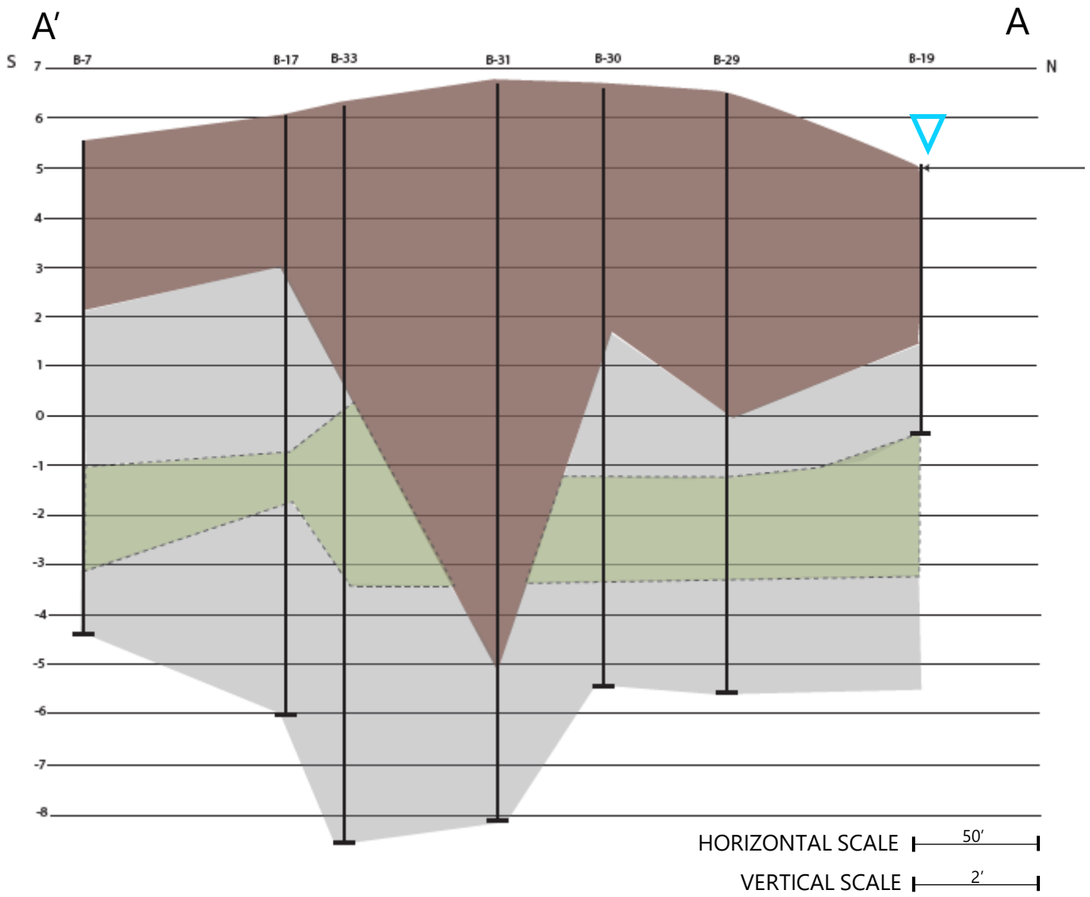
**SCALE**

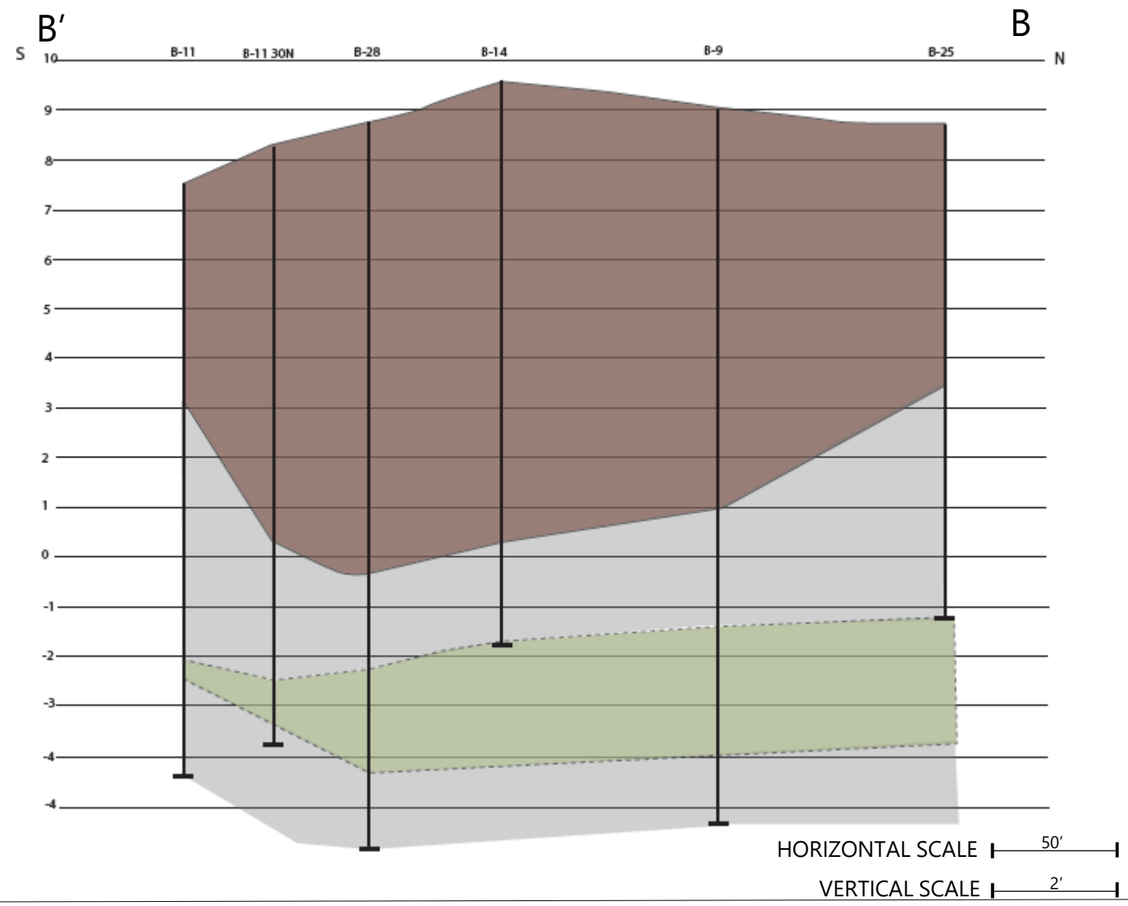
0 80

Feet

ANCHOR QEA

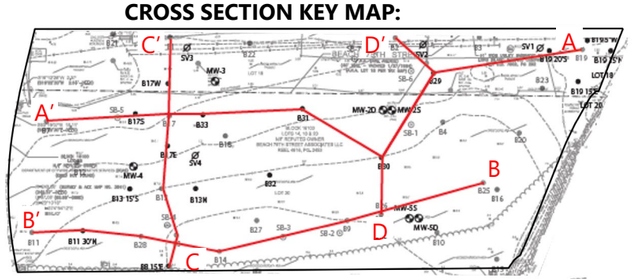
**Figure 3**
**BCP Limits/Site Layout**
Site Management Plan
3-60 Beach 79th Street
Far Rockaway, Queens, New York
NYSDEC BCP Site #C241207




SOURCE: GEOLOGIC CROSS-SECTIONS FROM *REMEDIAL INVESTIGATION REPORT* PREPARED BY GALLAGHER BASSET TECHNICAL SERVICES AND DATED SEPTEMBER 18, 2020.

**CROSS SECTION KEY MAP:**




**LEGEND**

- FILL
- NATIVE SAND
- CLAY
- APPROXIMATE GROUNDWATER ELEVATION

**SCALE**

HORIZONTAL SCALE 50′

VERTICAL SCALE 2′

VERTICAL EXAGERATION = 25:1

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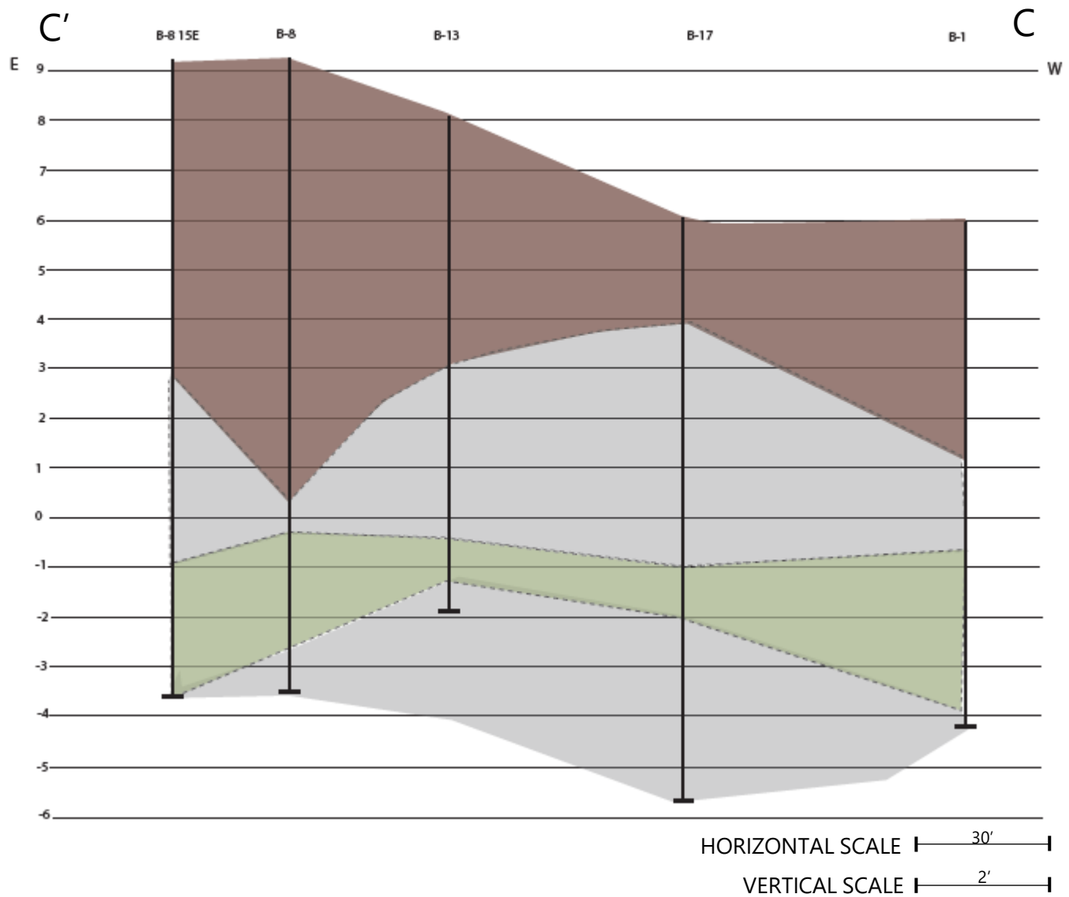
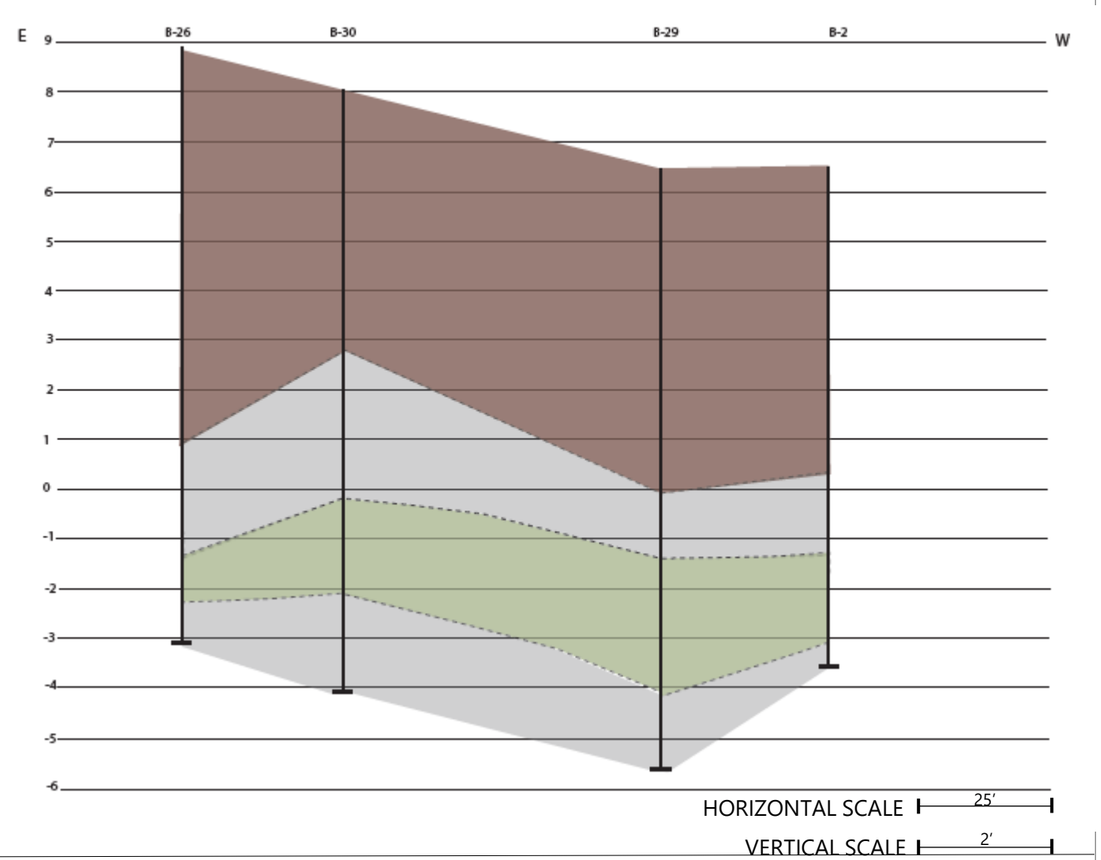
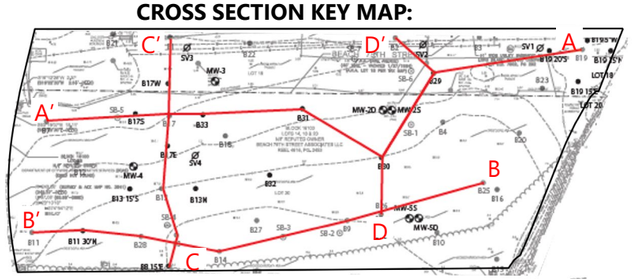
**Figure 4A**
**South – North Geologic Cross-Sections**
Site Management Plan
3-60 Beach 79th Street
Far Rockaway, Queens, New York
NYSDEC BCP Site #C241207




SOURCE: GEOLOGIC CROSS-SECTIONS FROM *REMEDIAL INVESTIGATION REPORT* PREPARED BY GALLAGHER BASSET TECHNICAL SERVICES AND DATED SEPTEMBER 18, 2020.

**CROSS SECTION KEY MAP:**




**LEGEND**

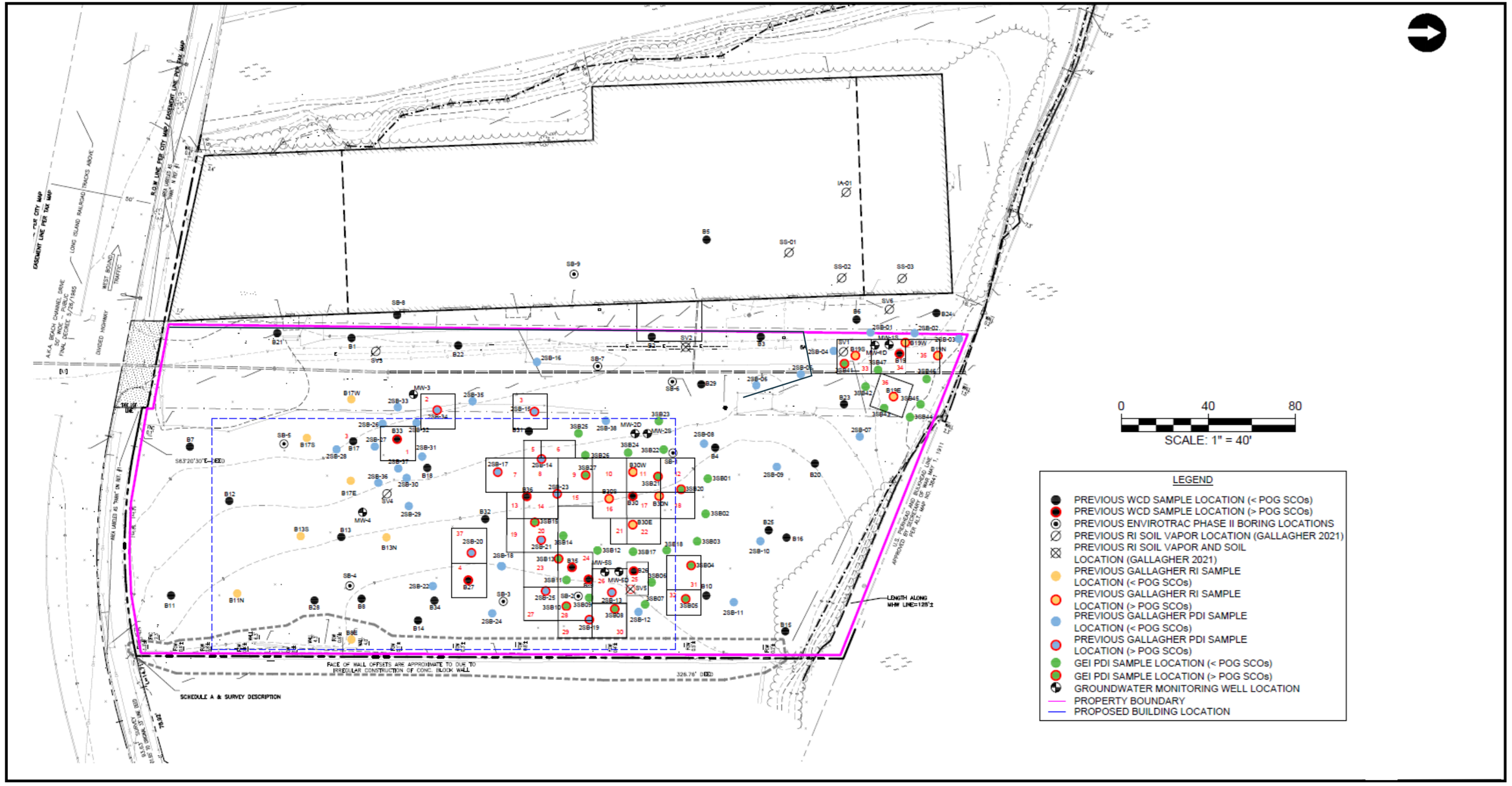
- FILL
- NATIVE SAND
- CLAY

**SCALE**

VERTICAL EXAGERATION = 25:1

ANCHOR QEA

**Figure 4B**
**West – East Geologic Cross-Sections**
Site Management Plan
3-60 Beach 79th Street
Far Rockaway, Queens, New York
NYSDEC BCP Site #C241207

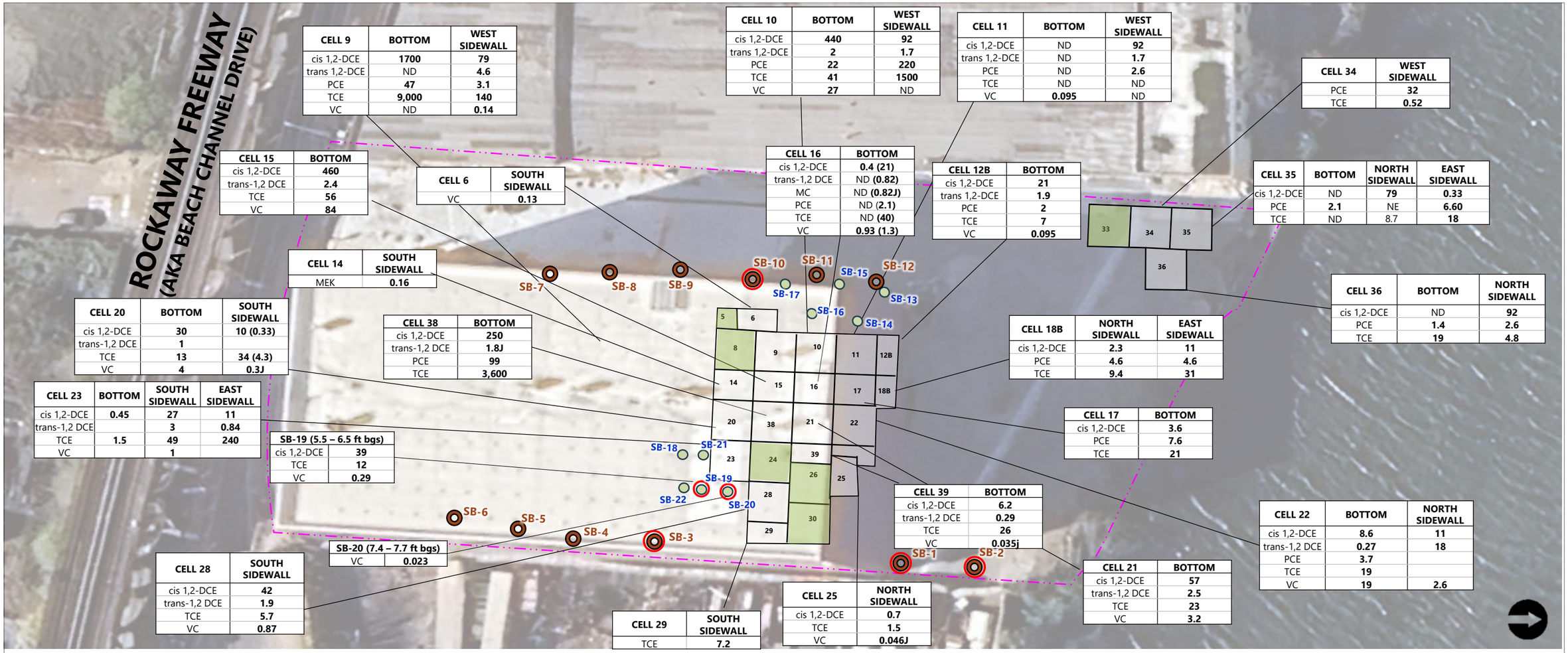



Notes:

1. Base map from Figure 3 of the *Final Remedial Design Document* prepared by GEI and dated October 2023.
2. All locations are approximate.
3. Pre-remediation investigation soil and groundwater data (including figures with posted data)_are included in Appendix

ANCHOR QEA

**Figure 5**
**Prior Investigation Sample Locations**
Site Management Plan
3-60 Beach 79th Street
Far Rockaway, Queens, New York
NYSDEC BCP Site #C241207




**NOTES:**

1. MAP SOURCE: AERIAL ©2025 GOOGLE EARTH PRO DATED OCTOBER 2025.
2. EXCAVATION CELL LOCATIONS BASED ON AS-BUILT SURVEY PREPARED BY POSILLICO.
3. RESULTS PRESENTED AS MILLIGRAMS PER KILOGRAM (MG/KG). BOLD VALUES = RESULTS ABOVE SOIL CLEANUP OBJECTIVES. RESULTS IN PARENTHESIS ARE FROM DUPLICATE SAMPLE.
4. BCP = NYS BROWNFIELD CLEANUP PROGRAM; ND - NOT DETECTED AT A CONCENTRATION GREATER THAN THE INSTRUMENT DETECTION LEVEL. SCO = SOIL CLEANUP OBJECTIVE. .J = ESTIMATED CONCENTRATION.
5. DOCUMENTATION SAMPLES WERE COLLECTED FROM THE BOTTOM AND SIDEWALLS OF EXCAVATION CELLS. ONLY RESULTS ABOVE NYSDEC SUBPART 375-6 PROTECTION OF GROUNDWATER STANDARDS ARE SHOWN IN THIS FIGURE.
6. OIL DELINEATION BORINGS INSTALLED VIA GEOPROBE ON 3/24/2024. SUPPLEMENTAL SITE CHARACTERIZATION SOIL BORINGS INSTALLED VIA GEOPROBE ON 5/17/2024.
7. ALL LOCATIONS ARE APPROXIMATE.

**ABBREVIATIONS AND SOIL CLEANUP GOALS:**

| ABBREVIATION | CHEMICAL NAME | PROTECTION OF GROUNDWATER SCO (MG/KG) |
|---|---|---|
| cis 1,2-DCE | CIS-1,2-DICHLOROETHYLENE | 0.25 |
| trans-1,2 DCE | TRANS-1,2-DICHLOROETHYLENE | 0.19 |
| MC | METHYLENE CHLORIDE | 0.05 |
| MEK | METHYL ETHYL KETONE | 0.12 |
| PCE | TETRACHLOROETHYLENE | 1.3 |
| TCE | TRICHLOROETHYLENE | 0.47 |
| VC | VINYL CHLORIDE | 0.02 |

**LEGEND**

- BCP LIMITS
- 35 — EXCAVATION CELL
- 35 — SIDEWALL AND BOTTOM SAMPLE RESULTS LESS THAN SCOs
- SB-22 — SUPPLEMENTAL SITE CHARACTERIZATION SOIL BORING, RED OUTER CIRCLE INDICATES ONE OR MORE ANALYTICAL RESULTS GREATER THAN SCOS.
- SB-1 — OIL DELINEATION BORING. RED OUTER CIRCLE INDICATES VISIBLE OIL OBSERVED IN BORING BETWEEN 5 AND 7 FEET BELOW GRADE (TOP OF THE WATER TABLE).

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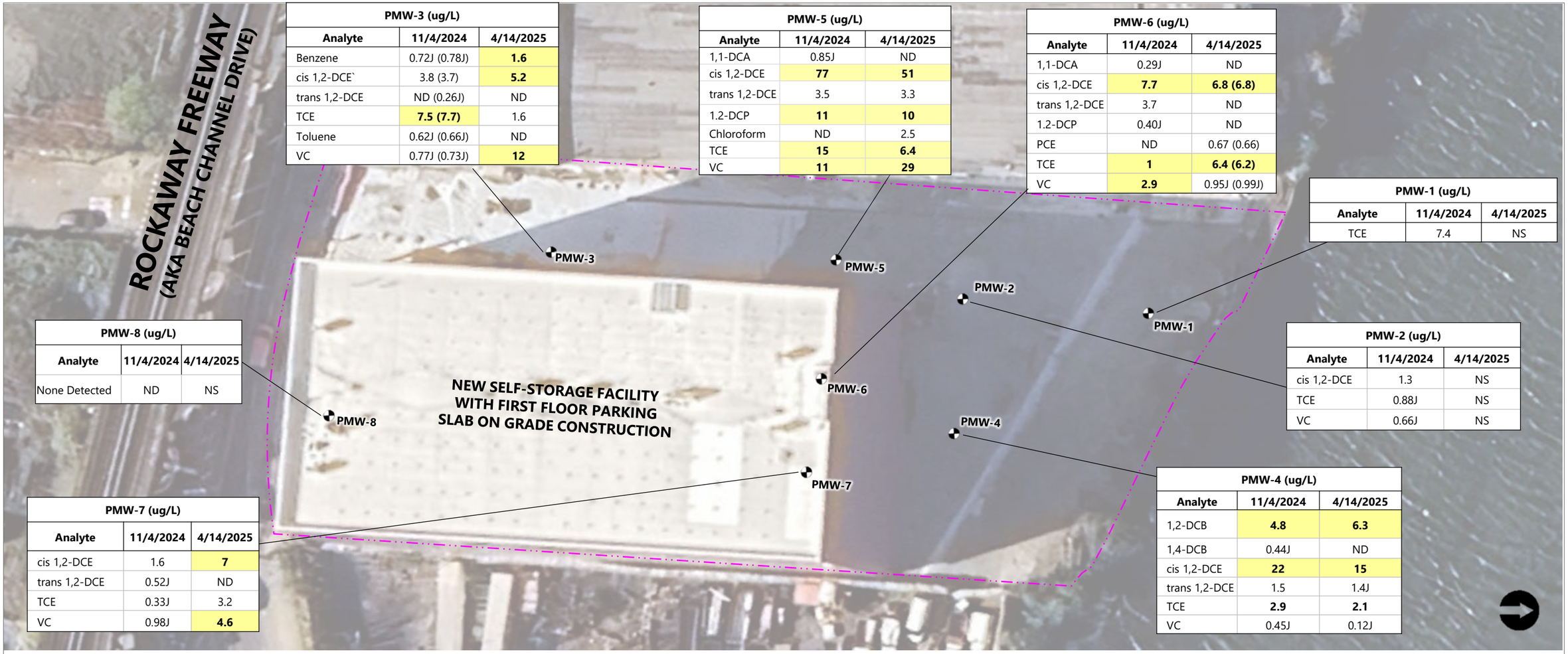
**Figure 6**
**Remaining Soil Exceedances**
Site Management Plan
3-60 Beach 79th Street
Far Rockaway, Queens, New York
NYSDEC BCP Site #C241207




| PMW-3 (ug/L) | | |
|---|---|---|
| **Analyte** | **11/4/2024** | **4/14/2025** |
| Benzene | 0.72J (0.78J) | **1.6** |
| cis 1,2-DCE` | 3.8 (3.7) | **5.2** |
| trans 1,2-DCE | ND (0.26J) | ND |
| TCE | **7.5 (7.7)** | 1.6 |
| Toluene | 0.62J (0.66J) | ND |
| VC | 0.77J (0.73J) | **12** |

| PMW-5 (ug/L) | | |
|---|---|---|
| **Analyte** | **11/4/2024** | **4/14/2025** |
| 1,1-DCA | 0.85J | ND |
| cis 1,2-DCE | **77** | **51** |
| trans 1,2-DCE | 3.5 | 3.3 |
| 1.2-DCP | **11** | **10** |
| Chloroform | ND | 2.5 |
| TCE | **15** | **6.4** |
| VC | **11** | **29** |

| PMW-6 (ug/L) | | |
|---|---|---|
| **Analyte** | **11/4/2024** | **4/14/2025** |
| 1,1-DCA | 0.29J | ND |
| cis 1,2-DCE | **7.7** | **6.8 (6.8)** |
| trans 1,2-DCE | 3.7 | ND |
| 1.2-DCP | 0.40J | ND |
| PCE | ND | 0.67 (0.66) |
| TCE | **1** | **6.4 (6.2)** |
| VC | **2.9** | 0.95J (0.99J) |

| PMW-1 (ug/L) | | |
|---|---|---|
| **Analyte** | **11/4/2024** | **4/14/2025** |
| TCE | 7.4 | NS |

| PMW-8 (ug/L) | | |
|---|---|---|
| **Analyte** | **11/4/2024** | **4/14/2025** |
| None Detected | ND | NS |

| PMW-2 (ug/L) | | |
|---|---|---|
| **Analyte** | **11/4/2024** | **4/14/2025** |
| cis 1,2-DCE | 1.3 | NS |
| TCE | 0.88J | NS |
| VC | 0.66J | NS |

| PMW-7 (ug/L) | | |
|---|---|---|
| **Analyte** | **11/4/2024** | **4/14/2025** |
| cis 1,2-DCE | 1.6 | **7** |
| trans 1,2-DCE | 0.52J | ND |
| TCE | 0.33J | 3.2 |
| VC | 0.98J | **4.6** |

| PMW-4 (ug/L) | | |
|---|---|---|
| **Analyte** | **11/4/2024** | **4/14/2025** |
| 1,2-DCB | **4.8** | **6.3** |
| 1,4-DCB | 0.44J | ND |
| cis 1,2-DCE | **22** | **15** |
| trans 1,2-DCE | 1.5 | 1.4J |
| TCE | **2.9** | **2.1** |
| VC | 0.45J | 0.12J |

**NOTES:**

1. MAP SOURCE: AERIAL ©2025 GOOGLE EARTH PRO DATED OCTOBER 2025.
2. REFER TO FIGURE 8 FOR COORDINATES OF PERMANENT MONITORING WELLS. REFER TO APPENDIX A FOR METES AND BOUNDS OF THE BCP LIMITS.
3. POST-REMEDIATION GROUNDWATER SAMPLES COLLECTED USING LOW FLOW METHODS ON THE DATES INDICATED.
4. BOLD VALUES INDICATE RESULTS ABOVE NYSDEC (1998);
5. TECHNICAL AND OPERATIONAL GUIDANCE SERIES (TOGS) 1.1.1, AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES AND GROUNDWATER EFFLUENT LIMITATIONS, JUNE 1998. CRITERIA ARE FOR CLASS GA WATERS, SOURCE OF DRINKING WATER.J = ESTIMATED CONCENTRATION
6. RESULTS IN PARENTHESIS ARE FROM A DUPLICATE SAMPLE.
7. BCP = NYS BROWNFIELD CLEANUP PROGRAM; ND - NOT DETECTED AT A CONCENTRATION GREATER THAN THE INSTRUMENT DETECTION LEVEL. NS = NOT SAMPLED. ug/L = MICROGRAMS PER LITER. PMW = PERMENANT MONITORING WELL.

**ABBREVIATIONS AND WATER QUALITY STANDARDS:**

| ABBREVIATION | CHEMICAL NAME | GA STANDARD (ug/L) |
|---|---|---|
| BENZENE | BENZENE | 1 |
| CHLOROFORM | CHLOROFORM | 7 |
| 1,2-DCB | 1,2-DICHLOROBENZENE | 3 |
| 1,4-DCB | 1,4-DICHLOROBENZENE | 3 |
| 1,1-DCA | 1,1-DICHLOROETHANE | 5 |
| CIS-1,2 DCE | CIS-1,2-DICHLOROETHYLENE | 5 |
| 1,2-DCP | 1,2-DICHLOROPROPANE | 1 |
| TRANS1,2-DCE | TRANS-1,2-DICHLOROETHYLENE | 5 |
| PCE | TETRACHLOROETHYLENE | 5 |
| TOLUENE | TOLUENE | 5 |
| TCE | TRICHLOROETHYLENE | 5 |
| VC | VINYL CHLORIDE | 2 |

**LEGEND**

BCP LIMITS

PERMANENT MONITORING WELL

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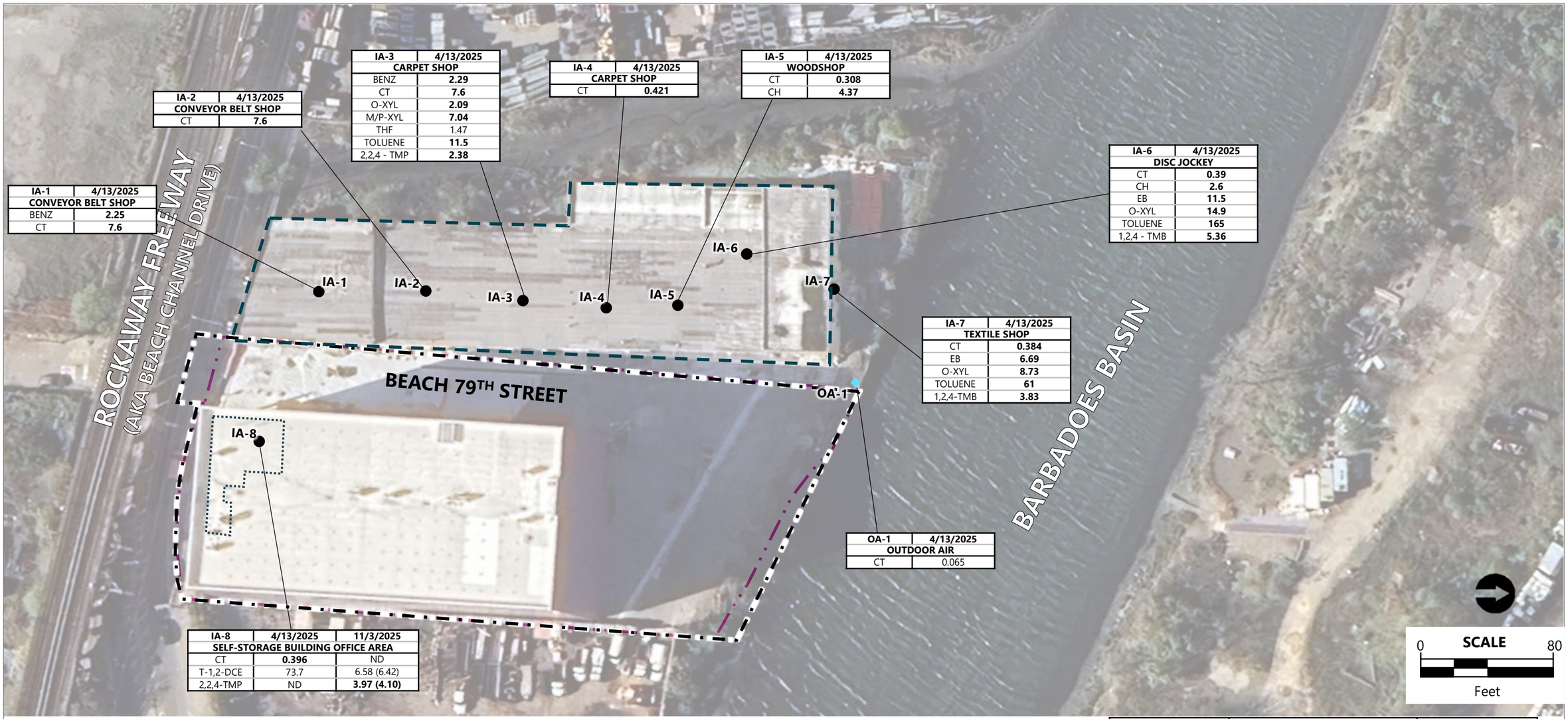
**Figure 7**

**Remaining Groundwater Exceedances**

Site Management Plan
3-60 Beach 79th Street
Far Rockaway, Queens, New York
NYSDEC BCP Site #C241207




| IA-1 | 4/13/2025 |
|---|---|
| CONVEYOR BELT SHOP | |
| BENZ | **2.25** |
| CT | **7.6** |

| IA-2 | 4/13/2025 |
|---|---|
| CONVEYOR BELT SHOP | |
| CT | **7.6** |

| IA-3 | 4/13/2025 |
|---|---|
| CARPET SHOP | |
| BENZ | **2.29** |
| CT | **7.6** |
| O-XYL | **2.09** |
| M/P-XYL | **7.04** |
| THF | 1.47 |
| TOLUENE | **11.5** |
| 2,2,4 - TMP | **2.38** |

| IA-4 | 4/13/2025 |
|---|---|
| CARPET SHOP | |
| CT | **0.421** |

| IA-5 | 4/13/2025 |
|---|---|
| WOODSHOP | |
| CT | **0.308** |
| CH | **4.37** |

| IA-6 | 4/13/2025 |
|---|---|
| DISC JOCKEY | |
| CT | **0.39** |
| CH | **2.6** |
| EB | **11.5** |
| O-XYL | **14.9** |
| TOLUENE | **165** |
| 1,2,4 - TMB | **5.36** |

| IA-7 | 4/13/2025 |
|---|---|
| TEXTILE SHOP | |
| CT | **0.384** |
| EB | **6.69** |
| O-XYL | **8.73** |
| TOLUENE | **61** |
| 1,2,4-TMB | **3.83** |

| OA-1 | 4/13/2025 |
|---|---|
| OUTDOOR AIR | |
| CT | 0.065 |

| IA-8 | 4/13/2025 | 11/3/2025 |
|---|---|---|
| SELF-STORAGE BUILDING OFFICE AREA | | |
| CT | **0.396** | ND |
| T-1,2-DCE | 73.7 | 6.58 (6.42) |
| 2,2,4-TMP | ND | **3.97 (4.10)** |

**NOTES:**

1. MAP SOURCE: AERIAL ©2025 GOOGLE EARTH PRO DATED OCTOBER 2025.
2. LINEWORK FROM SURVEY "G17145" BY GREGORY S. GALLAS, DATED JUNE 21, 2023.
3. ALL LOCATIONS ARE APPROXIMATE.
4. REFER TO APPENDIX F OF THIS SITE MANAGEMENT PLAN FOR ADDITIONAL INFORMATION REGARDING THE INDOOR SAMPLING PERFORMED.
5. BCP = NEW YORK STATE BROWNFIELD CLEANUP PROGRAM.
6. VALUES IN **BOLD** INDICATE THE COMPOUND WAS DETECTED AT CONCENTRATIONS ABOVE THE LOWEST DECISION CONCENTRATION PRESENTED IN NYS DEPARTMENT OF HEALTH'S SOIL VAPOR/INDOOR AIR MATRIX (FEBRUARY 2024 UPDATE). RESULTS PRESENTED IN PARENTHESIS ARE DUPLICATE RESULTS. ND = COMPOUND NOT DETECTED ABOVE LABORATORY DETECTION LIMIT
7. ALL RESULTS REPORTED AS MICROGRAMS PER CUBIC METER (µg/m³).

**LEGEND**

- NEW BUILDING OFFICE AREA/SSDS SYSTEM LIMITS
- EXISTING BUILDING SSDS SYSTEM LIMITS
- BCP LIMITS
- PROPERTY LINE
- IA-1 INDOOR AIR SAMPLE LOCATION
- OA-1 OUTDOOR AIR SAMPLE LOCATION

| ABBREVIATION | COMPOUND NAME | NYSDOH CRITERIA MATRIX ID |
|---|---|---|
| BENZ | BENZENE | 2[D] |
| CT | CARBON TETRACHLORIDE | 0.2[A] |
| CH | CYCLOHEXANE | 2[D] |
| T-1,2-DCE | TRANS-1,2-DICHLOROETHENE | -- |
| EB | ETHYLBENZENE | 2[D] |
| O-XYL | O-XYLENE | 2[D] |
| M/P-XYL | M/P-XYLENE | 6[E] |
| THF | TETRAHYDROFURAN | -- |
| 1,2,4-TMB | 1,2,4-TRIMETHYLBENZENE | 2[D] |
| TOL | TOLUENE | 10[F] |
| 2,2,4-TMP | 2,2,4-TRIMETHYLPENTANE | 2[D] |

-- = COMPOUND NOT INCLUDED IN NYSDOH'S SOIL VAPOR/INDOOR AIR MATRIX

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**Figure 8**
**Indoor Air Sample Results**
Site Management Plan
3-60 Beach 79th Street
Far Rockaway, Queens, New York
NYSDEC BCP Site #C241207

EXISTING BUILDING
SSDS SYSTEM LIMITS

NEW BUILDING
SSDS SYSTEM LIMITS

BEACH 79TH STREET

ROCKAWAY FREEWAY

BARBADOES BASIN

**LEGEND**

- PROPERTY LINE
- BCP LIMITS
- VMP-1 VAPOR MONITORING POINT
- SSD-1 VAPOR EXTRACTION POINT

## ENGINEERING CONTROLS

### Cover System

- PERMEABLE PAVERS
- SOIL COVER
- BUILDING/CONCRETE SLAB
- GRAVEL COVER
- EXISTING ASPHALT/ CONCRETE COVER
- NEW TRANSFORMER ON CONCRETE PAD

### Sub-Slab Depressurization Systems

### CarBstrate™ Injection System

IW-2 INJECTION WELLS (IW-1 THROUGH IW-10)

### Post-Construction Monitoring Wells

PMW-2 POST-CONSTRUCTION MONITORING WELLS (PMW-1 THROUGH PMW-8)

NOTES:

1. CERTIFIED AS-BUILT DRAWINGS OF THE SUBSLAB DEPRESSURIZATION SYSTEM INSTALLED IN THE NEW BUILDING ON LOT 18 AND THE EXISTING BUILDING ON LOT 16 ARE INCLUDED IN APPENDIX I TO THE FINAL ENGINEERING REPORT.
2. CERTIFIED AS-BUILT DRAWINGS OF THE SITE COVER SYSTEM ARE INCLUDED AS APPENDIX J OF THE FINAL ENGINEERING REPORT.
3. SIGNED AND SEALED AS-BUILT SURVEY MAPS USED TO PREPARE THIS DRAWING ARE INCLUDED IN APPENDIX I TO THE FINAL ENGINEERING REPORT.
4. HORIZONTAL DATUM: NEW YORK STATE PLANE, LONG ISLAND ZONE, US SURVEY FEET.
5. VERTICAL DATUM: NAVD88
6. BCP = BROWNFIELD CLEAUP PROGRAM

05 far rockawayAve Builtconstruction plans\2005-GOOD ENGINEERING CONTROLS.dwg 1

ANCHOR QEA

**Figure 9**

**Engineering Controls Locations**

Site Management Plan
3-60 Beach 79th Street
Far Rockaway, Queens, New York
NYSDEC BCP Site #C241207

# APPENDICES

# APPENDIX A – ENVIRONMENTAL EASEMENT

**NYC DEPARTMENT OF FINANCE**
**OFFICE OF THE CITY REGISTER**

This page is part of the instrument. The City Register will rely on the information provided by you on this page for purposes of indexing this instrument. The information on this page will control for indexing purposes in the event of any conflict with the rest of the document.

2024052700002001001E05E9

**RECORDING AND ENDORSEMENT COVER PAGE** **PAGE 1 OF 11**

**Document ID:** 2024052700002001 Document Date: 05-13-2024 Preparation Date: 05-27-2024
Document Type: EASEMENT
Document Page Count: 10

**PRESENTER:**
BETTER RECORDINGS, LLC
1 PARAGON DRIVE - RANY-50296
SUITE 150B
MONTVALE, NJ 07645
REC@BETTERTITLERESEARCH.COM

**RETURN TO:**
BETTER RECORDINGS, LLC
1 PARAGON DRIVE - RANY-50296
SUITE 150B
MONTVALE, NJ 07645
REC@BETTERTITLERESEARCH.COM

**PROPERTY DATA**

| Borough | Block | Lot | Unit | Address |
|---|---|---|---|---|
| QUEENS | 16100 | 18 | Entire Lot | 350 BEACH 79 STREET |

**Property Type:** NON-RESIDENTIAL VACANT LAND

**CROSS REFERENCE DATA**

CRFN_____ *or* DocumentID_____ *or* _____ Year_____ Reel____ Page_____ *or* File Number_____

**PARTIES**

**GRANTOR/SELLER:**
79 ARVERNE DEVELOPMENT LLC
220-46 73RD AVENUE
BAYSIDE, NY 11364

**GRANTEE/BUYER:**
THE STATE OF NEW YORK
C/O: COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENT, 625 BROADWAY
ALBANY, NY 12233

**FEES AND TAXES**

| | | |
|---|---|---|
| **Mortgage :** | | |
| Mortgage Amount: | $ | 0.00 |
| Taxable Mortgage Amount: | $ | 0.00 |
| Exemption: | | |
| TAXES: County (Basic): | $ | 0.00 |
| City (Additional): | $ | 0.00 |
| Spec (Additional): | $ | 0.00 |
| TASF: | $ | 0.00 |
| MTA: | $ | 0.00 |
| NYCTA: | $ | 0.00 |
| Additional MRT: | $ | 0.00 |
| TOTAL: | $ | 0.00 |
| Recording Fee: | $ | 87.00 |
| Affidavit Fee: | $ | 0.00 |

| | | |
|---|---|---|
| Filing Fee: | $ | 100.00 |
| NYC Real Property Transfer Tax: | $ | 0.00 |
| NYS Real Estate Transfer Tax: | $ | 0.00 |

**RECORDED OR FILED IN THE OFFICE OF THE CITY REGISTER OF THE CITY OF NEW YORK**
Recorded/Filed 05-30-2024 09:08
City Register File No.(CRFN): **2024000136891**

*City Register Official Signature*

## ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

**THIS INDENTURE** made this as of 13th day of May, 2024, between Owners, 79 Arverne Development, LLC, having an office at 220-46 73rd Avenue, Bayside, County of Queens, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee"), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

**WHEREAS,** the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

**WHEREAS,** the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

**WHEREAS,** the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

**WHEREAS,** Grantor, is the owner of real property located at the address of 350 Beach 79th Street in the City and State of New York, known and designated on the tax map of the New York City Department of Finance being a portion of tax map parcel number: Block 16100, Lot 18 (Former Lot 18 & 20), being a portion of that property conveyed to Grantor by deed dated January 11, 2018 and recorded in the City Register of the City of New York as CRFN # 2018000021063. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 1.228 +/- acres, and is hereinafter more fully described in the Land Title Survey dated February 2, 2022, last revised April 16, 2024, prepared by Gregory S. Gallas, which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

**WHEREAS**, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and



https://a836-acris.nyc.gov/DS/DocumentSearch/DocumentImageView?doc_id=2024052700002001 

**NOW THEREFORE**, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: C241207-04-18, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

**Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)**

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the New York City Department of Health and Mental Hygiene to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;



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(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

**This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation**



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## Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against



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the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: C241207
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the



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recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

11. Consistency with the SMP. To the extent there is any conflict or inconsistency between the terms of this Environmental Easement and the SMP, regarding matters specifically addressed by the SMP, the terms of the SMP will control.

**Remainder of Page Intentionally Left Blank**



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**IN WITNESS WHEREOF,** Grantor has caused this instrument to be signed in its name.

79 Arverne Development, LLC:

By: _____, Manager

Print Name: Uri Kaufman

Title: Manager Date: _____

**Grantor's Acknowledgment**

STATE OF NEW YORK )
) ss:
COUNTY OF NASSAU )

On the 5th day of May, in the year 2024, before me, the undersigned, personally appeared Uri Kaufman, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public - State of New York

JOSEPH KAUFMAN
Notary Public - State of New York
NO. 01KA0020565
Qualified in Nassau County
My Commission Expires Feb 1, 2028

**THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK**, Acting by and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Andrew O. Guglielmi, Director
Division of Environmental Remediation

**Grantee's Acknowledgment**

STATE OF NEW YORK )
) ss:
COUNTY OF ALBANY )

On the 13 day of May, in the year 2024 before me, the undersigned, personally appeared Andrew O. Guglielmi, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

Cheryl A. Salem
Notary Public State of New York
Registration No. 01SA0002177
Qualified in Albany County
My Commission Expires March 3, 2027



https://a836-acris.nyc.gov/DS/DocumentSearch/DocumentImageView?doc_id=2024052700002001 

## SCHEDULE "A" PROPERTY DESCRIPTION

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, LYING AND BEING IN THE FIFTH WARD, BOROUGH AND COUNTY OF QUEENS, CITY AND STATE OF NEW YORK BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE DIVIDING LINE BETWEEN LOT 18, LANDS NOW OR FORMERLY OF 79 ARVERNE DEVELOPMENT LLC, LOT 24, LANDS NOW OR FORMERLY OF BEACH CHANNEL DRIVE LAND ENTERPRISES, INC. AND LOT 29, LANDS NOW OR FORMERLY OF THE DEPARTMENT OF CITY WIDE ADMINISTRATIVE SERVICES (DCAS), ALSO KNOWN AS PARK LANDS PER CITY MAP NO. 3841, DATED JUNE 1, 1956, ADOPTED APRIL 9, 1957, SAID POINT BEING DISTANT THE FOLLOWING TWO COURSES FROM A POINT FORMED BY THE INTERSECTION OF THE NORTHERLY SIDE OF ROCKAWAY FREEWAY (ALSO KNOWN AS BEACH CHANNEL DRIVE), 50 FEET WIDE WITH THE WESTERLY SIDE OF BEACH 77TH STREET (50 FEET WIDE)

A.) NORTH 13 DEGREES 08 MINUTES 14.9 SECONDS EAST, A DISTANCE OF 15.40 FEET TO THE NORTHERLY LINE OF LOT 29 (PARKS LAND) THENCE;

B.) CONTINUING ALONG SAID PARKS LAND WESTERLY 93.63 FEET TO THE ABOVE DESCRIBED POINT AND PLACE OF BEGINNING RUNNING THENCE;

NORTH 15 DEGREES 44 MINUTES 50 SECONDS EAST 325.45 FEET TO THE UNITED STATES PIERHEAD AND BULKHEAD LINE OF BARBADOES BASIN;

THENCE ALONG SAID LINE OF SAID BASIN NORTH 52 DEGREES 23 MINUTES 10 SECONDS WEST 162.82 FEET TO THE EASTERLY SIDE OF LOT 14;

THENCE ALONG SAID LOT LINE SOUTH 16 DEGREES 12 MINUTES 28.5 SECONDS WEST, 373.68 FEET TO THE SOUTHEASTERLY CORNER OF LOT 14 AND THE NORTHEASTERLY CORNER OF LOT 33, THE FOLLOWING TWO COURSES THROUGH LOT 18;

THENCE SOUTH 63 DEGREES 20 MINUTES 01.5 SECONDS EAST, 40.67 FEET TO A POINT;

THENCE SOUTH 16 DEGREES 12 MINUTES 28.5 WEST, 2.38 FEET;

THENCE SOUTH 63 DEGREES 19 MINUTES 06.9 SECONDS EAST, 18.11 FEET;

THENCE EASTERLY ON THE ARC OF A CIRCLE BEARING TO THE LEFT AND HAVING A RADIUS OF 240.061 FEET, A DISTANCE OF 97.07 FEET, TO THE POINT OR PLACE OF BEGINNING.

EXCEPTING SAID AREAS OF LAND AND WATER LYING AT OR BELOW THE MEAN HIGH WATER ELEVATION.

| | | | |
|---|---|---|---|
| ACREAGE | 54,374 S.F. | OR | 1.2482 ACRES |
| LESS AREA BELOW HIGH WATER | 884± S.F. | OR | 0.0203± ACRES |
| NET AREA | 53,490± S.F. | OR | 1.2280± ACRES |

SCHEDULE A LEGAL DESCRIPTION:

BEGINNING AT A POINT ON THE DIVIDING LINE BETWEEN LOT 18, LANDS NOW OR FORMERLY OF 79 ARVERNE DEVELOPMENT LLC, LOT 24, LANDS NOW OR FORMERLY OF BEACH CHANNEL DRIVE LAND ENTERPRISES, INC. AND LOT 29, LANDS NOW OR FORMERLY OF THE DEPARTMENT OF CITY WIDE ADMINISTRATIVE SERVICES (DCAS), ALSO KNOWN AS PARK LANDS PER CITY MAP NO. 3841, DATED JUNE 1, 1956, ADOPTED APRIL 9, 1957, SAID POINT BEING DISTANT THE FOLLOWING TWO COURSES FROM A POINT FORMED BY THE INTERSECTION OF THE NORTHERLY SIDE OF ROCKAWAY FREEWAY (ALSO KNOWN AS BEACH CHANNEL DRIVE), 50 FEET WIDE, WITH THE WESTERLY SIDE OF BEACH 77TH STREET (50 FEET WIDE)

A. NORTH 13 DEGREES – 08 MINUTES – 14.9 SECONDS EAST, A DISTANCE OF 15.40 FEET TO THE NORTHERLY LINE OF LOT 29 (PARKS LAND) THENCE;

B. CONTINUING ALONG SAID PARKS LAND WESTERLY, 93.63 FEET TO THE ABOVE DESCRIBED POINT AND PLACE OF BEGINNING;

RUNNING THENCE NORTH 15 DEGREES – 44 MINUTES – 50 SECONDS EAST, 325.45 FEET TO THE UNITED STATES PIERHEAD AND BULKHEAD LINE OF BARBADOS BASIN;

THENCE ALONG SAID LINE OF SAID BASIN, NORTH 52 DEGREES – 23 MINUTES – 10 SECONDS WEST, A DISTANCE OF 162.82 FEET;

THENCE ALONG A LINE COMMON TO LOT 18 AND LOT 14, BLOCK 16100, LANDS NOW OR FORMERLY ROCKAWAY REAL EQUITY, LLC, SOUTH 16 DEGREES – 12 MINUTES – 28.5 SECONDS WEST, A DISTANCE OF 388.93 FEET TO THE NORTHERLY LINE OF ROCKAWAY FREEWAY;

THENCE ALONG SAID NORTHERLY LINE OF ROCKAWAY FREEWAY SOUTH 63 DEGREES – 20 MINUTES – 01.5 SECONDS EAST, A DISTANCE OF 40.67 FEET;

THENCE NORTH 16 DEGREES – 12 MINUTES – 28.5 SECONDS EAST, A DISTANCE OF 12.88 FEET; CONTINUING THE FOLLOWING TWO COURSES ALONG THE NORTHERLY LINE OF LOT 29 PARKS LAND PER CITY MAP NO. 3841;

THENCE SOUTH 63 DEGREES – 19 MINUTES – 06.9 SECONDS EAST, A DISTANCE OF 18.11 FEET;

THENCE EASTERLY ON THE ARC OF A CIRCLE TO THE LEFT AND HAVING A RADIUS OF 240.061 FEET, A DISTANCE OF 97.07 FEET TO THE POINT OR PLACE OF BEGINNING.

NOTES:

1. PROPERTY KNOWN AS NEW LOT 18 IN BLOCK 16100 AS DESIGNATED ON THE NEW YORK CITY DIGITAL TAX MAP, DATED AUGUST 1, 2023.
3. AREA: NEW LOT 18 54,984 S.F. OR 1.2623 AC.
3. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE, LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS. ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE ASBUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES.

   ON SITE UTILITIES WERE MARKED OUT BY COASTAL ENVIRONMENTAL SOLUTIONS, INC., PO BOX 342, MEDFORD, NEW YORK 11763, ON 06-07-2023.
4. **THIS SURVEY WAS PREPARED WITH REFERENCE TO A CERTIFICATE FOR TITLE INSURANCE (TITLE NO.RANY-60296) WITH AN EFFECTIVE DATE OF OCTOBER 23, 2023, PREPARED BY RIVERSIDE ABSTRACT, LLC AS AGENTS FOR FIDELITY NATIONAL TITLE INSURANCE COMPANY, WHERE THE FOLLOWING SURVEY RELATED EXCEPTIONS APPEAR IN SCHEDULE B:**

   4 COVENANTS, RESTRICTIONS, EASEMENTS, LEASES, AGREEMENTS OF RECORD, ETC., MORE FULLY SET FORTH HEREIN:

   4A) ELECTRIC EASEMENT RECORDED IN LIBER 7802 PAGE 292 **[SHOWN]**

   4B) TRANSIT EASEMENT RECORDED IN LIBER 4484 PAGE 201 **(PORTIONS OF DOCUMENT PROVIDED ILLEGIBLE, PAGES 209±214, APPEARS TO PERTAIN TO THE RAILROAD ALONG ROCKAWAY FREEWAY, SHOWN)**

   4C) TRANSIT EASEMENT RECORDED IN LIBER 4484 PAGE 216 **(APPEARS TO PERTAIN TO THE RAILROAD ALONG ROCKAWAY FREEWAY, SHOWN)**

   4D) FOR INFO ONLY: ZONING LOT CERTIFICATE RECORDED IN CRFN 2020000167706 **(BLANKET NOT PLOTTABLE)**

   4E) FOR INFO ONLY: ZONING LOT CERTIFICATE DESCRIPTION IN CRFN 2020000167707**(BLANKET NOT PLOTTABLE)**

   4F) EGRESS EASEMENT AGREEMENT RECORDED IN CRFN 2020000183635 **(GRANTS ACCESS FOR LOT 14 ACROSS LOT 18 NOT DEFINED BY METES & BOUNDS, NOT PLOTTABLE)**

   4G) WAIVER OF LEGAL GRADE RECORDED IN CRFN 2021000207520 **(BLANKET NOT PLOTTABLE)**

   4H) AGREEMENT RECORDED IN CRFN 2023000242003 **[SHOWN]**
6. BY GRAPHIC PLOTTING, PROPERTY IS LOCATED IN FLOOD HAZARD ZONE AE (BASE FLOOD ELEVATIONS 8 AND 9 IN NGVD 29 DATUM; ELEVATIONS 11 AND 13 IN NAVD 88 DATUM), AND PARTIALLY LOCATED IN FLOOD HAZARD ZONE X (AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD) PER NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP NO. 36047C0383F, MAP REVISED: SEPTEMBER 5, 2007, OBTAINED FROM FEMA NPHL WEB SERVICE ON JUNE 21, 2023.

   BE ADVISED THAT FEMA HAS POSTED A PRELIMINARY MAP FOR THIS AREA AND SHOWS THE PROPERTY LOCATED IN FLOOD HAZARD ZONE AE (BASE FLOOD ELEVATION 10 IN NAVD 88 DATUM) AND ZONE AE (BASE FLOOD ELEVATION 11 IN NAVD 88 DATUM) MAP NUMBER 36047C0383G, DATED DECEMBER 5, 2013.
7. EXCEPT AS SHOWN, THERE WERE NO VISIBLE STREAMS OR NATURAL WATER COURSES IN THE PROPERTY AT THE TIME OF FIELD SURVEY.
8. THE LOCATION AND EXTENTS OF UNDERGROUND TANKS AND VAULTS, IF ANY EXIST, HAVE NOT BEEN DETERMINED BY THE SURVEYOR.
9. NATIONAL GRID DID NOT RESPOND TO REQUEST FOR UNDERGROUND GAS PLANS FOR THIS SITE.
10. CON EDISON REFUSED TO ISSUE UNDERGROUND ELECTRIC PLANS FOR THIS PROJECT.
11. WETLANDS WERE DELINEATED BY CAPITAL ENVIRONMENTAL CONSULTANTS, INC. AND FIELD LOCATED BY GALLAS SURVEYING GROUP ON JULY 12, 2017.
12. IN ACCORDANCE WITH TIDE GUAGE PID # KU1218, THE TIDE ELEVATIONS IN THIS VICINITY ARE:
    MHHW = 2.73
    MHW = 2.37
    MLW = 0.26
    MLLW = 0.02
    ELEVATIONS ARE REFERENCED TO NAVD 88.
13. A SURVEY DESCRIPTION WAS PREPARED TO DESCRIBE NEW LOT 18.

REFERENCES:

1. MAP NO. 3841 SHOWING A CHANGE IN THE STREET SYSTEM HERETOFORE LAID OUT WITHIN THE TERRITORY BOUNDED BY 64TH STREET, BARBADOES BASIN, AMSTEL BLVD., B. 60TH STREET, ROCKAWAY BEACH BLVD., B. 77TH STREET AND BEACH CHANNEL DRIVE INCLUDING THE LAYOUT OF PARKS IN THE 59TH WARD, PROVIDED BY THE CITY OF NEW YORK, OFFICE OF THE PRESIDENT OF THE BOROUGH OF QUEENS, TOPOGRAPHICAL BUREAU, DATED; JUNE 1, 1956, ADOPTED APRIL 9, 1957.
2. MAP NO. 902 SHOWING A CHANGE IN THE STREET SYSTEM HERETOFORE LAID OUT WITHIN THE TERRITORY BOUNDED BY BEACH 88TH STREET, BEACH CHANNEL DRIVE, BEACH CHANNEL DR., PROLONGED, FAR ROCKAWAY BRANCH OF L.I.R.R., BEACH 79TH ST., AND ROCKAWAY BEACH BLVD. AND ESTABLISHING THE LINES AND GRADES OF HAMMELS BOULEVARD FROM BEACH 79TH ST., TO AMSTEL AVE. IN THE FIFTH WARD, PROVIDED BY THE CITY OF NEW YORK, OFFICE OF THE PRESIDENT OF THE BOROUGH OF QUEENS, TOPOGRAPHICAL BUREAU, DATED; MARCH 24, 1920.
3. MAP NO. 926 SHOWING A CHANGE IN THE STREET SYSTEM HERETOFORE LAID OUT WITHIN THE TERRITORY BOUNDED BY BEACH 88TH ST., BEACH CHANNEL DR., BEACH CHANNEL DR. PROLONGED, FAR ROCKAWAY BRANCH OF L.I.R.R., BEACH 77TH ST., AND ROCKAWAY BEACH BLVD. AND A CHANGE IN LINES AND GRADES HERETOFORE ESTABLISHED ON HAMMELS BLVD. FROM BEACH 77TH ST., TO AMSTEL BLVD. IN THE FIFTH WARD, PROVIDED BY THE CITY OF NEW YORK, OFFICE OF THE PRESIDENT OF THE BOROUGH OF QUEENS, TOPOGRAPHICAL BUREAU, DATED; JULY 25, 1921
4. MAP NO. 4897 SHOWING A CHANGE IN LEGAL GRADES ON VAN DAM STREET BETWEEN THOMSON AVENUE AND 47TH AVENUE, 47TH AVENUE BETWEEN 31ST STREET AND VAN DAM STREET AND ON THOMSON AVENUE BETWEEN 31ST STREET AND VAN DAM STREET, PROVIDED BY THE CITY OF NEW YORK, OFFICE OF THE PRESIDENT OF THE BOROUGH OF QUEENS, TOPOGRAPHICAL BUREAU, DATED; JANUARY 30, 1992.
5. SECTION MAPS, 215, 216, 218 & 219 PROVIDED BY THE CITY OF NEW YORK, OFFICE OF THE PRESIDENT OF THE BOROUGH OF QUEENS, TOPOGRAPHICAL BUREAU.
6. SURVEY OF PROPERTY, TITLE NO. ITA-3186-Q-13-S, TAX BLOCK NO. 16100, LOT NO. 14, 18 & 20, COUNTY OF: QUEENS, ARVERNE, PREPARED BY BARRY M. FAHRER, DATED; JANUARY 21, 2013, JOB NO. 20130023.
7. PLAN SHOWING THE LOCATION OF UNDERGROUND SEWER LINES PROVIDED BY THE NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION, BUREAU OF WATER AND SEWER OPERATIONS, MAP PRINTED: MAY 12, 2020.
8. PLAN SHOWING THE LOCATION OF UNDERGROUND WATER LINES PROVIDED BY THE NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION, BUREAU OF WATER AND SEWER OPERATIONS, MAP PRINTED: JUNE 28, 2017.
9. PLAN SHOWING THE LOCATION OF UNDERGROUND FDNY COMMUNICATION LINES PROVIDED BY THE NEW YORK CITY FIRE DEPARTMENT, LAST REVISED: FEBRUARY 22, 1972, MAP NO. 86.
10. PLANS SHOWING THE LOCATION OF UNDERGROUND TELEPHONE LINES PROVIDED BY EMPIRE CITY SUBWAY CO. LTD, MAPS RECEIVED: JULY 11, 2017.
11. MAP OF PROPERTY (BLOCK 16100 • LOT 7 & 85) SITUATED AT ROCKAWAY BEACH, QUEENS COUNTY, CITY OF NEW YORK, SURVEYED BY ALBERT A. BIANCO, JOB No. FA7-6532 AND DATED JANUARY 8, 1972.
12. NYC DEPARTMENT OF ENVIRONMENTAL PROTECTION LETTER, DATED: MAY 4, 2018, & MAP DF0418-120, DATED: MAY 2, 2018, RECEIVED ON 12-27-2022.
13. GEOPHYSICAL INVESTIGATION RESULTS, 340 BEACH 79TH STREET, FAR ROCKAWAY, NY, PREPARED BY COASTAL ENVIRONMENTAL SOLUTIONS INC., DATE OF INVESTIGATION MAY 26, 2023, SHOWING THE UTILITY LOCATIONS IN BEACH 79TH STREET.
14. TAX LOT SURVEY, TENTATIVE TAX LOTS 18 & 33, BLOCK 16100, (A.K.A. LOTS 18, 20, & 33, BLOCK 16100), 350 BEACH 79TH STREET, ROCKAWAY, BOROUGH AND COUNTY OF QUEENS, CITY AND STATE OF NEW YORK, PREPARED BY GALLAS SURVEYING GROUP, DATED APRIL 24, 2023, LAST REVISED APRIL 25, 2023.
15. ALTA/NSPS LAND TITLE SURVEY, LOT 18, BLOCK 16100, 350 BEACH 79TH STREET, ROCKAWAY, BOROUGH AND COUNTY OF QUEENS, CITY AND STATE OF NEW YORK, PREPARED BY GALLAS SURVEYING GROUP, DATED OCTOBER 23, 2017, LAST REVISED DECEMBER 28, 2022.
16. APPLICATION FOR MERGERS OR APPORTIONMENTS, RP602, DATED FEBRUARY 18, 2022.

SURVEY DESCRIPTION:

BEGINNING AT A POINT ON THE DIVIDING LINE BETWEEN LOT 18, LANDS NOW OR FORMERLY OF 79 ARVERNE DEVELOPMENT LLC, LOT 24, LANDS NOW OR FORMERLY OF BEACH CHANNEL DRIVE LAND ENTERPRISES, INC. AND LOT 29, LANDS NOW OR FORMERLY OF THE DEPARTMENT OF CITY WIDE ADMINISTRATIVE SERVICES (DCAS), ALSO KNOWN AS PARK LANDS PER CITY MAP NO. 3841, DATED JUNE 1, 1956, ADOPTED APRIL 9, 1957, SAID POINT BEING DISTANT THE FOLLOWING TWO COURSES FROM A POINT FORMED BY THE INTERSECTION OF THE NORTHERLY SIDE OF ROCKAWAY FREEWAY (ALSO KNOWN AS BEACH CHANNEL DRIVE), 50 FEET WIDE WITH THE WESTERLY SIDE OF BEACH 77TH STREET (50 FEET WIDE);

A. NORTH 13 DEGREES – 08 MINUTES – 14.9 SECONDS EAST, A DISTANCE OF 15.40 FEET TO THE NORTHERLY LINE OF LOT 29 (PARKS LAND) THENCE;

B. CONTINUING ALONG SAID PARKS LAND WESTERLY, 93.63 FEET TO THE ABOVE DESCRIBED POINT AND PLACE OF BEGINNING RUNNING THENCE;

NORTH 15 DEGREES - 44 MINUTES - 50 SECONDS EAST, 325.45 FEET TO THE UNITED STATES PIERHEAD AND BULKHEAD LINE OF BARBADOES BASIN;

THENCE ALONG SAID LINE OF SAID BASIN NORTH 52 DEGREES - 23 MINUTES - 10 SECONDS WEST, A DISTANCE OF 162.82 FEET;

THENCE ALONG A LINE COMMON TO LOT 18 AND LOT 14, BLOCK 16100, LANDS NOW OR FORMERLY ROCKAWAY REAL EQUITY, LLC. SOUTH 16 DEGREES - 12 MINUTES - 28.5 SECONDS WEST, A DISTANCE OF 388.93 FEET TO THE NORTHERLY LINE OF ROCKAWAY FREEWAY, THENCE;

THENCE ALONG SAID NORTHERLY LINE OF ROCKAWAY FREEWAY SOUTH 63 DEGREES - 20 MINUTES - 01.5 SECONDS EAST, A DISTANCE OF 40.67 FEET;

THENCE NORTH 16 DEGREES - 12 MINUTES - 28.5 SECONDS WEST, A DISTANCE OF 12.88 FEET; CONTINUING THE FOLLOWING TWO COURSES ALONG THE NORTHERLY LINE OF LOT 29 PARKS LAND PER CITY MAP NO. 3841;

THENCE SOUTH 63 DEGREES - 19 MINUTES - 06.9 SECONDS EAST, A DISTANCE OF 18.11 FEET;

THENCE EASTERLY ON THE ARC OF A CIRCLE TO THE LEFT AND HAVING A RADIUS OF 240.061 FEET, A DISTANCE OF 97.07 FEET TO THE POINT OR PLACE OF BEGINNING.

EASEMENT AREA DESCRIPTION:

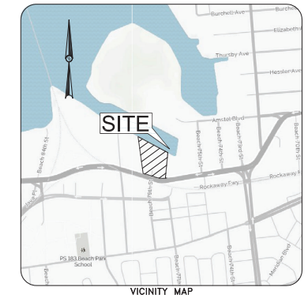
BEGINNING AT A POINT ON THE DIVIDING LINE BETWEEN LOT 20 (LANDS NOW OR FORMERLY OF 79 ARVERNE DEVELOPMENT, LLC), LOT 18 (LANDS NOW OR FORMERLY OF 79 ARVERNE DEVELOPMENT, LLC) AND LOT 33 (LANDS NOW OR FORMERLY OF THE DEPARTMENT OF CITY WIDE ADMINISTRATIVE SERVICES, DCAS), ALSO KNOWN AS PARK LANDS PER CITY MAP NO. 3841, DATED JUNE 1, 1956, ADOPTED APRIL 9, 1957, SAID POINT BEING DISTANT THE FOLLOWING TWO (2) COURSES FROM A POINT FORMED BY THE INTERSECTION OF THE NORTHERLY SIDE OF ROCKAWAY FREEWAY (ALSO KNOWN AS BEACH CHANNEL DRIVE, 50 FEET WIDE) AND THE WESTERLY SIDE OF BEACH 77TH STREET (50 FEET WIDE);

A. NORTH 13 DEGREES - 08 MINUTES - 14.9 SECONDS EAST, A DISTANCE OF 15.40 FEET TO THE NORTHERLY LINE OF LOT 29 (PARKS LAND), THENCE;

B. CONTINUING ALONG SAID PARKS LAND, WESTERLY, A DISTANCE OF 208.81 FEET TO A POINT, THENCE;

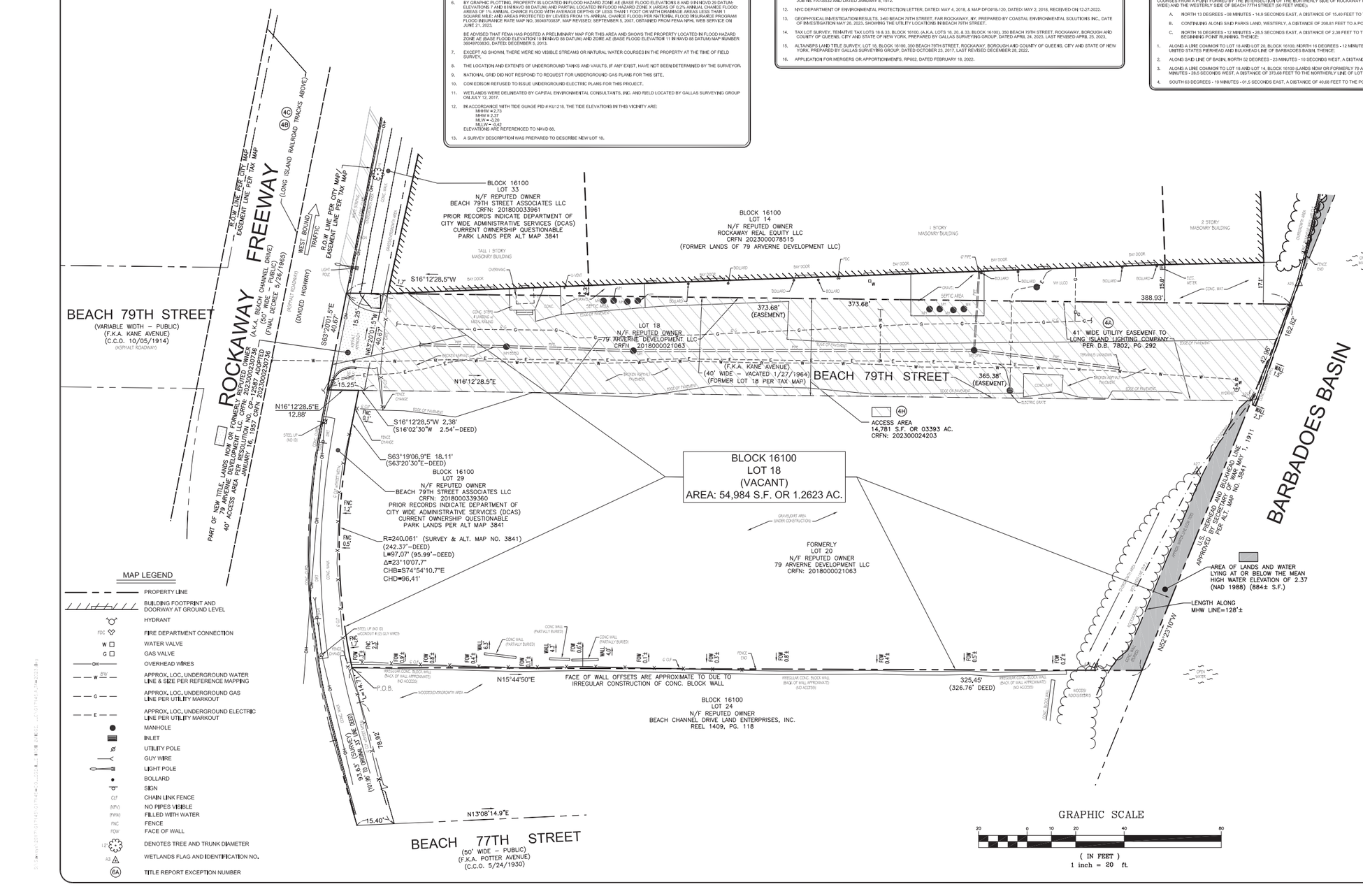
C. NORTH 16 DEGREES - 12 MINUTES - 28.5 SECONDS EAST, A DISTANCE OF 2.39 FEET TO THE POINT AND PLACE OF BEGINNING AND FROM SAID BEGINNING POINT RUNNING, THENCE;

1. ALONG A LINE COMMON TO LOT 18 AND LOT 20, BLOCK 16100, NORTH 16 DEGREES - 12 MINUTES - 28.5 SECONDS EAST, A DISTANCE OF 365.38 FEET TO THE UNITED STATES PIERHEAD AND BULKHEAD LINE OF BARBADOES BASIN, THENCE;
2. ALONG SAID LINE OF BASIN, NORTH 52 DEGREES - 23 MINUTES - 10 SECONDS WEST, A DISTANCE OF 42.96 FEET, THENCE;
3. ALONG A LINE COMMON TO LOT 18 AND LOT 14, BLOCK 16100 (LANDS NOW OR FORMERLY 79 ARVERNE DEVELOPMENT, LLC), SOUTH 16 DEGREES - 12 MINUTES - 28.5 SECONDS WEST, A DISTANCE OF 373.69 FEET TO THE NORTHERLY LINE OF LOT 33, PARK LANDS PER CITY MAP NO. 3841, THENCE;
4. SOUTH 63 DEGREES - 19 MINUTES - 01.5 SECONDS EAST, A DISTANCE OF 40.68 FEET TO THE POINT AND PLACE OF BEGINNING.




VICINITY MAP

REEL 4616, PG. 2453




MAP LEGEND

- PROPERTY LINE
- BUILDING FOOTPRINT AND DOORWAY AT GROUND LEVEL
- HYDRANT
- FDC – FIRE DEPARTMENT CONNECTION
- W – WATER VALVE
- G – GAS VALVE
- OH – OVERHEAD WIRES
- W – APPROX. LOC. UNDERGROUND WATER LINE & SIZE PER REFERENCE MAPPING
- G – APPROX. LOC. UNDERGROUND GAS LINE PER UTILITY MARKOUT
- E – APPROX. LOC. UNDERGROUND ELECTRIC LINE PER UTILITY MARKOUT
- MANHOLE
- INLET
- UTILITY POLE
- GUY WIRE
- LIGHT POLE
- BOLLARD
- SIGN
- CLF – CHAIN LINK FENCE
- (NPV) – NO PIPES VISIBLE
- (FWW) – FILLED WITH WATER
- FNC – FENCE
- FOW – FACE OF WALL
- 12" – DENOTES TREE AND TRUNK DIAMETER
- #1 – WETLANDS FLAG AND IDENTIFICATION NO.
- (6A) – TITLE REPORT EXCEPTION NUMBER

GRAPHIC SCALE

20 0 10 20 40 80

( IN FEET )
1 inch = 20 ft.

UTILITIES:

THE FOLLOWING COMPANIES WERE NOTIFIED BY NEW YORK CITY AND LONG ISLAND ONE-CALL SYSTEM (1-800-272-4480) AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST. SERIAL NUMBER(S): 171782685 & 231721088.

| UTILITY COMPANY | PHONE NUMBER |
|---|---|
| CONSOLIDATED EDISON CO. OF N.Y. | (800) 778-9140 |
| NATIONAL GRID | (866) 507-3010 |
| LONG ISLAND POWER AUTHORITY | (800) 545-7068 |
| VERIZON COMMUNICATIONS | (855) 661-6323 |

**NOTE: ALL UTILITY COMPANIES DID NOT RESPOND TO MARKOUT REQUEST.**

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

| No. | DESCRIPTION OF REVISION | DRAWN: | DATE |
|---|---|---|---|
| 5 | MISCELLANEOUS REVISION | A.J.B. | 12-06-2023 |
| 4 | REVISED DEED REFERENCE | A.J.B. | 12-06-2023 |
| 3 | REVISED PER UPDATED TITLE REPORT, NO FIELD UPDATE | A.J.B. | 11-27-2023 |
| 2 | MISCELLANEOUS REVISION | A.J.B. | 09-13-2023 |
| 1 | REVISE TO ADD PROPOSED EASEMENT | R.M.C. | 08-28-2023 |

ALTA/NSPS LAND TITLE SURVEY

# NEW LOT 18, BLOCK 16100

350 BEACH 79TH STREET
ROCKAWAY
BOROUGH AND COUNTY OF QUEENS
CITY AND STATE OF NEW YORK


GALLAS SURVEYING GROUP
2865 U.S. ROUTE 1
NORTH BRUNSWICK, NJ 08902
TELE: 732-422-6700
FAX: 732-940-8786
www.gallassurvey.com


| DATE | SCALE | DRAWN: | CHECKED: |
|---|---|---|---|
| 08-08-2023 | 1"=20' | W.B./A.J.B. | G.S.G. |

| FIELD DATE | FIELD BOOK | PAGE | FIELD CREW |
|---|---|---|---|
| 07-12-2017 | | | |
| 07-13-2017 | 80 | 54-56 | P.P./O.D. |
| 12-24-2019 | - | - | M.C. |
| 05-19-2020 | - | - | K.C./O.D. |
| 01-28-2022 | - | - | J.V. |
| 09-26-2022 | 183 | 30 | D.A. |
| 06-21-2023 | 196 | 38 | J.D. |

| FILE NO.: | DRAWING NAME/SHEET NO. |
|---|---|
| G17145 | G17145,ALTA-2023,DWG 1 OF 1 |

TO: FLUSHING BANK, ITS SUCCESSORS AND/OR ASSIGNS
FIDELITY NATIONAL TITLE INSURANCE COMPANY
79 ARVERNE DEVELOPMENT LLC
RIVERSIDE ABSTRACT, LLC

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 13, AND 14 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON 07/13/2017 AND UPDATED ON JUNE 21, 2023.

NOT VALID UNLESS EMBOSSED WITH RAISED IMPRESSION OR BLUE INK SEAL

GREGORY S. GALLAS — DATE
NEW YORK PROFESSIONAL LAND SURVEYOR #50124

New York 811
SAFETY IS IN YOUR HANDS. EVERY DIG. EVERY TIME.

THE STATE OF NEW YORK REQUIRES NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE. "KNOW WHAT'S BELOW" PUBLIC SERVICE COMMISSION, NEW YORK STATE CODE RULE 753

# APPENDIX B – LIST OF SITE CONTACTS

| Role | Name | Phone | Email Address |
|---|---|---|---|
| Site Owner<br>Remedial Party | 79 Arverne LLC<br>Uri Kaufman | 917-453-3384 | urikaufman50@gmail.com |
| Remedial Engineer | Anchor QEA Engineering, PLLC<br>Margaret Carrillo-Sheridan, PE | 315-414-2049 | mcarrillo-sheridan@anchorqea.com |
| NYSDEC Project Manager | Mandy Yau | 718- 482-7778 | mandy.yau@dec.ny,gov |
| NYSDEC Project Manager's Supervisor | Cris-Sandra Maycock | 718-482-4679 | cris-sandra.maycock@dec.ny.gov |
| NYSDEC Site Control | Kelly Lewandowski | 518-402-9569 | DERSiteControl@dec.ny.gov |
| NYSDOH Project Manager | Julia Kenney | 518- 402-7873 | julia.kenney@health.ny.gov |
| NYSDOH Region Chief | Scarlett McLaughlin | 518-402-7860 | scarlett.mclaughlin@health.ny.gov |
| Existing Building Manager<br>Site Manager | Abingdon Capital, LLC<br>Kevin Desharnais | 914-482-7622 | kevin@abingdon-llc.com |
| Remedial Party Attorney | Allen&Desnoyers, LLP<br>Dale Desnoyer, Esq. | 518-426-2290 | Dale@allendesnoyers.com |

# APPENDIX C – EXCAVATION WORK PLAN (EWP)

## Notification

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination or breach or alter the Site's cover system, the Site owner or their representative will notify the NYSDEC contacts listed in the table below. Table [C-1] includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of Site-related contact information is provided in Appendix B.

**Table C-1: Notifications***

| **Name** | **Contact Information** |
|---|---|
| NYSDEC Project Manager<br>Mandy Yau | (631) 482-7778<br>mandy.yau@dec.ny.gov |
| NYSDEC Project Manager's Supervisor<br>Cris-Sandra Maycock | (718) 482-4679<br>cris-sandra.maycock@dec.ny.gov |
| Chief, Site Control Section<br>Kelly Lewandowski | (518) 402-9569<br>DERSiteControl@dec.ny.gov |
| NYSDOH Project Manager<br>Julia Kenney | (518) 402-7873<br>julia.kenney@health.ny.gov |

* Note: Notifications are subject to change and will be updated as necessary.

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for Site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated, any modifications of truck routes, and any work that may impact an engineering control.
- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling.

- A schedule for the work, detailing the start and completion of all intrusive work, and submittals (e.g., reports) to the NYSDEC documenting the completed intrusive work.

- A summary of the applicable components of this EWP.

- A statement that the work will be performed in compliance with this EWP, 29 CFR 1910.120 and 29 CFR 1926 Subpart P.

- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in Appendix H of this SMP.

- Identification of disposal facilities for potential waste streams.

- Identification of sources of any anticipated backfill, along with the required request to import form and all supporting documentation including, but not limited to, chemical testing results.

The NYSDEC project manager will review the notification and may impose additional requirements for the excavation that are not listed in this EWP. The alteration, restoration, and modification of engineering controls must conform with Article 145 Section 7209 of the Education Law regarding the application of professional seals and alterations.

## C-2 Soil Screening Methods

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed during all excavations into known or potentially contaminated material (remaining contamination) or a breach of the cover system. A qualified environmental professional as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State will perform the screening. Soil screening will be performed when invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-Site disposal and material that requires testing to determine if the material can be reused on-Site as soil beneath a cover or if the material can be used as cover soil. Further discussion of off-Site disposal of materials and on-Site reuse is provided in Section C-6 of this Appendix.

## C-3 Soil Staging Methods

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps unless being actively managed (adding soils or removing stockpiled soils). Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by the NYSDEC.

## C-4 Materials Excavation and Load-Out

A qualified environmental professional as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and remedial party (if applicable) and its contractors are responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the Site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the Site. A Site utility stakeout will be completed for all utilities prior to any ground intrusive activities at the Site.

Loaded vehicles leaving the Site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local,

and NYSDOT requirements (and all other applicable transportation requirements). Trucks transporting contaminated soil must have either tight-fitting opaque covers that are secured on the sides and/or back, or opaque covers that are locked on all sides.

A truck wash will be operated on-Site, as appropriate. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the Site until the activities performed under this section are complete. Truck wash waters will be collected and disposed of off-Site in an appropriate manner.

Locations where vehicles enter or exit the Site shall be inspected daily for evidence of off-Site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the Site are clean of dirt and other materials derived from the Site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials. Material accumulated from the street cleaning and egress cleaning activities will be disposed off-Site at a permitted landfill facility in accordance with all applicable local, State, and Federal regulations.

## C-5 Materials Transport Off-Site

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the Site will be secured with either tight-fitting opaque covers that are secured on the sides and/or back, or opaque covers that are locked on all sides. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

Truck transport routes will follow the NYC Department of Transportation Truck Route Map[1]. A copy of the truck route map is attached to this appendix as Exhibit E-1.

[1] In accordance with the New York City Traffic Rules and Regulations as contained in Chapter 4 of Title 34 of the Rules of the City of New York, all trucks (two axles and six tires, or three or more axles) are required to follow the truck route network to the greatest extent possible, deviating from it only for the minimum distance required to get from their origin to the nearest truck route and/or from the nearest

All trucks loaded with Site materials will exit the vicinity of the Site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport;

Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site.

Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and development.

Queuing of trucks will be performed on-Site in order to minimize off-Site disturbance. Off-Site queuing will be prohibited.

## C-6 Materials Disposal Off-Site

All material excavated and removed from the Site will be treated as contaminated and regulated material and will be transported and disposed off-Site in a permitted facility in accordance with all local, State and Federal regulations. If disposal of material from this Site is proposed for unregulated off-Site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC project manager. Unregulated off-Site management of materials from this Site will not occur without formal NYSDEC project manager approval.

Off-Site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, (e.g. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C&D debris recovery facility). Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include, but will not be limited to: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

truck route to the destination. The Truck Route network is updated and the drivers are responsible for planning and verifying their route to and from the Site.

Non-hazardous historic fill and contaminated soils taken off-Site will be handled consistent with 6 NYCRR Parts 360, 361, 362, 363, 364 and 365. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State C&D debris recovery facility (6 NYCRR Subpart 360-15 registered or permitted facility).

## C-7 Materials Reuse On-Site

The qualified environmental professional, as defined in 6 NYCRR Part 375, will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material (i.e. contaminated) does not remain on-Site. Contaminated on-Site material, including historic fill and contaminated soil, that is acceptable for reuse on-Site will be placed below the demarcation layer or impervious surface, and will not be reused within the cover system or within landscaping berms. Contaminated on-Site material may only be used beneath the Site cover as backfill for subsurface utility lines with prior approval from the DEC project manager.

Proposed materials for reuse on-Site must be sampled for full suite analytical parameters including per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane. The sampling frequency will be in accordance with DER-10 Table 5.4(e)10 unless prior approval is obtained from the NYSDEC project manager for modification of the sampling frequency. The analytical results of soil/fill material testing must meet the Site use criteria presented in NYSDEC DER-10 Appendix 5 – Allowable Constituent Levels for Imported Fill or Soil for all constituents listed, and the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances dated November 2022 (or date of current version, whichever is later) guidance values. Approvals for modifications to the analytical parameters must be obtained from the NYSDEC project manager prior to the sampling event.

Soil/fill material for reuse on-Site will be segregated and staged as described in Sections C-2 and C-3 of this EWP. The anticipated size and location of stockpiles will be provided in the 15-day notification to the NYSDEC project manager. Stockpile locations will be based on the location of Site excavation activities and proximity to nearby Site features. Material reuse on-Site will comply with requirements of NYSDEC DER-10

Section 5.4(e)4. Any modifications to the requirements of DER-10 Section 5.4(e)4 must be approved by the NYSDEC project manager.

Any demolition material proposed for reuse on-Site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-Site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the Site will not be reused on-Site.

## C-8 Fluids Management

All liquids to be removed from the Site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported and disposed off-Site at a permitted facility in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the Site, and will be managed off-Site, unless prior approval is obtained from NYSDEC.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES permit.

## C-9 Cover System Restoration

After the completion of soil removal and any other invasive activities, the cover system will be restored in a manner that complies with the decision document. The cover system is comprised of a minimum of one foot of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Substitution of other materials and components for the cover system may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations, and building slabs. The demarcation layer, consisting of geotextile material, has been placed to provide a visual reference to the top of the remaining contamination zone, the zone that requires adherence to special conditions for disturbance

of remaining contaminated soils defined in this SMP. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the remaining contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in an updated SMP. The alteration, restoration and modification of engineering controls must conform with Article 145 Section 7209 of the Education Law regarding the application professional seals and alterations.

## C-10 Backfill from Off-Site Sources

All materials proposed for import onto the Site will be approved by the qualified environmental professional, as defined in 6 NYCRR Part 375, and will comply with provisions in this SMP prior to receipt at the Site. A Request to Import/Reuse Fill or Soil form, which can be found at http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager, allowing a minimum of 5 business days for review.

Material from industrial sites, spill sites, other environmental remediation sites, or potentially contaminated sites will not be imported to the Site.

All imported soils will meet the backfill and cover soil quality standards established in 6 NYCRR 375-6.7(d) and DER-10 Appendix 5 for commercial use. Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards are listed in Table E-1. Soils that meet ‘general’ fill requirements under 6 NYCRR Part 360.13, but do not meet backfill or cover soil objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC project manager. Soil material will be sampled for the full suite of analytical parameters, including PFAS and 1, 4-dioxane. Solid waste will not be imported onto the Site.

Trucks entering the Site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

## C-11 Stormwater Pollution Prevention

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by the NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

## C-12 Excavation Contingency Plan

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development-related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition. The NYSDEC project manager will be promptly notified of the discovery.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes [TAL metals, TCL volatiles and semi-volatiles (including 1,4-dioxane), TCL pesticides and PCBs, and PFAS] unless the Site history and previous sampling results provide sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC project manager for approval prior to sampling. Any tanks will be closed as per NYSDEC regulations and guidance.

Identification of unknown or unexpected contaminated media identified by screening during invasive Site work will be promptly communicated by phone within two hours to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the Periodic Review Report.

## C-13 Community Air Monitoring Plan

A figure showing the location of air sampling stations based on generally prevailing wind conditions is shown in Appendix I. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

## C-13A: Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 part-per-million, monitoring should occur within the occupied structure(s). Depending upon the nature of contamination, chemical-specific colorimetric tubes of sufficient sensitivity may be necessary for comparing the exposure point concentrations with appropriate pre-determined

response levels (response actions should also be pre-determined). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.

- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 micrograms per cubic meter, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 micrograms per cubic meter or less at the monitoring point.

- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each Site.

**C-13B: Special Requirements for Indoor Work with Co-Located Residences or Facilities**

Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements shall be as stated above under "Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures" except that in this instance "nearby/occupied structures" would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining rooms, should be understood and the monitoring locations established accordingly. In these situations, it is strongly recommended that exhaust fans or other engineering controls be used to create negative air pressure within the work area during remedial activities. Additionally, it is strongly recommended that the planned work be implemented during hours (e.g. weekends or evenings) when building occupancy is at a minimum.

## C-14 Odor Control Plan

This odor control plan is capable of controlling emissions of nuisance odors off-Site and on-Site. Specific odor control methods to be used on a routine basis will include limiting size of excavation area and exposed soil faces, and or application of a vapor suppressant such as Biosolve® or Rusmar Foam Technologies™. If nuisance odors are identified at the Site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the remedial party's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-Site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; and (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-Site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

## C-15 Dust Control Plan

Particulate monitoring must be conducted according to the Community Air Monitoring Plan (CAMP) provided in Appendix I. If particulate levels at the Site exceed the thresholds listed in the CAMP or if airborne dust is observed on the Site or leaving

the Site, the dust suppression techniques listed below will be employed. The remedial party will also take measures listed below to prevent dust production on the Site.

A dust suppression plan that addresses dust management during invasive on-Site work will include, at a minimum, the items listed below:

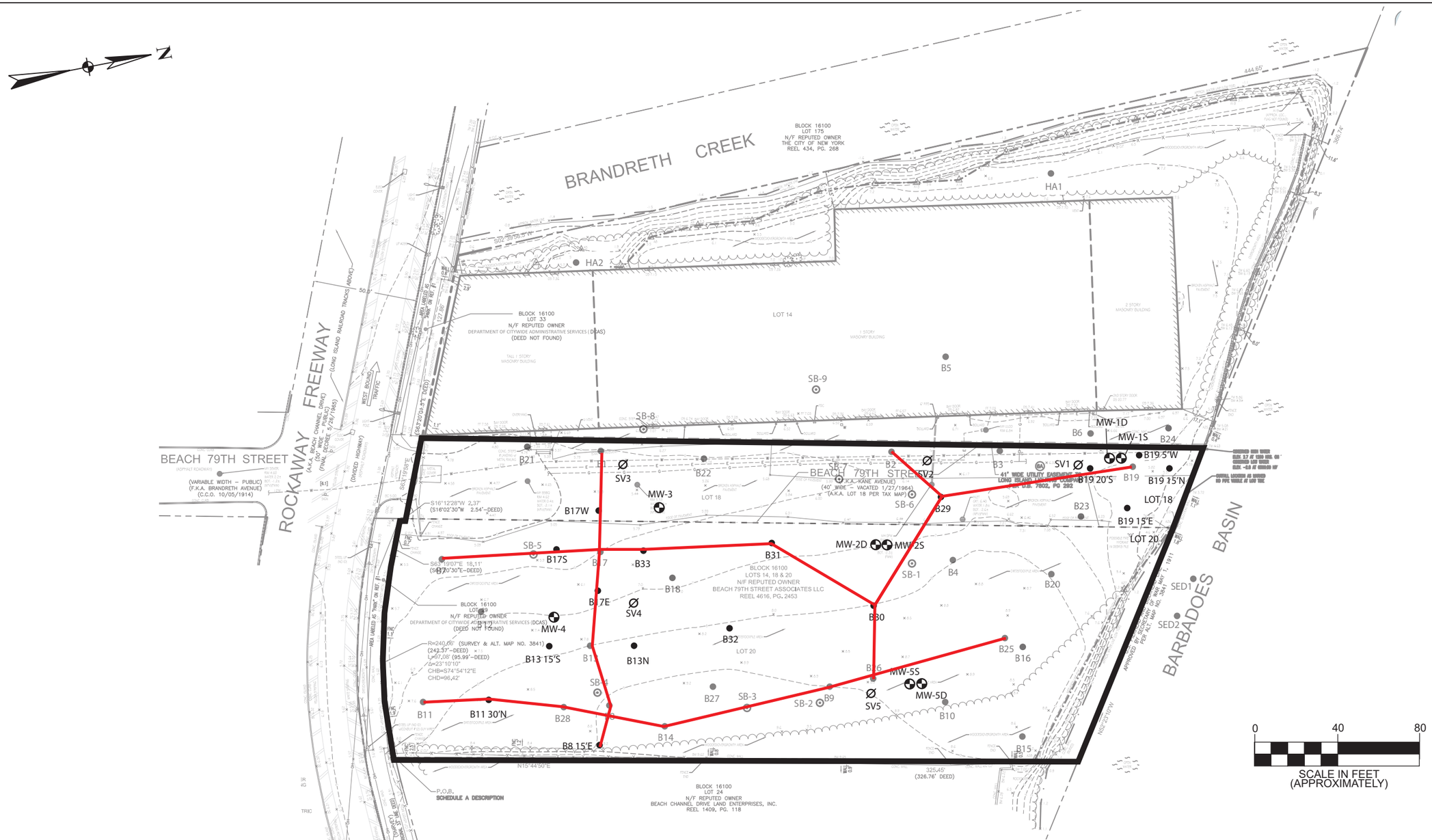
- Dust suppression will be achieved using a dedicated on-Site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-Site roads will be limited in total area to minimize the area required for water truck sprinkling.

## C-16 Other Nuisances

A plan for rodent control will be developed and utilized by the contractor prior to and during Site clearing and Site grubbing, and during all remedial work.

A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

# APPENDIX D - GEOLOGIC CROSS-SECTIONS AND SOIL BORING LOGS




Legend:

- subject property border
- lot line
- previous WCD sample location
- previous Envirotrac Phase II boring locations (2016)
- soil vapor and soil sample location
- monitoring well location
- soil sample location
- cross section locations

Base map provided by Gallas Surveying Group dated 10-23-2017.All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

# Cross Section Map

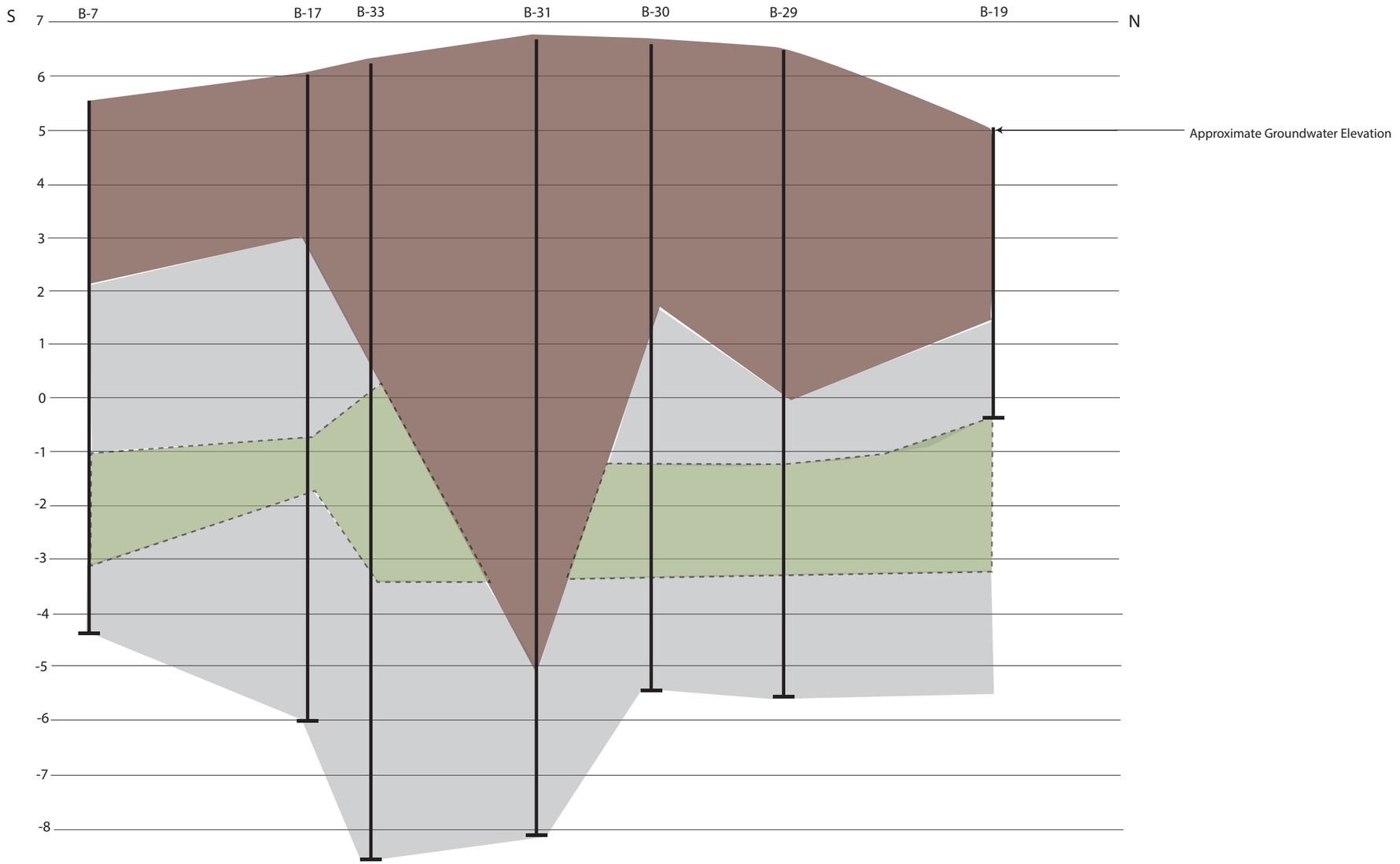
3-60 Beach 79th Street
Far Rockaway
Borough of Queens, New York

WCD GROUP
For pivotal matters.™

WCD File: 17-9838CM

Scale as shown

Sepember 2019 | Appendix A




Legend/Notes:

- Fill
- Native Sand
- Clay

Horizontal Scale - 50'

Vertical Scale - 2'

Vertical Exageration - 25:1

Elevation derived from site survey by Gallas Surveying Group 10-23-17.
All scales and elevation are appoximate.

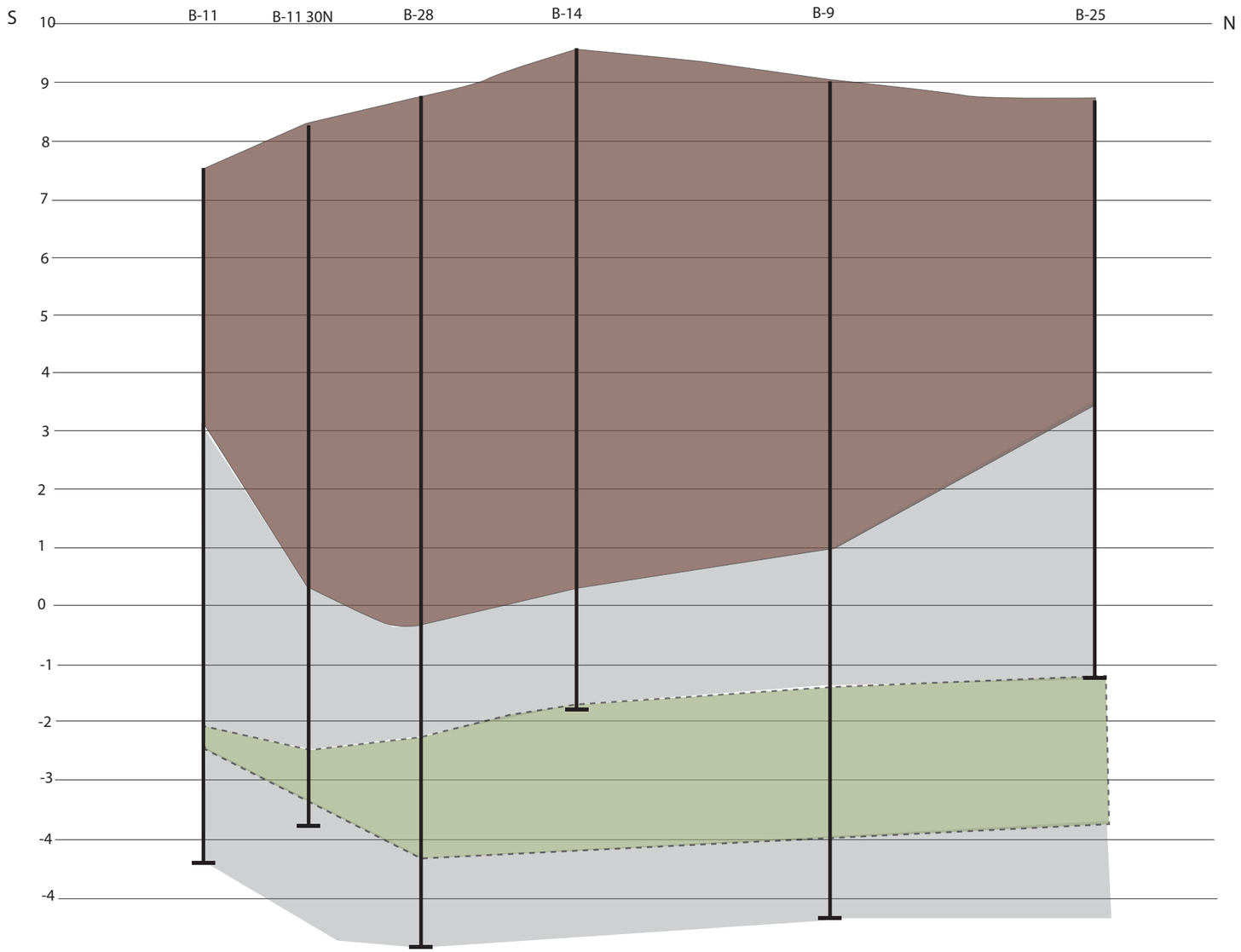
# Geological Cross Section

3-60 Beach 79th Street
Borough of Queens, New York

WCD File: 17-9838

Scale as shown

September 2019




Legend/Notes:

- Fill
- Native Sand
- Clay

Horizontal Scale - 50′

Vertical Scale - 2′

Vertical Exageration - 25:1

Elevation derived from site survey by Gallas Surveying Group 10-23-17.
All scales and elevation are appoximate.

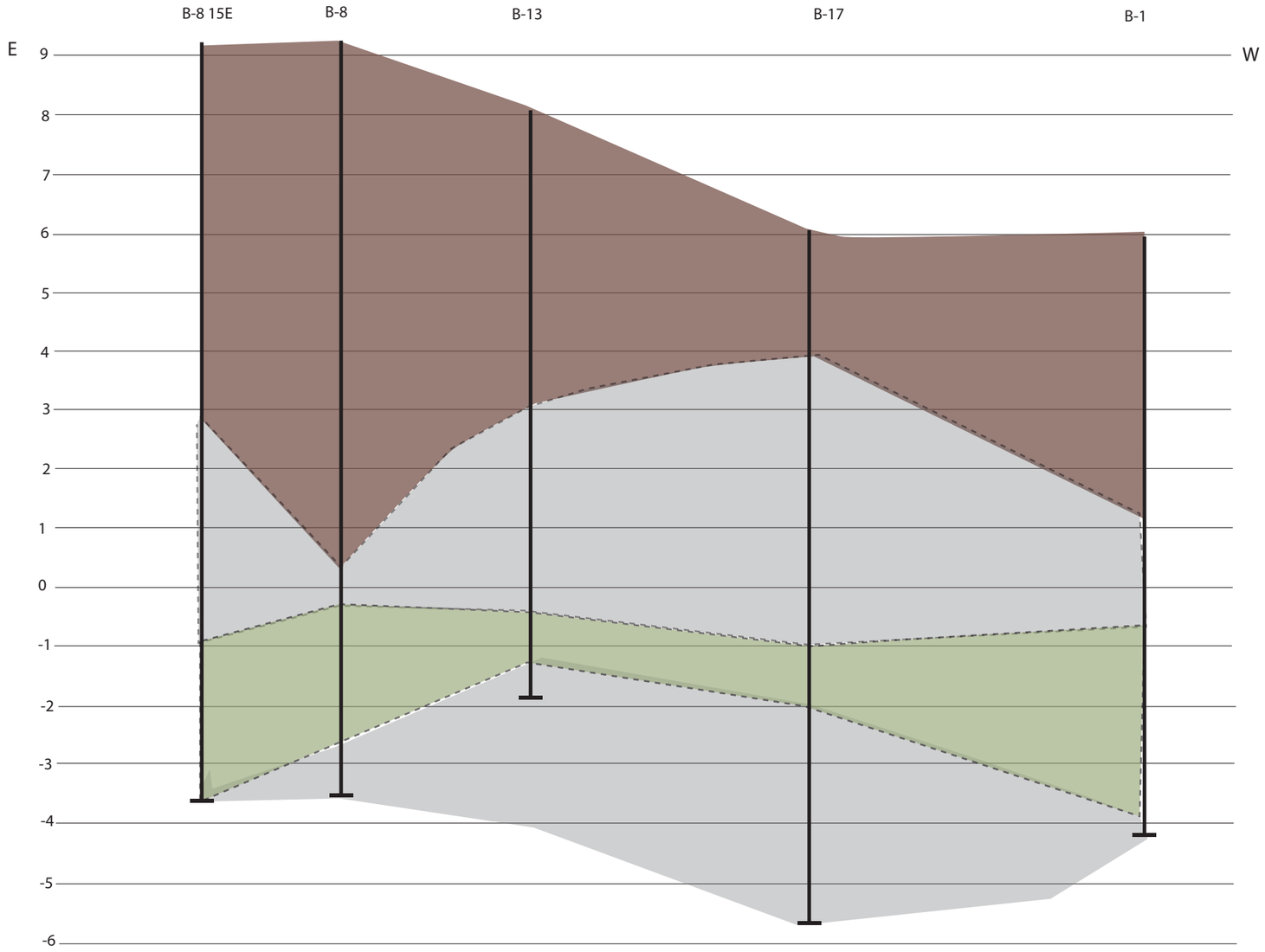
# Geological Cross Section

3-60 Beach 79th Street
Borough of Queens, New York

WCD File: 17-9838

Scale as shown

September 2019




Legend/Notes:

- Fill
- Native Sand
- Clay

Horizontal Scale - 30′

Vertical Scale - 2′

Vertical Exageration - 25:1

Elevation derived from site survey by Gallas Surveying Group 10-23-17.
All scales and elevation are appoximate.

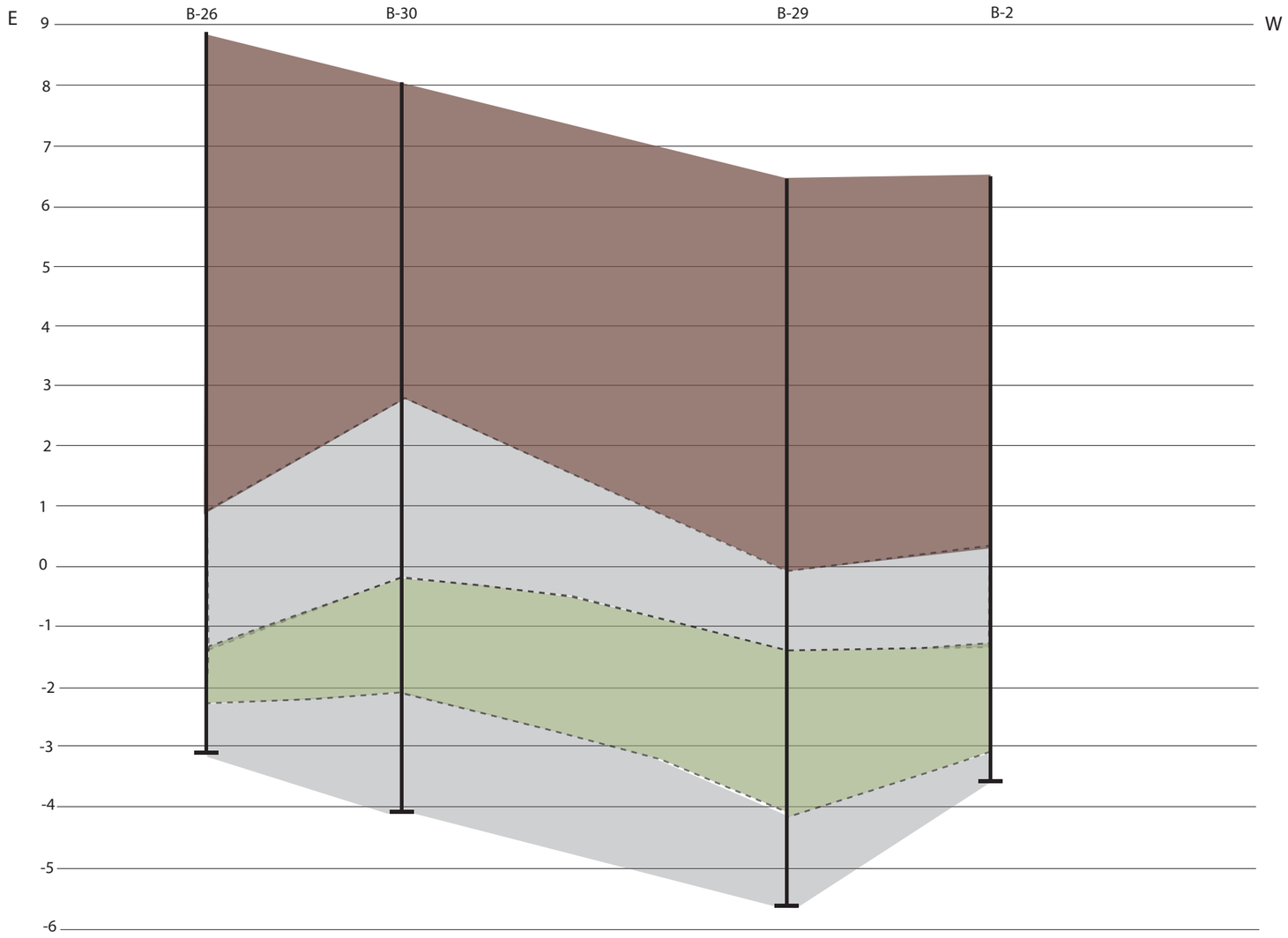
# Geological Cross Section

3-60 Beach 79th Street
Borough of Queens, New York

WCD File: 17-9838

Scale as shown

September 2019




Legend/Notes:

- Fill
- Native Sand
- Clay

Horizontal Scale - 25′

Vertical Scale - 2′

Vertical Exageration - 25:1

Elevation derived from site survey by Gallas Surveying Group 10-23-17.
All scales and elevation are appoximate.

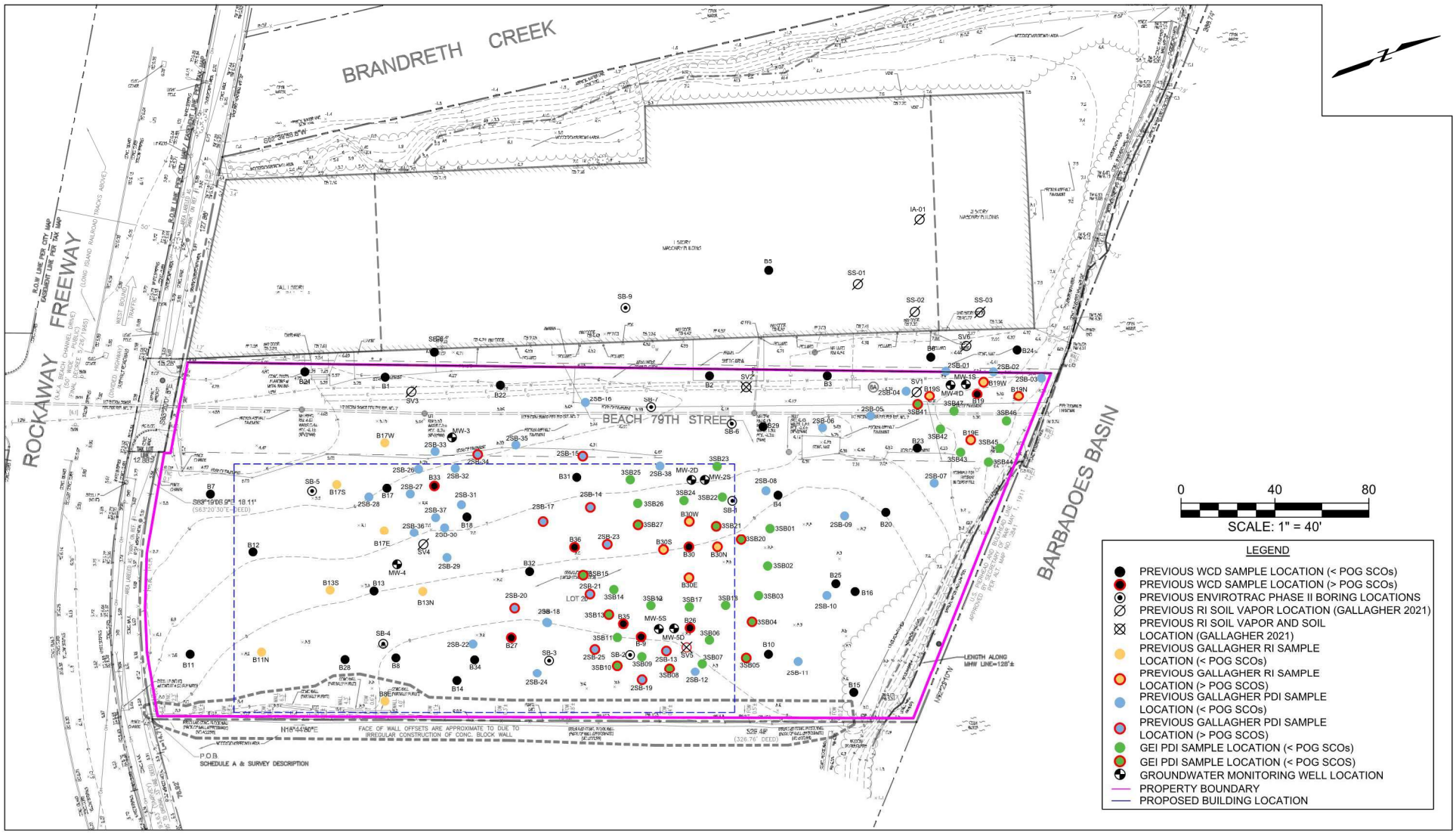
# Geological Cross Section

3-60 Beach 79th Street
Borough of Queens, New York

WCD File: 17-9838

Scale as shown

September 2019




***SOURCE:***

1. BASE MAP FROM GALLAGHER BASSETT (OCTOBER 2021)

| | | | |
|---|---|---|---|
| 3-60 BEACH 79TH STREET<br>FAR ROCKAWAY, NEW YORK | | GEI Consultants | SAMPLE LOCATION MAP |
| 79 ARVERNE<br>DEVELOPMENT LLC | | Project: 2204799 | August 2023 Fig. 2 |

\\geiconsulta B:\Working\79 ARVERNE DEVELOPMENT LLC\2204799 79 Arverne Development LLC\00_CAD\Figures\PDI\Figure Update.dwg - 8/7/2023

# BORING LOGS – 2017 SITE INVESTIGATION (GALLAGHER BASSETT)

WCD GROUP
For pivotal matters.
1350 Broadway, Suite 1904
New York, NY 10018
P: 212.631.9000
F: 212.631.8066

# SOIL BORING LOG

Soil Boring ID: **B-1**


| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: | VOC (8 ft) / SVOCs, Metals, PCBs, Pesticides (7-9 ft) |
| Drilling Subcontractor: | Aquifer Drilling and Testing (ADT) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 6610DT | Total Depth: | 10 feet bgs |
| Sample Type: | Macrocore (2" x 60") | Water Level: | 6 feet bgs |
| Start Date: | 6/8/2017 | End Date: | 6/8/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 5' | | | 0.0 | 0' - 1' white, weathered concrete |
| | 1 | | | | 0.0 | 1' - 1.25' black silty fine sand<br>1.25' - 2.5' grey and white weathered concrete |
| | 2 | | | | 0.0 | 2.5' - 5' red brick, fine sand, trace silt |
| | 3 | | | | 0.0 | |
| | 4 | | | | 0.0 | |
| 2 | 5 | 5' | | ∇ | 0.0 | 5' - 6' brown coarse sand, trace silt, moist |
| | 6 | | | | 0.0 | 6' - 6.75' black fine sand and cinders, some coarse sand and silt, moist<br>6.75' - 7' grey fine sand (native material), moist |
| | 7 | | | | 10.5 | 7' - 9.75' olive brown clay and vegetative matter, sulfuric odor, moist |
| | 8 | | X | | 10.5 | |
| | 9 | | | | 0.0 | 9.75' - 10' dark grey fine sand, wet |
| | 10 | | | | | Boring Terminated at 10 feet bgs |
| | 11 | | | | | |
| | 12 | | | | | Boring converted to temporary well<br>*groundwater sample collected (B1 Water) |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

| | | | |
|---|---|---|---|
| WCD GROUP<br>For pivotal matters. | 1350 Broadway, Suite 1904<br>New York, NY 10018<br>P: 212.631.9000<br>F: 212.631.8066 | SOIL BORING LOG | Soil Boring ID: **B-2**<br>Page 2 of 29 |

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: VOC (9 ft) / SVOCs, Metals, PCBs, Pesticides (8-10 ft) | |
| Drilling Subcontractor: | Aquifer Drilling and Testing (ADT) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 6610DT | Total Depth: 10 feet bgs | |
| Sample Type: | Macrocore (2" x 60") | Water Level: 5 feet bgs | |
| Start Date: | 6/8/2017 | End Date: | 6/8/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 5' | | | 0.0 | 0' - 0.3' white, weathered concrete, N/O<br>0.3' - 1' black fine sand and silt, some cinders and rock, N/O |
| | 1 | | | | 0.0 | 1' - 4' brown-black fine sand and silt, N/O |
| | 2 | | | | 0.0 | |
| | 3 | | | | 0.0 | |
| | 4 | | | ∇ | 0.0 | 4' - 5' brown and black fine sand and silt, moist |
| 2 | 5 | 5' | | | 0.0 | 5' - 6' black-grey fine sand and silt, moist, sulfuric odor |
| | 6 | | | | 2.1 | 6' - 6.5' grey-brown clay, some sand<br>6.5' - 8' light grey fine sand, moist |
| | 7 | | | | 2.1 | |
| | 8 | | | | 47.0 | 8' - 9.8' olive brown clay and vegetative matter, sulfuric odor, wet |
| | 9 | | X | | 47.0 | 9.8' - 10' grey fine sand, wet |
| | 10 | | | | | Boring Terminated at 10 feet bgs |
| | 11 | | | | | |
| | 12 | | | | | |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

WCD GROUP
For pivotal matters.
1350 Broadway, Suite 1904
New York, NY 10018
P: 212.631.9000
F: 212.631.8066

# SOIL BORING LOG

Soil Boring ID: **B-3**


| | |
|---|---|
| Job Name/Client: Allen & Desnoyers LLP | Project Number: 17-9838CM |
| Project Address: 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: VOC (2.5' & 9') / SVOC, Metals, PCBs, Pest. (1'-3' & 7'-9') |
| Drilling Subcontractor: Aquifer Drilling and Testing (ADT) | Inspector: C. Siegrist |
| Drill Rig: Geoprobe 6610DT | Total Depth: 10 feet bgs |
| Sample Type: Macrocore (2" x 60") | Water Level: 8 feet bgs |
| Start Date: 6/8/2017 | End Date: 6/8/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 4' | | | 0.0 | 0' - 1.25' white, weathered concrete, N/O |
| | 1 | | | | 0.0 | 1.25' - 3' black cinders and coarse gravel sized coal fragments, trace silt |
| | 2 | | X | | 0.0 | |
| | 3 | | | | 0.0 | 3' - 4.5' dark brown residual slag material, some coarse slag, some fine black slag and gravel sized coal fragments, trace silt |
| | 4 | | | | 0.0 | 4.5' - 5' black-brown native fine sand, trace clay and coarse sand |
| 2 | 5 | 5' | | ∇ | 0.0 | 5' - 5.5' brown fine sand and silt, moist<br>5.5' - 7' grey, native fine sand, some silt, trace clay, moist |
| | 6 | | | | 2.5 | |
| | 7 | | | | 11.7 | 7' - 9' olive brown clay and vegetative matter, very strong sulfuric odor, wet |
| | 8 | | | | 11.7 | |
| | 9 | | X | | 12.3 | |
| | 10 | | | | | Boring Terminated at 10 feet bgs |
| | 11 | | | | | |
| | 12 | | | | | Boring converted to temporary well<br>*groundwater sample collected (B3 Water)<br>strong sulfuric odor<br>headspace reading: 45 ppm H2S |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:
NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

| | | | |
|---|---|---|---|
| WCD GROUP For pivotal matters. | 1350 Broadway, Suite 1904<br>New York, NY 10018<br>P: 212.631.9000<br>F: 212.631.8066 | SOIL BORING LOG | Soil Boring ID: **B-4**<br>Page 4 of 29 |

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: | VOC (2 ft) / SVOCs, Metals, PCBs, Pesticides (2-3 ft) |
| Drilling Subcontractor: | Aquifer Drilling and Testing (ADT) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 6610DT | Total Depth: | 9 feet bgs |
| Sample Type: | Macrocore (2" x 60") | Water Level: | 5.5 ft bgs |
| Start Date: | 6/8/2017 | End Date: | 6/8/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 4.5' | | | 0.0 | 0' - 1.5' brown fine sand and silt, some rock |
| | 1 | | | | 0.0 | 1.5' - 2' brown fine sand and silt, some rock and building debris, trace iron |
| | 2 | | X | | 0.4 | 2' - 2.8' black stained wood, strong creosote odor<br>2.8' - 3.75' white weathered concrete |
| | 3 | | | | 0.0 | 3.75' - 5' light orange to brown fine sand, N/O |
| | 4 | | | | 0.0 | |
| 2 | 5 | 4' | | ∇ | 0.0 | 5' to 5.5' light grey fine sand, some silt<br>5.5' to 7.5' dark brown medium sand, moist |
| | 6 | | | | 0.0 | |
| | 7 | | | | 0.3 | 7.5' to 9' grey fine to medium sand, some rock, moist, black staining |
| | 8 | | | | 0.0 | |
| | 9 | | | | | Boring Refusal at 9 feet bgs |
| | 10 | | | | | |
| | 11 | | | | | |
| | 12 | | | | | |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

| | | | |
|---|---|---|---|
| WCD GROUP For pivotal matters. | 1350 Broadway, Suite 1904<br>New York, NY 10018<br>P: 212.631.9000<br>F: 212.631.8066 | SOIL BORING LOG | Soil Boring ID: **B-5**<br>Page 5 of 29 |

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: | VOC (8.5 ft) / SVOCs, Metals, PCBs, Pesticides (8-10 ft) |
| Drilling Subcontractor: | Aquifer Drilling and Testing (ADT) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 6610DT | Total Depth: | 10 feet bgs |
| Sample Type: | Macrocore (2" x 60") | Water Level: | 5 ft bgs |
| Start Date: | 6/8/2017 | End Date: | 6/8/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 3' | | | 0.0 | 0' - 0.8' white weathered concrete |
| | | | | | | 0.8' - 1.7' light yellow-brown fine sand, some coarse rock |
| | 1 | | | | 0.0 | 1.7' - 3' orange-brown medium sand, some clay and silt |
| | 2 | | | | 0.0 | |
| | 3 | | | | 0.0 | 3' - 4.5' black coal ash and slag |
| | 4 | | | | 0.0 | |
| | 5 | | | | 0.0 | 4.5' - 5' gray-black gravel-sized coal fragments and slag |
| 2 | 6 | 5' | | ∇ | 3.9 | 5' - 5.5' dark brown fine sand and silt, some clay, some vegetative matter, moist, sulfuric odor |
| | 7 | | | | 1.5 | 5.5' - 7.5' dark grey fine sand, wet, sulfuric odor |
| | 8 | | X | | 1.4 | 7.5' - 8' dark grey fine sand, and olive-green clay and vegetative matter |
| | 9 | | | | 1.6 | 8' - 10' olive-green clay and vegetative matter, moist, sulfuric odor |
| | 10 | | | | 1.5 | |
| | 11 | | | | | Boring Terminated at 10 feet bgs |
| | 12 | | | | | |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

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1350 Broadway, Suite 1904
New York, NY 10018
P: 212.631.9000
F: 212.631.8066

# SOIL BORING LOG

Soil Boring ID: **B-6**


| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: | VOC (8 ft) / SVOCs, Metals, PCBs, Pesticides (7-9 ft) |
| Drilling Subcontractor: | Aquifer Drilling and Testing (ADT) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 6610DT | Total Depth: | 10 feet bgs |
| Sample Type: | Macrocore (2" x 60") | Water Level: | 6 feet bgs |
| Start Date: | 6/8/2017 | End Date: | 6/8/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 5' | | | 0.0 | 0' - 0.5' weathered concrete<br>0.5' - 1.5' dark brown coarse sand |
| | 1 | | | | 0.0 | 1.5' - 1.75' weathered concrete |
| | 2 | | | | 0.0 | 1.75' - 2' black metallic fine sand and silt<br>2' - 4.5' black-brown fine sand and silt |
| | 3 | | | | 0.0 | |
| | 4 | | | | 0.0 | 4.5' - 4.9' orange-brown medium sand<br>4.9' - 5' light grey fine sand |
| 2 | 5 | 5' | | ∇ | 0.0 | 5' - 5.5' brown-black fine sand and silt<br>5.5' - 6.2' light grey fine sand, black staining, mild petroleum odor at 6' |
| | 6 | | | | 0.5 | 6.2' - 6.7' orange-brown fine to medium sand, moist<br>6.7' - 7.5' dark grey fine sand, moist |
| | 7 | | | | 12.3 | 7.5' - 8' transition from dark grey fine sand to olive-green clay |
| | 8 | | X | | 13.2 | 8' - 10' olive-green clay and vegetative material, moist, **63 ppm H2S** |
| | 9 | | | | 17.3 | |
| | 10 | | | | | Boring Terminated at 10 feet bgs |
| | 11 | | | | | |
| | 12 | | | | | |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:
NR - No Recovery
N/O - No Odor
N/S - No Staining
BGS - below grade surface
SAA - Same as above
and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %
f - fine
c - coarse

| | | | |
|---|---|---|---|
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| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: | VOC (9.5 ft) / SVOCs, Metals, PCBs, Pesticides (8.5-10 ft) |
| Drilling Subcontractor: | Aquifer Drilling and Testing (ADT) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 6610DT | Total Depth: | 10 ft bgs |
| Sample Type: | Macrocore (2" x 60") | Water Level: | 7 feet bgs |
| Start Date: | 6/9/2017 | End Date: | 6/9/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 4.5' | | | 0.0 | 0' - 0.5' weathered black-gray asphalt and red brick<br>0.5' - 2' black brown fine sand and silt, some rock, trace aluminum fragments |
| | 1 | | | | 0.3 | |
| | 2 | | | | 0.0 | 2' - 2.2' white weathered concrete<br>2.2' - 3.5' black fine sand and silt, some coarse coal fragments, trace clay |
| | 3 | | | | 0.2 | 3.5' - 5' brown-grey fine to medium sand, little black staining, moist |
| | 4 | | | | 0.0 | |
| 2 | 5 | 4.5' | | ∇ | 0.9 | 5' - 6' black-brown fine sand, trace clay |
| | 6 | | | | 1.2 | 6' - 6.8' light gray and black mottled fine sand, some wood fragments, trace clay<br>6.8' - 8.75' olive-green clay and vegetative matter, moist |
| | 7 | | | | 2.3 | |
| | 8 | | | | 6.4 | 8.75' to 10' light and dark grey mottled fine sand, trace black staining, strong petroleum odor, moist |
| | 9 | | X | | 6.4 | |
| | 10 | | | | | Boring Terminated at 10 feet bgs |
| | 11 | | | | | |
| | 12 | | | | | |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

| WCD GROUP For pivotal matters. | 1350 Broadway, Suite 1904<br>New York, NY 10018<br>P: 212.631.9000<br>F: 212.631.8066 | SOIL BORING LOG | Soil Boring ID: **B-8**<br>Page 8 of 29 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: VOC (2' & 11') / SVOC, Metals, PCBs, Pest. (2'-4' & 10.5'-11.5') | |
| Drilling Subcontractor: | Aquifer Drilling and Testing (ADT) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 6610DT | Total Depth: 15 feet bgs | |
| Sample Type: | Macrocore (2" x 60") | Water Level: 10 ft bgs | |
| Start Date: | 6/9/2017 | End Date: | 6/9/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 3.5'' | | | 0.2 | 0' - 0.6' brown coarse sand, some wood fragments, trace silt and clay<br>0.6' - 1.3' weathered concrete and brick |
| | 1 | | X | | 6.3 | 1.3' - 4' black medium sand, some silt and rock, trace brick fragments and cinders<br>strong petroleum odor |
| | 2 | | | | 6.3 | |
| | 3 | | | | 2.0 | |
| | 4 | | | | 1.7 | 4' - 4.6' black weathered asphalt<br>4.6' - 5' dark brown-black sand, some rock, trace silt and brick fragments |
| 2 | 5 | 4' | | | 1.6 | 5' - 5.3' SAA<br>5.3' - 6.2' white to light yellow medium sand, some rock |
| | 6 | | | | 2.1 | 6.2' - 6.6' orange-brown medium sand, moist<br>6.6' - 7.0' black wood fragments, no odor |
| | 7 | | | | 4.0 | 7' - 8.5' metallic black clay, some sand and silt, trace debris (brush bristles),<br>mild petroleum odor |
| | 8 | | | | 4.0 | 8.5' - 9' dark gray fine sand |
| | 9 | | | | 2.2 | 9' - 10' olive-green and black mottled clay and vegetative material |
| 3 | 10 | 5' | | ∇ | 3.0 | 10' - 10.5' dark olive-grey clay, some sand, moist<br>10.5' - 11' grey fine sand, moist |
| | 11 | | X | | 5.8 | 11' - 11.3' black fine to medium sand, strong petroleum odor, moist<br>11.3' - 12' comingled coarse sand and fine cobble, some medium gravel,<br>wet |
| | 12 | | | | 0.0 | 12' - 12.2' brown coarse sand, some fine cobble, wet<br>12.2' + groundwater, no odor |
| | 13 | | | | 0.0 | |
| | 14 | | | | 0.0 | |
| | 15 | | | | | Boring Terminated at 15 feet bgs |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

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# SOIL BORING LOG

Soil Boring ID: **B-9 Refusal**


| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: | NA |
| Drilling Subcontractor: | Aquifer Drilling and Testing (ADT) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 6610DT | Total Depth: | 6 feet bgs |
| Sample Type: | Macrocore (2" x 60") | Water Level: | N/A |
| Start Date: | 6/9/2017 | End Date: | 6/9/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 3' | | | 0.0 | 0' - 2.8' brown sand, some rock, trace silt and orange rock |
| | 1 | | | | 0.0 | |
| | 2 | | | | 0.0 | 2.8' - 4.3' brown sand, some rock, trace silt |
| | 3 | | | | 0.0 | |
| | 4 | | | | 0.0 | 4.3' - 5' black weathered asphalt |
| 2 | 5 | | | | 0.0 | 5' to 6' white weathered concrete, some weathered brick |
| | 6 | | | | | Boring Refusal at 6 feet bgs |
| | 7 | | | | | |
| | 8 | | | | | |
| | 9 | | | | | |
| | 10 | | | | | |
| | 11 | | | | | |
| | 12 | | | | | |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:
NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

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|---|---|---|---|

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: | VOC (11.5 ft) / SVOCs, Metals, PCBs, Pesticides (10.5-12.5 ft) |
| Drilling Subcontractor: | Aquifer Drilling and Testing (ADT) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 6610DT | Total Depth: | 15 feet bgs |
| Sample Type: | Macrocore (2" x 60") | Water Level: | 7.5 feet bgs |
| Start Date: | 6/9/2017 | End Date: | 6/9/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 5' | | | 0.2 | 0' - 1.1' brown fine sand and silt, some rock |
| | 1 | | | | 0.3 | 1.1' - 1.5' weathered grey stone, some brown fine sand and silt, trace weathered brick<br>1.5' - 2' brown fine sand and silt, trace stone and orange-red iron |
| | 2 | | | | 0.4 | 2' - 2.75' grey-black fine sand and silt, some wood fragments<br>2.75' - 4.4' white rock and weathered concrete |
| | 3 | | | | 0.1 | |
| | 4 | | | | 0.2 | 4.4' - 5' black, orange-red and grey comingled coarse sand, and coarse slag |
| 2 | 5 | 3.5' | | ∇ | 0.0 | 5' - 5.7' grey and white comingled coarse sand, some fine demo debris<br>5.7' - 7.5' orange-red to grey-brown medium sand |
| | 6 | | | | 0.0 | |
| | 7 | | | | 9.1 | 7.5' - 8.2' wood fragments, wet |
| | 8 | | | | 9.1 | 8.2' - 9.2' black-brown coarse sand, trace clay, strong petroleum odor, wet |
| | 9 | | | | 15.2 | 9.2' -9.5' black fine sand<br>9.5' - 10' black clay, trace coarse sand, strong petroleum odor, moist |
| 3 | 10 | 5' | | | 6.9 | 10' - 10.7' dark grey fine sand, wet<br>10.7' - 12.3' black silt and clay, some metallic fragments, strong petroleum odor, moist |
| | 11 | | X | | 15.2 | 12.3' - 12.8' dark olive green clay and vegetative material |
| | 12 | | | | 4.7 | 12.8' - 13.2' black clay, strong petroleum odor, moist |
| | 13 | | | | 12.1 | 13.2' - 13.6' black comingled coarse sand and fine gravel, trace cobble, petroleum odor, wet |
| | 14 | | | | NR | 13.6'+ groundwater, petroleum odor |
| | 15 | | | | | Boring Terminated at 15 feet bgs |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
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| | | | |
|---|---|---|---|
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| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: VOC (8 ft) / SVOCs, Metals, PCBs, Pesticides (8-9 ft) | |
| Drilling Subcontractor: | Aquifer Drilling and Testing (ADT) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 6610DT | Total Depth: 10 feet bgs | |
| Sample Type: | Macrocore (2" x 60") | Water Level: 6.5 feet bgs | |
| Start Date: | 6/9/2017 | End Date: | 6/9/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil | |
|---|---|---|---|---|---|---|---|
| 1 | 0 | 3.5' | | | 0.8 | 0' - 2.1' | brown medium sand, some rock, trace silt and brick fragments |
| | 1 | | | | 2.6 | | |
| | 2 | | | | 1.3 | 2.1' - 2.8'<br>2.8' - 5' | dark gray-brown medium sand, some rock, trace silt<br>dark gray-brown fine sand and silt, trace clay and wood fragments |
| | 3 | | | | 1.0 | | |
| | 4 | | | | 1.0 | | |
| 2 | 5 | 4.5' | | ∇ | 0.6 | 5' - 5.6'<br>5.6' - 6.2' | reddish-brown sand, some rock, trace silt and clay<br>dark brown clay, some sand, fine gravel slag and rock, trace silt |
| | 6 | | | | 0.8 | 6.2' - 6.5'<br>6.5' - 8.1' | dark brown coarse sand, some silt and coarse rock, trace clay, moist<br>dark to light grey mottled clay, some medium sand, moist |
| | 7 | | | | 0.8 | | |
| | 8 | | X | | 1.9 | 8.1' - 9' | black fine sand, petroleum odor, moist |
| | 9 | | | | 1.7 | 9' - 9.4'<br>9.4' - 10' | grey fine native sand, trace clay, moist<br>olive-green clay and vegetative material |
| | 10 | | | | | Boring Terminated at 10 feet bgs | |
| | 11 | | | | | | |
| | 12 | | | | | | |
| | 13 | | | | | | |
| | 14 | | | | | | |
| | 15 | | | | | | |
| | 16 | | | | | | |
| | 17 | | | | | | |
| | 18 | | | | | | |
| | 19 | | | | | | |
| | 20 | | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
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|---|---|---|---|

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: VOC (3 ft) / SVOCs, Metals, PCBs, Pesticides (2-4 ft) | |
| Drilling Subcontractor: | Core Down Drilling (CDD) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 54DT | Total Depth: 12 feet bgs | |
| Sample Type: | Macrocore (2" x 48") | Water Level: 8 ft bgs | |
| Start Date: | 7/5/2017 | End Date: | 7/5/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 2' | | | 0.5 | 0' - 1' brown medium sand and rock, some silt |
| | 1 | | | | 0.5 | 1' - 3' dark brown sand, some silt |
| | 2 | | | | 0.0 | |
| | 3 | | X | | 1.0 | 3' - 4' gray-brown medium sand, some wood fragments, trace clay |
| 2 | 4 | 2' | | | 0.4 | 4' - 4.6' black-brown fine sand and silt, trace clay<br>4.6' - 5.2' black fine sand, some clay and rock |
| | 5 | | | | 0.0 | 5.2' - 5.6' brown clay<br>5.6' - 8 brown sand, some silt |
| | 6 | | | | 0.0 | |
| | 7 | | | | 0.0 | |
| 3 | 8 | 4' | | ∇ | 0.0 | 8' - 8.7' light grey fine native sand, moist<br>8.7' - 9.7' olive-green clay, some vegetative matter, moist |
| | 9 | | | | 0.0 | 9.7' - 11.2' light grey to dark grey fine native sand, moist |
| | 10 | | | | 0.0 | |
| | 11 | | | | 0.0 | 11.2' - 11.5' coarse sand, trace fine gravel, wet<br>11.5'+ groundwater |
| | 12 | | | | | Boring Terminated at 12 feet bgs |
| | 13 | | | | | |
| | 14 | | | | | Boring converted to temporary well<br>*groundwater sample collected (B11W) |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

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|---|---|---|---|

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: VOC (4.5 ft) / SVOCs, Metals, PCBs, Pesticides (4.5-6 ft) | |
| Drilling Subcontractor: | Core Down Drilling (CDD) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 54DT | Total Depth: 12 feet bgs | |
| Sample Type: | Macrocore (2" x 48") | Water Level: 5.5 ft bgs | |
| Start Date: | 7/5/2017 | End Date: | 7/5/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 4' | | | 0.2 | 0' - 0.8' brown medium sand, some rock, trace silt<br>0.8' - 1.7' white weathered concrete |
| | 1 | | | | 0.5 | |
| | 2 | | | | 0.8 | 1.7' - 3.2' orange-brown medium sand and rock |
| | 3 | | | | 0.0 | 3.2' - 4' brown-black sand, trace silt, dry |
| 2 | 4 | 3' | | ∇ | 0.4 | 4' - 4.5' brown medium sand, some rock, dry |
| | | | X | | | 4.5' - 5' black fine sand and silt, some metallic fragments, trace clay |
| | 5 | | | | 0.2 | 5' - 5.4' dark gray fine sand, trace silt |
| | | | | | | 5.4' - 6.7' black/dark gray coarse sand and fine gravel, some rock, moist |
| | 6 | | | | 0.1 | 6.7'- 8' light grey fine sand |
| | 7 | | | | 0.1 | |
| 3 | 8 | 4' | | | 0.0 | 8' - 10.5' light grey fine native sand, moist |
| | 9 | | | | 0.0 | |
| | 10 | | | | 0.0 | |
| | 11 | | | | 0.0 | 10.5' - 11' dark grey clay, trace vegetative matter, moist<br>11' - 12' dark grey sand, moist |
| | 12 | | | | | Boring Terminated at 12 feet bgs |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

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|---|---|---|---|

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: VOC (6.5 ft) / SVOCs, Metals, PCBs, Pesticides (6.5-8 ft) | |
| Drilling Subcontractor: | Core Down Drilling (CDD) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 54DT | Total Depth: 12 feet bgs | |
| Sample Type: | Macrocore (2" x 48") | Water Level: 6.5 feet bgs | |
| Start Date: | 7/5/2017 | End Date: | 7/5/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 4' | | | 0.0 | 0' - 0.7' dark brown fine sand and silt, and white rock |
| | 1 | | | | 0.0 | 0.7' - 2' brown fine sand and silt, trace wood debris |
| | 2 | | | | 0.8 | 2' - 2.4' dark brown fine sand and silt, some rock, trace creosote-stained wood<br>2.4' - 4' brown fine sand and silt, some rock |
| | 3 | | | | 0.0 | |
| 2 | 4 | 3' | | ∇ | 0.0 | 4' - 6.3' brown and black mottled medium to coarse sand and weathered concrete, trace glass fragments and rock |
| | 5 | | | | 0.0 | |
| | 6 | | X | | 0.0 | 6.3' - 6.6' wood material, trace sand, moist<br>6.6' - 8' black coarse sand, and fine to medium gravel, moist |
| | 7 | | | | 4.0 | |
| 3 | 8 | 4' | | | 0.0 | 8' - 8.5' grey fine sand, moist<br>8.5' - 10.7' olive green clay and vegetative matter |
| | 9 | | | | 0.0 | |
| | 10 | | | | 0.0 | 10.7' - 11.2' dark grey fine sand |
| | 11 | | | | 1.6 | 11.2' - 11.8' black coarse sand, and fine to medium gravel, wet<br>11.8' + groundwater |
| | 12 | | | | | Boring Terminated at 12 feet bgs |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

| | | | |
|---|---|---|---|
| WCD GROUP "For pivotal matters." | 1350 Broadway, Suite 1904<br>New York, NY 10018<br>P: 212.631.9000<br>F: 212.631.8066 | SOIL BORING LOG | Soil Boring ID: **B-14**<br>Page 15 of 29 |

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: VOC (8 ft) / SVOCs, Metals, PCBs, Pesticides (10-12 ft) | |
| Drilling Subcontractor: | Core Down Drilling (CDD) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 54DT | Total Depth: 12 feet bgs | |
| Sample Type: | Macrocore (2" x 48") | Water Level: 8.5 feet bgs | |
| Start Date: | 7/5/2017 | End Date: | 7/5/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 4' | | | 0.0 | 0' - 1.1' brown medium sand, some coarse gravel and brick fragments, trace silt |
| | 1 | | | | 0.0 | 1.1' - 2.1' brown medium sand, trace fine gravel and clay |
| | 2 | | | | 0.0 | 2.1' - 4' brown medium sand, some rock, trace silt |
| | 3 | | | | 0.0 | |
| 2 | 4 | 3' | | | 0.0 | 4' - 5.3' SAA |
| | 5 | | | | 0.0 | 5.3' - 6.6' brown medium sand, trace silt and plant roots |
| | 6 | | | | 0.0 | 6.6' - 7.5' dark brown sand and debris (plastic film, glass fragments, etc.), trace coal fragments and rock |
| | 7 | | | | 0.0 | 7.5' to 8' white, grey and orange-brown mottled coarse sand, some coarse gravel, moist |
| 3 | 8 | 4' | X | ∇ | 2.1 | 8' - 9' brown sand, some pink and purple comingled debris, trace silt, wet at 8.5' |
| | 9 | | | | 0.0 | 9' - 9.2' orange-brown coarse sand and rock<br>9.2' - 10.2' black coarse sand, and fine to medium gravel, wet |
| | 10 | | | | 0.5 | 10.2' - 10.5' grey-black fine sand, trace clay, moist<br>10.5' - 11.2' black clay, some wood material, mild creosote odor |
| | 11 | | | | 0.0 | 11.2' - 11.5' grey native sand, moist<br>11.5' - 12' olive-green clay and vegetative matter |
| | 12 | | | | | Boring Terminated at 12 feet bgs |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

| WCD GROUP For pivotal matters. | 1350 Broadway, Suite 1904<br>New York, NY 10018<br>P: 212.631.9000<br>F: 212.631.8066 | SOIL BORING LOG | Soil Boring ID: **B-15**<br>Page 16 of 29 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: VOC (4 ft) / SVOCs, Metals, PCBs, Pesticides (4-6 ft) | |
| Drilling Subcontractor: | Core Down Drilling (CDD) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 54DT | Total Depth: 12 feet bgs | |
| Sample Type: | Macrocore (2" x 48") | Water Level: 8 feet bgs | |
| Start Date: | 7/5/2017 | End Date: | 7/5/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 3' | | | 0.0 | 0'-1.3' brown sand, trace silt and rock |
| | 1 | | | | 0.0 | 1.3' - 1.6' weathered brick<br>1.6' - 2.3' brown sand, some rock, trace silt and clay |
| | 2 | | | | 8.6 | 2.3' - 2.9' black sand, some clay and black wood fragments |
| | 3 | | | | 1.0 | 2.9' - 4' grey and black mottled coarse sand, some fine gravel and medium sand |
| 2 | 4 | 2.5' | X | | 7.2 | 4' - 4.8' brown medium sand, some orange-red coarse sand, trace silt and clay<br>4.8' - 5.9' brown-black residual slag material, some coarse slag |
| | 5 | | | | 1.6 | 5.9' - 6.4' red-brown wood material, mild creosote odor |
| | 6 | | | | 0.7 | 6.4' - 8' light brown-grey fine sand |
| | 7 | | | | 0.0 | |
| 3 | 8 | 2' | | ∇ | 0.0 | 8' - 10' brown medium sand, some clay, wet |
| | 9 | | | | 0.0 | |
| | 10 | | | | 0.0 | 10' - 12' brown and grey fine to medium sand, wet |
| | 11 | | | | 0.0 | |
| | 12 | | | | | Boring Terminated at 12 feet bgs |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

| WCD GROUP For pivotal matters. | 1350 Broadway, Suite 1904<br>New York, NY 10018<br>P: 212.631.9000<br>F: 212.631.8066 | SOIL BORING LOG | Soil Boring ID: **B-16 Refusal**<br>Page 17 of 29 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: | N/A |
| Drilling Subcontractor: | Core Down Drilling (CDD) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 54DT | Total Depth: | 3 feet bgs |
| Sample Type: | Macrocore (2" x 48") | Water Level: | N/A |
| Start Date: | 7/5/2017 | End Date: | 7/5/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 3' | | | 0.0 | 0' to 1.5' brown sand, some rock, trace silt |
| | 1 | | | | 0.0 | 1.5' to 2.2' weathered concrete |
| | 2 | | | | 0.0 | 2.2' to 2.4' brown coarse sand<br>2.4' to 3' weathered concrete |
| | 3 | | | | | Boring Refusal at 3 feet bgs |
| | 4 | | | | | |
| | 5 | | | | | |
| | 6 | | | | | |
| | 7 | | | | | |
| | 8 | | | | | |
| | 9 | | | | | |
| | 10 | | | | | |
| | 11 | | | | | |
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| | 14 | | | | | |
| | 15 | | | | | |
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| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

| WCD GROUP For pivotal matters. | 1350 Broadway, Suite 1904<br>New York, NY 10018<br>P: 212.631.9000<br>F: 212.631.8066 | SOIL BORING LOG | Soil Boring ID: **B-17**<br>Page 18 of 29 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: VOC (4 ft) / SVOCs, Metals, PCBs, Pesticides (3-5 ft) | |
| Drilling Subcontractor: | Core Down Drilling (CDD) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 54DT | Total Depth: 12 feet bgs | |
| Sample Type: | Macrocore (2" x 48") | Water Level: 5 ft bgs | |
| Start Date: | 7/5/2017 | End Date: | 7/5/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 3' | | | 0.0 | 0' - 1.3' brown sand, some rock, trace silt |
| | 1 | | | | 4.4 | 1.3' - 1.7' black medium sand, some black stained wood and silt<br>1.7' - 2.8' white-grey weathered rock, and black fine sand and silt, some rock |
| | 2 | | | | 3.5 | 2.8' - 4' black sand, some clay and silt, mild petroleum odor, moist |
| | 3 | | X | | 3.5 | |
| 2 | 4 | 2.5' | | ∇ | 0.7 | 4' - 4.3' SAA<br>4.3' - 4.9' black medium sand, mild petroleum odor |
| | 5 | | | | 0.0 | 4.9' - 6.8' dark grey fine to medium sand, wood fragments from 5.5' - 6.8' |
| | 6 | | | | 0.0 | 6.8' - 7.1' light grey native fine sand, moist |
| | 7 | | | | 0.0 | 7.1' - 8' olive-green clay and vegetative matter |
| 3 | 8 | 2' | | | NR | 8' - 12' grey fine sand, wet |
| | 9 | | | | NR | |
| | 10 | | | | NR | |
| | 11 | | | | NR | |
| | 12 | | | | | Boring Terminated at 12 feet bgs |
| | 13 | | | | | |
| | 14 | | | | | Boring converted to temporary well<br>*groundwater sample collected (B17W) |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

| WCD GROUP For pivotal matters. | 1350 Broadway, Suite 1904<br>New York, NY 10018<br>P: 212.631.9000<br>F: 212.631.8066 | SOIL BORING LOG | Soil Boring ID: **B-18 Refusal**<br>Page 19 of 29 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: | N/A |
| Drilling Subcontractor: | Core Down Drilling (CDD) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 54DT | Total Depth: | 2.5 feet bgs |
| Sample Type: | Macrocore (2" x 48") | Water Level: | N/A |
| Start Date: | 7/5/2017 | End Date: | 7/5/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 2.5' | | | 0.0 | 0' - 0.3' weathered rock<br>0.3' - 2' brown sand, trace silt |
| | 1 | | | | 0.0 | |
| | 2 | | | | 0.0 | 2' - 2.5' weathered concrete |
| | 3 | | | | | Boring Refusal at 2.5 feet bgs |
| | 4 | | | | | |
| | 5 | | | | | |
| | 6 | | | | | |
| | 7 | | | | | |
| | 8 | | | | | |
| | 9 | | | | | |
| | 10 | | | | | |
| | 11 | | | | | |
| | 12 | | | | | |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

| WCD GROUP For pivotal matters. | 1350 Broadway, Suite 1904<br>New York, NY 10018<br>P: 212.631.9000<br>F: 212.631.8066 | SOIL BORING LOG | Soil Boring ID: **B-19**<br>Page 20 of 29 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: VOC (4 ft) / SVOCs, Metals, PCBs, Pesticides (4-6 ft) | |
| Drilling Subcontractor: | Core Down Drilling (CDD) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 54DT | Total Depth: 8 feet bgs | |
| Sample Type: | Macrocore (2" x 48") | Water Level: 4.5 feet bgs | |
| Start Date: | 7/5/2017 | End Date: | 7/5/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 4' | | | 0.0 | 0' - 1' white weathered concrete |
| | 1 | | | | 0.0 | 1' - 2' brown sand, some red and white rock, trace silt |
| | 2 | | | | 0.9 | 2' - 2.3' white weathered concrete<br>2.3' - 3.4' black to brown fine sand and silt, trace coarse sand and rock |
| | 3 | | | | 0.6 | 3.4' - 4' white to grey fine sand |
| 2 | 4 | 4' | X | ∇ | 1.0 | 4' - 4.4' black fine sand and silt<br>4.4' - 5.4' white to grey-brown fine to medium sand, moist |
| | 5 | | | | 0.2 | 5.4' - 7' orange- brown fine to medium sand, moist to wet |
| | 6 | | | | 0.0 | |
| | 7 | | | | 0.0 | 7' - 7.5' grey fine sand, wet<br>7.5' + groundwater |
| | 8 | | | | | Boring Terminated at 8 feet bgs |
| | 9 | | | | | |
| | 10 | | | | | |
| | 11 | | | | | |
| | 12 | | | | | |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

| WCD GROUP For pivotal matters. | 1350 Broadway, Suite 1904<br>New York, NY 10018<br>P: 212.631.9000<br>F: 212.631.8066 | SOIL BORING LOG | Soil Boring ID: **B-20**<br>Page 21 of 29 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: VOC (8 ft) / SVOCs, Metals, PCBs, Pesticides (6-8 ft) | |
| Drilling Subcontractor: | Core Down Drilling (CDD) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 54DT | Total Depth: 12 feet bgs | |
| Sample Type: | Macrocore (2" x 48") | Water Level: 6.5 feet bgs | |
| Start Date: | 7/5/2017 | End Date: | 7/5/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 4' | | | 0.0 | 0' - 1.5' brown medium sand, some roots and vegetative matter, and rock, trace silt |
| | 1 | | | | 0.0 | 1.5' - 2.5' orange-brown fine sand, some fine gravel, trace rock and silt |
| | 2 | | | | 0.0 | 2.5' - 2.8' weathered concrete<br>2.8' - 3.4' orange-brown fine sand, trace black staining, NO |
| | 3 | | | | 0.0 | 3.4' - 3.6' black sand and coarse slag, trace silt and clay, NO<br>3.6' - 4' black fine sand and silt |
| 2 | 4 | 2.5' | | ∇ | 0.2 | 4' - 5.6' black coarse sand, some cinders, and fine to medium coal fragments |
| | 5 | | | | 0.0 | 5.6' - 5.9' red-brown silt and clay, some plant roots<br>5.9' - 6.4' cobble sized slaggy material and plant roots, moist |
| | 6 | | | | 0.0 | 6.4' - 7.5' orange and brown mottled coarse sand, trace silt and clay, wet |
| | 7 | | X | | 1.2 | 7.5' - 8' grey native sand, black staining, mild petroleum odor, trace iron |
| 3 | 8 | 3.5' | | | 0.3 | 8' - 8.5' black coarse sand, some cinders and fine gravel coal fragments, wet<br>8.5' - 9' dark brown coarse sand, wet |
| | 9 | | | | 0.2 | 9'- 10.5' grey native sand, moist |
| | 10 | | | | 0.2 | 10.5' - 12' olive-green clay and vegetative matter |
| | 11 | | | | 1.6 | |
| | 12 | | | | | Boring Terminated at 12 feet bgs |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

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# SOIL BORING LOG

Soil Boring ID: **B-21**


| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: | N/A |
| Drilling Subcontractor: | Aquifer Drilling and Testing (ADT) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 6610DT | Total Depth: | 10 feet bgs |
| Sample Type: | Macrocore (2" x 60") | Water Level: | 4 feet bgs |
| Start Date: | 11/6/2017 | End Date: | 11/6/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 5' | | | 0.0 | 0' - 1' white, weathered concrete |
| | 1 | | | | 0.2 | 1' - 2.5' black fine sand and silt |
| | 2 | | | | 0.2 | 2.5' - 2.7' light grey fine sand and brick fragments |
| | 3 | | | | 5.4 | 2.7' - 4' light grey fine sand |
| | 4 | | | ∇ | 5.4 | 4' - 5' groundwater (note: high tide) |
| 2 | 5 | 5' | | | | 5' - 10' groundwater (note: high tide) |
| | 6 | | | | | |
| | 7 | | | | | |
| | 8 | | | | | |
| | 9 | | | | | |
| | 10 | | | | | Boring Terminated at 10 feet bgs |
| | 11 | | | | | |
| | 12 | | | | | Boring converted to temporary well |
| | 13 | | | | | *groundwater sample collected (B21W) |
| | 14 | | | | | well headspace reading = 0.134 ppm |
| | 15 | | | | | strong sulfuric odor |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

| | | | |
|---|---|---|---|
| WCD GROUP *For pivotal matters.* | 1350 Broadway, Suite 1904<br>New York, NY 10018<br>P: 212.631.9000<br>F: 212.631.8066 | SOIL BORING LOG | Soil Boring ID: **B-22**<br>Page 23 of 29 |

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: | VOC (9 ft) |
| Drilling Subcontractor: | Aquifer Drilling and Testing (ADT) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 6610DT | Total Depth: | 10 feet bgs |
| Sample Type: | Macrocore (2" x 60") | Water Level: | 5 feet bgs |
| Start Date: | 11/6/2017 | End Date: | 11/6/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 1' | | | 0.0 | 0' - 1' white, weathered concrete |
| | 1 | | | | 0.0 | 1' - 5' Note: liner melted into metal sleeve and soil recovery was not possible |
| | 2 | | | | 0.0 | |
| | 3 | | | | 0.0 | |
| | 4 | | | | 0.0 | |
| 2 | 5 | 5' | | ∇ | 9.2 | 5' - 6.7' black fine sand, some coarse sand, saturated, very slight odor |
| | 6 | | | | 5.6 | 6.7' - 8' wood fragments, trace black fine sand, sulfuric odor |
| | 7 | | | | 5.6 | |
| | 8 | | | | 4.3 | 8' - 9' comingled fine grey sand and dark olive-grey clay and vegetative matter, moist |
| | 9 | | X | | 22.6 | 9' - 9.8' dark grey clay, moist<br>9.8' - 10' light grey fine sand, wet |
| | 10 | | | | | Boring Terminated at 10 feet bgs |
| | 11 | | | | | |
| | 12 | | | | | Boring converted to temporary well<br>*groundwater sample collected (B22W)<br>well headspace reading = 0.095 ppm<br>very mild sulfuric odor |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

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F: 212.631.8066

# SOIL BORING LOG

Soil Boring ID: **B-23**


| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: | N/A |
| Drilling Subcontractor: | Aquifer Drilling and Testing (ADT) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 6610DT | Total Depth: | 10 feet bgs |
| Sample Type: | Macrocore (2" x 60") | Water Level: | 4 feet bgs |
| Start Date: | 11/6/2017 | End Date: | 11/6/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 2.5' | | ∇ | 0.0 | 0' - 2' brown medium sand, some silt, NS, NO |
| | 1 | | | | 0.0 | |
| | 2 | | | | 0.0 | 2' - 3.2' white medium to coarse sand, and rock, NS, NO |
| | 3 | | | | 0.5 | 3.2' - 4.4' black silt, some medium sand, little slag, NS, NO |
| | 4 | | | | 0.3 | 4.4' - 5' light grey fine sand, wet, NS, NO |
| 2 | 5 | 5' | | | | 5' - 10' groundwater (note: high tide) |
| | 6 | | | | | |
| | 7 | | | | | |
| | 8 | | | | | |
| | 9 | | | | | |
| | 10 | | | | | Boring Terminated at 10 feet bgs |
| | 11 | | | | | |
| | 12 | | | | | Boring converted to temporary well<br>*groundwater sample collected (B23W)<br>well headspace reading = 0.564 ppm<br>very mild sulfuric odor |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:
NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

| | | | |
|---|---|---|---|
| WCD GROUP *For pivotal matters.* | 1350 Broadway, Suite 1904<br>New York, NY 10018<br>P: 212.631.9000<br>F: 212.631.8066 | SOIL BORING LOG | Soil Boring ID: **B-24**<br>Page 25 of 29 |

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: | N/A |
| Drilling Subcontractor: | Aquifer Drilling and Testing (ADT) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 6610DT | Total Depth: | 10 feet bgs |
| Sample Type: | Macrocore (2" x 60") | Water Level: | 4 feet bgs |
| Start Date: | 11/6/2017 | End Date: | 11/6/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 2.5' | | | 0.1 | 0' - 1' white weathered concrete |
| | 1 | | | | 0.1 | 1' - 1.4' brown fine sand and silt, some coarse gravel<br>1.4' - 2.8' brown fine sand, trace brick fragments |
| | 2 | | | | 0.3 | 2.8' - 3.4' light brown coarse sand, some rock |
| | 3 | | | | 0.3 | 3.4' - 4' black sand, trace clay, moist |
| | 4 | | | ∇ | 0.1 | 4' - 5' light grey to brown medium sand, wet |
| 2 | 5 | 5' | | | 0.0 | 5' - 6' light grey fine to medium sand, wet |
| | 6 | | | | | 6'+ groundwater (note: high tide) |
| | 7 | | | | | |
| | 8 | | | | | |
| | 9 | | | | | |
| | 10 | | | | | Boring Terminated at 10 feet bgs |
| | 11 | | | | | |
| | 12 | | | | | Boring converted to temporary well<br>*groundwater sample collected (B24W)<br>well headspace reading = 2.6 ppm<br>no odor, no sheen |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | | | | | |
| | 17 | | | | | |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

WCD GROUP
For pivotal matters.
1350 Broadway, Suite 1904
New York, NY 10018
P: 212.631.9000
F: 212.631.8066

# SOIL BORING LOG

Soil Boring ID: **B-25**


| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: | VOC (3 ft) |
| Drilling Subcontractor: | Aquifer Drilling and Testing (ADT) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 6610DT | Total Depth: | 15 feet bgs |
| Sample Type: | Macrocore (2" x 60") | Water Level: | 6.5 feet bgs |
| Start Date: | 11/6/2017 | End Date: | 11/6/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 3.5' | | | 0.0 | 0' - 2.6' brown medium sand, little silt (brick at 0.7', and some rock at 1.1') |
| | 1 | | | | 0.0 | |
| | 2 | | | | 44.7 | 2.6' - 3.3' black medium sand, strong petroleum odor |
| | 3 | | X | | 0.1 | 3.3' - 3.7' white-grey weathered rock<br>3.7' - 4' brown medium sand |
| | 4 | | | | 0.0 | 4' - 5' black coarse sand and silt, and rock fragments |
| 2 | 5 | 4' | | ∇ | 0.0 | 5' - 5.6' SAA<br>5.6' - 5.85' brown sand |
| | 6 | | | | 1.8 | 5.85' - 6.4' dark grey to brown sand, petroleum odor<br>6.4' - 8.3' light grey fine sand, moist to wet |
| | 7 | | | | 0.2 | |
| | 8 | | | | 0.3 | 8.3' - 9.1' black coarse sand, some wood fragments |
| | 9 | | | | 0.3 | 9.1' - 10' fine grey sand, wet |
| 3 | 10 | | | | | NR |
| | 11 | | | | | |
| | 12 | | | | | |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | Boring Terminated at 15 feet bgs |
| | 16 | | | | | |
| | 17 | | | | | Boring converted to temporary well<br>*groundwater sample collected (B25W)<br>well headspace reading = 480 ppb<br>no odor, no sheen |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:
NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

| | | | |
|---|---|---|---|
| WCD GROUP For pivotal matters. | 1350 Broadway, Suite 1904<br>New York, NY 10018<br>P: 212.631.9000<br>F: 212.631.8066 | SOIL BORING LOG | Soil Boring ID: **B-26**<br>Page 27 of 29 |

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: | VOC (9 ft) |
| Drilling Subcontractor: | Aquifer Drilling and Testing (ADT) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 6610DT | Total Depth: | 15 feet bgs |
| Sample Type: | Macrocore (2" x 60") | Water Level: | 6 feet bgs |
| Start Date: | 11/6/2017 | End Date: | 11/6/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 3' | | | 0.0 | 0' - 2.2' brown sand, some silt, little rock |
| | 1 | | | | 0.0 | |
| | 2 | | | | 0.0 | 2.2' - 2.5' black sand and wood fragments, creosote odor<br>2.5' - 3.5' brown sand and rock, some silt |
| | 3 | | | | 0.0 | 3.5' - 4.5' dark brown to black fine sand and silt, some rock, little plastic fragments |
| | 4 | | | | 0.0 | 4.5' - 5.0' weathered white rock, trace weathered brick |
| 2 | 5 | 3' | | ∇ | 0.0 | 5' - 5.8' SAA<br>5.8' - 8.1' brown coarse sand to fine gravel, moist to saturated |
| | 6 | | | | 0.0 | |
| | 7 | | | | 0.0 | |
| | 8 | | | | 0.0 | 8.1' - 8.7' coarse black sand, saturated<br>8.7' - 9.5' black fine sand, wet, petroleum odor |
| | 9 | | X | | 13.9 | 9.5' - 10' dark grey dine sand, wet, NO |
| 3 | 10 | 0' | | | | NR |
| | 11 | | | | | |
| | 12 | | | | | |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | Boring Terminated at 15 feet bgs |
| | 16 | | | | | |
| | 17 | | | | | Boring converted to temporary well<br>*groundwater sample collected (B26W)<br>well headspace reading = 4.9 ppm<br>petroleum odor, slight sheen |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

| | | | |
|---|---|---|---|
| WCD GROUP For pivotal matters. | 1350 Broadway, Suite 1904<br>New York, NY 10018<br>P: 212.631.9000<br>F: 212.631.8066 | SOIL BORING LOG | Soil Boring ID: **B-27**<br>Page 28 of 29 |

| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: | VOC (5 ft) |
| Drilling Subcontractor: | Aquifer Drilling and Testing (ADT) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 6610DT | Total Depth: | 15 feet bgs |
| Sample Type: | Macrocore (2" x 60") | Water Level: | 7.0 feet bgs |
| Start Date: | 11/6/2017 | End Date: | 11/6/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 4' | | | 0.8 | 0' - 1.8' brown medium sand, some rock, trace silt |
| | 1 | | | | 1.4 | 1.8' - 2.0' black fine sand and silt, trace wood, mild odor |
| | 2 | | | | 5.3 | 2.0' - 4.8' brown sand, some rock, little silt, trace debris (brick, plastic, metal and wood fragments), slight creosote odor |
| | 3 | | | | 0.1 | |
| | 4 | | X | | 121 | 4.8' to 5.0' black/brown fine sand and silt, and debris (wood), moist |
| 2 | 5 | 3.5' | | ∇ | 0.7 | 5.0' - 5.3' grey and white mottled fine sand and silt<br>5.3' - 5.7' wood material |
| | 6 | | | | 1.5 | 5.7' - 7.1' black and orange-brown mottled coarse sand, some silt, trace slag |
| | 7 | | | | 0.1 | 7.1' to 8.9' dark orange-brown and red mottled sand, saturated |
| | 8 | | | | 0.9 | |
| | 9 | | | | 24.3 | 8.9' to 10' black coarse sand, trace wood fragments, strong petroleum odor |
| 3 | 10 | 0' | | | | NR |
| | 11 | | | | | |
| | 12 | | | | | |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | Boring Terminated at 15 feet bgs |
| | 16 | | | | | |
| | 17 | | | | | Boring converted to temporary well<br>*groundwater sample collected (B27W)<br>well headspace reading = 3.68 ppm<br>petroleum odor, sheen |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

WCD GROUP
For pivotal matters.
1350 Broadway, Suite 1904
New York, NY 10018
P: 212.631.9000
F: 212.631.8066

# SOIL BORING LOG

Soil Boring ID: **B-28**


| | | | |
|---|---|---|---|
| Job Name/Client: | Allen & Desnoyers LLP | Project Number: | 17-9838CM |
| Project Address: | 3-60 Beach 79th Street, Far Rockaway | Sample Elevation: | VOC (13 feet) |
| Drilling Subcontractor: | Aquifer Drilling and Testing (ADT) | Inspector: | C. Siegrist |
| Drill Rig: | Geoprobe 6610DT | Total Depth: | 15 feet bgs |
| Sample Type: | Macrocore (2" x 60") | Water Level: | 7.5 feet bgs |
| Start Date: | 11/6/2017 | End Date: | 11/6/2017 |

| Sleeve Number | Depth (feet BGS) | Sample Recovery (feet) | VOC Grab Location | WATER | PID Screening Results (ppm) | Description of Soil |
|---|---|---|---|---|---|---|
| 1 | 0 | 4.5' | | | 0.0 | 0' - 1.3' brown medium sand, some rock, trace silt |
| | 1 | | | | 0.0 | 1.3' - 1.7' green-tan coarse sand, some rock<br>1.7' - 2.8' dark brown sand, some silt, trace rock and slag |
| | 2 | | | | 0.1 | 2.8' - 3.0' purple sand and rock |
| | 3 | | | | 0.0 | 3.0' - 5.0' dark brown sand, trace silt and rock fragments, trace debris (plastic and cotton fragments), mild odor |
| | 4 | | | | 0.5 | |
| 2 | 5 | 3.4' | | ∇ | 0.1 | 5.0' - 6.5' dark brown medium to coarse sand, trace rock |
| | 6 | | | | 0.0 | 6.5' - 7.4' weathered white rock |
| | 7 | | | | 0.0 | 7.4' - 7.8' dark reddish-brown clay, trace silt and wood fragments, wet<br>7.8' - 9.3' black coarse sand and fine rock, trace hard plastic fragments, very mild petroleum odor |
| | 8 | | | | 0.0 | 9.3' - 10.0' olive-green clay and vegetative matter, sulfuric odor |
| | 9 | | | | 1.4 | |
| 3 | 10 | 3' | | | 1.5 | 10.0' - 11.3' black coarse sand, saturated, creosote odor |
| | 11 | | | | 1.7 | 11.3' - 13.0' olive-green clay, some vegetative matter, moist, sulfuric odor |
| | 12 | | | | 1.7 | |
| | 13 | | X | | 3.6 | 13.0' - 15.0' grey medium sand, wet, sulfuric odor |
| | 14 | | | | 3.6 | |
| | 15 | | | | | Boring Terminated at 15 feet bgs |
| | 16 | | | | | |
| | 17 | | | | | Boring converted to temporary well<br>*groundwater sample collected (B28W)<br>slight sheen, no odor |
| | 18 | | | | | |
| | 19 | | | | | |
| | 20 | | | | | |

Notes:

NR - No Recovery
N/O - No Odor
N/S - No Staining

BGS - below grade surface
SAA - Same as above

and - 36 to 50 %
some - 21 to 35 %
little - 11 to 20 %
trace - 1 to 10 %

f - fine
c - coarse

# BORING LOGS – 2019 REMEDIAL INVESTIGATION REPORT (GALLAGHER BASSETT)

# SOIL/ROCK BORING LOG

**Boring ID B8 15' E**



| | | | | |
|---|---|---|---|---|
| Project **79 Arverne Development** | Site Location **3-60 Beach 79th St.** | | | WCD Project No. **17-9838CM** |
| Elevation & Datum | **DATE/TIME:** | Start **1/25/2019** | End **1/25/2019** | WCD Staff **J. Rios** |
| Drilling Contractor **Core Down Drilling** | Drilling Equipment **Geoprobe 5' Macrocore** | | | Driller **Andrew** |
| Drilling Method **Direct Push** | Bit Size & Type | | | Borehole Diameter |
| **CASING** | | | | Completion Depth **12'** |
| Casing Hammer: | Wt. | Drop | | **WATER LEVEL** |
| **SAMPLE** | | | | First / Compl. / 24 HR |
| Sampler Hammer: | Wt. | Drop | | **NE** |

| **Surface Materials: sand** | | | | | | **SAMPLING** | | | |
|---|---|---|---|---|---|---|---|---|---|
| **SAMPLE DESCRIPTION** | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | Sample ID | Type | Interval | Blows /6 in. |
| Wet to moist light brown clayey F SAND with abundant gravel | 1 | 0.0 | | 50 | **0** | | | | |
| | | | | | | | | | |
| | | | | | **1** | | | | |
| | 1 | 0.0 | | | | | | | |
| Dry to moist compact gray-black loamy SAND with abundant gravel | | | | | | | | | |
| | | | | | **2** | | | | |
| | 1 | 0.0 | | | | | | | |
| | | | | | | | | | |
| | | | | | **3** | | | | |
| | 1 | 0.0 | | | | | | | |
| | | | | | | | | | |
| | | | | | **4** | | | | |
| | 1 | 0.0 | | | | | | | |
| Bottom 3": SAA, yellow paint streaks on side | | | | | | | | | |
| | | | | | **5** | | | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID B8 15' E**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| 5': dry light gray concrete<br>5'9": dry brown asphalt | 2 | 0.0<br>0.3 | | 45 | 5 | | | | |
| 6'2": Gravelly C SAND<br>6'11": Moist dark brown F clayey SAND with abundant wood | 2 | 0.9 | | | 6 | | | | |
| 7'8": Moist dark gray CLAY with organics (same as previous borings); slight petroleum odor | 2 | | | | 7 | | | | |
| 8'6": Moist black to light gray F SAND | 2 | | | | 8 | | | | |
| 9'8" to end: Moist black CLAY with organics (same as previous borings) | 2 | 0.0 | | | 9 | **B8 15' E (9-10)** | **COMP** | | |
| | 3 | 0.0 | | 100 | 10 | | | | |
| | 3 | 0.0 | | | 11 | | | | |
| ****end boring at 12'**** | | | | | 12 | | | | |
| | | | | | 13 | | | | |
| | | | | | 14 | | | | |
| | | | | | 15 | | | | |

## NOTES

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

WCD GROUP
A GALLAGHER BASSETT COMPANY

**Boring ID B11 30' N**



| | | | | |
|---|---|---|---|---|
| Project **79 Arverne Development** | | Site Location **3-60 Beach 79th St.** | | WCD Project No. **17-9838CM** |
| Elevation & Datum | | **DATE/TIME:** | Start **1/25/2019 13:30** End **1/25/2019 13:45** | WCD Staff **J. Rios** |
| Drilling Contractor **Core Down Drilling** | Drilling Equipment **Geoprobe 5' Macrocore** | | | Driller **Andrew** |
| Drilling Method **Direct Push** | Bit Size & Type | | | Borehole Diameter |
| **CASING** | | | | Completion Depth **12'** |
| Casing Hammer: | Wt. | Drop | | **WATER LEVEL** |
| **SAMPLER** | | | | First / Compl. / 24 HR |
| Sampler Hammer: | Wt. | Drop | | **8'** |

| **Surface Materials: sand** / **SAMPLE DESCRIPTION** | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | **SAMPLING** Sample ID | Type | Interval | Blows /6 in. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | **0** | | | | |
| Dry brown clayey F SAND | 1 | 0.0 | | 55 | | | | | |
| Dry to moist, brown to black brittle LOAM with abundant C&D (glass, concrete, brick) | | | | | **1** | | | | |
| | 1 | 0.0 | | | | | | | |
| Dry dark brown loamy F SAND with gravel | | | | | **2** | | | | |
| Dry compact clayey SILT with abundant C&D | 1 | 0.0 | | | | | | | |
| | | | | | **3** | | | | |
| | 1 | 0.0 | | | | | | | |
| | | | | | **4** | | | | |
| | 1 | 0.0 | | | | | | | |
| | | | | | **5** | | | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

WCD GROUP
A GALLAGHER BASSETT COMPANY

**Boring ID B11 30' N**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| SAA | 2 | 0.0 | | 65 | 5 | | | | |
| 6.5': Moist to wet compact gray-brown clayey F SAND with some C&D | 2 | 0.0 | | | 6 | | | | |
| | 2 | 0.0 | ▽ | | 7 | | | | |
| 8.75': black to light gray M-C SAND, decreasing clay downward | 2 | 0.0 | | | 8 | **B11 30' N (8-9)** | **COMP** | | |
| | 2 | 0.0 | | | 9 | | | | |
| 10': Saturated light gray M SAND<br>10.5': Moist dark gray CLAY with organics (same as previous borings); organic odor | 3 | 0.0 | | 100 | 10 | | | | |
| 11.5': Saturated light gray M SAND | 3 | 0.0 | | | 11 | | | | |
| ****end boring at 12'**** | | 0.0 | | | 12 | | | | |
| | | 0.0 | | | 13 | | | | |
| | | 0.0 | | | 14 | | | | |
| | | 0.0 | | | 15 | | | | |

## NOTES

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

WCD GROUP
A GALLAGHER BASSETT COMPANY

**Boring ID B13 15' S**



| | | | | |
|---|---|---|---|---|
| Project **79 Arverne Development** | | Site Location **3-60 Beach 79th St.** | | WCD Project No. **17-9838CM** |
| Elevation & Datum | | **DATE/TIME:** Start **1/25/2019** | End**1/25/2019** | WCD Staff **J. Rios** |
| Drilling Contractor **Core Down Drilling** | Drilling Equipment **Geoprobe 5' Macrocore** | | | Driller **Andrew** |
| Drilling Method **Direct Push** | Bit Size & Type | | | Borehole Diameter |
| **CASING** | | | | Completion Depth **12'** |
| Casing Hammer: | Wt. | Drop | | **WATER LEVEL** |
| **SAMPLER** | | | | First / Compl. / 24 HR |
| Sampler Hammer: | Wt. | Drop | | **5'** |

| **Surface Materials: silt/loam** | | | | | | **SAMPLING** | | | |
|---|---|---|---|---|---|---|---|---|---|
| **SAMPLE DESCRIPTION** | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | Sample ID | Type | Interval | Blows /6 in. |
| | | | | | **0** | | | | |
| Moist to dry clayey SILT; top 2" have abundant roots | 1 | 0.0 | | 65 | | | | | |
| | | | | | **1** | | | | |
| | 1 | 0.0 | | | | | | | |
| Concrete | | | | | **2** | | | | |
| | 1 | 0.0 | | | | | | | |
| Dry compact dark gray clayey SILT with trace gravel, trace sand | | | | | **3** | | | | |
| | 1 | 0.0 | | | | | | | |
| | | | | | **4** | | | | |
| | 1 | 0.0 | | | | | | | |
| Concrete | | | ▽ | | **5** | | | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID B13 15' S**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| Top 1": concrete<br>5'1": dark gray clayey SILT with trace gravel, trace sand<br>5'4": wet black sandy angular GRAVEL with trace slaty rock | 2 | 0.0 | | 70 | 5 | **B13 15' S (5-6)** | **COMP** | | |
| fragments; slight petroleum odor, oily sheen, same as borings B29/B30 | 2 | 0.0 | | | 6 | | | | |
| 7': gray clayey M SAND | 2 | 0.0 | | | 7 | | | | |
| 8.5': Moist dark gray CLAY with organics (same as previous borings) | 2 | 0.0 | | | 8 | | | | |
| | 2 | 0.0 | | | 9 | | | | |
| 10.75': Wet gray C SAND | 3 | 0.0 | | 75 | 10 | | | | |
| | 3 | 0.0 | | | 11 | | | | |
| ****end boring at 12'**** | | | | | 12 | | | | |
| | | | | | 13 | | | | |
| | | | | | 14 | | | | |
| **NOTES** | | | | | 15 | | | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

WCD GROUP
A GALLAGHER BASSETT COMPANY

**Boring ID B13 N**



| | | | | |
|---|---|---|---|---|
| Project **79 Arverne Development** | | Site Location **3-60 Beach 79th St.** | | WCD Project No. **17-9838CM** |
| Elevation & Datum | | **DATE/TIME:** Start **2/11/2019 13:00** | End **2/11/2019 13:15** | WCD Staff **T. Motley, J. Rios** |
| Drilling Contractor **Core Down Drilling** | Drilling Equipment **Geoprobe 5' Macrocore** | | | Driller **Andrew** |
| Drilling Method **Direct Push** | Bit Size & Type | | | Borehole Diameter **2"** |
| **CASING** | | | | Completion Depth **10'** |
| Casing Hammer: | Wt. | Drop | | **WATER LEVEL** |
| **SAMPLE** | | | | First / Compl. / 24 HR |
| Sampler Hammer: | Wt. | Drop | | **6'** |

**Surface Materials: NR**

| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING: Sample ID | Type | Interval | Blows /6 in. |
|---|---|---|---|---|---|---|---|---|---|
| **No Recovery 0-5'** | 1 | | | | **0** | | | | |
| | | | | | **1** | | | | |
| | 1 | | | | | | | | |
| | | | | | **2** | | | | |
| | 1 | | | | | | | | |
| | | | | | **3** | | | | |
| | 1 | | | | | | | | |
| | | | | | **4** | | | | |
| | 1 | | | | | | | | |
| | | | | | **5** | | | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID B13 N**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| Top 1": dry gravel with C light gray-brown C SAND | 2 | 0.0 | ▽ | 55 | 5 | | | | |
| Saturated to very wet brown C SAND with rock fragments | 2 | 0.0 | | | 6 | | | | |
| Red-brown clayey SILT | 2 | 0.0 | | | 7 | **B13N (7)** | **COMP** | | |
| Odor at 8' | 2 | 5.4 | | | 8 | | | | |
| Black-brown CLAY<br><br>Bottom 3": black SAND | 2 | 0.0 | | | 9 | | | | |
| ****end boring at 10'**** | | | | | 10 | | | | |
| | | | | | 11 | | | | |
| | | | | | 12 | | | | |
| | | | | | 13 | | | | |
| | | | | | 14 | | | | |
| | | | | | 15 | | | | |

## NOTES

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

WCD GROUP
A GALLAGHER BASSETT COMPANY

**Boring ID B17 E**



| | | | | |
|---|---|---|---|---|
| Project **79 Arverne Development** | | Site Location **3-60 Beach 79th St.** | | WCD Project No. **17-9838CM** |
| Elevation & Datum | | **DATE/TIME:** | Start **2/11/2019 12:40** End **2/11/2019 12:50** | WCD Staff **T. Motley, J. Rios** |
| Drilling Contractor **Core Down Drilling** | Drilling Equipment **Geoprobe 5' Macrocore** | | | Driller **Andrew** |
| Drilling Method **Direct Push** | Bit Size & Type | | | Borehole Diameter **2"** |
| **CASING** | | | | Completion Depth **10'** |
| Casing Hammer: | Wt. | Drop | | **WATER LEVEL** |
| **SAMPLER** | | | | First / Compl. / 24 HR |
| Sampler Hammer: | Wt. | Drop | | **6'** |

| **Surface Materials: topsoil** / **SAMPLE DESCRIPTION** | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | **SAMPLING** Sample ID | Type | Interval | Blows /6 in. |
|---|---|---|---|---|---|---|---|---|---|
| Top 2": moist brown soil with organic material | 1 | 0.0 | | 60 | **0** | | | | |
| Dry brown-black loam | | | | | | | | | |
| Moist compacted brown clayey SILT with some orange-stained M SAND | 1 | 0.0 | | | **1** | | | | |
| | | | | | | | | | |
| | 1 | 0.0 | | | **2** | | | | |
| | | | | | | | | | |
| | 1 | 0.0 | | | **3** | | | | |
| | | | | | | | | | |
| | 1 | 0.0 | | | **4** | | | | |
| Concrete | | | | | **5** | | | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID B17 E**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| Top 2": same sandy fill as above | 2 | 0.0 | ▽ | 50 | 5 | | | | |
| Moist gray-black clayey SAND | 2 | 0.0 | | | 6 | | | | |
| Moist gray CLAY with organics (same as previous borings); organic content increases downhole | 2 | 2.8 | | | 7 | **B17E (7)** | **COMP** | | |
| | 2 | 3.5 | | | 8 | | | | |
| | | | | | 9 | | | | |
| Bottom 1": CLAY becomes sandy | 2 | 0.0 | | | 10 | | | | |
| ****end boring at 10'**** | | | | | 11 | | | | |
| | | | | | 12 | | | | |
| | | | | | 13 | | | | |
| | | | | | 14 | | | | |
| | | | | | 15 | | | | |

**NOTES** Soil vapor probe SV-4 installed at 4'

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

WCD GROUP
A GALLAGHER BASSETT COMPANY

**Boring ID B17 S**



| | | | | |
|---|---|---|---|---|
| Project **79 Arverne Development** | | Site Location **3-60 Beach 79th St.** | | WCD Project No. **17-9838CM** |
| Elevation & Datum | | **DATE/TIME:** | Start **2/11/2019 10:50** End **2/11/2019 11:05** | WCD Staff **T. Motley, J. Rios** |
| Drilling Contractor **Core Down Drilling** | Drilling Equipment **Geoprobe 5' Macrocore** | | | Driller **Andrew** |
| Drilling Method **Direct Push** | Bit Size & Type | | | Borehole Diameter **2"** |
| **CASING** | | | | Completion Depth **12'** |
| Casing Hammer: | Wt. | Drop | | **WATER LEVEL** |
| **SAMPLER** | | | | First / Compl. / 24 HR |
| Sampler Hammer: | Wt. | Drop | | **6'** |

| **Surface Materials: C&D** / **SAMPLE DESCRIPTION** | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | **SAMPLING** Sample ID | Type | Interval | Blows /6 in. |
|---|---|---|---|---|---|---|---|---|---|
| 0-4': Dry C&D FILL (brick, concrete, rock, gravel, black sand) | 1 | 0.0 | | | **0** | | | | |
| | | 10.6 | | | **1** | | | | |
| | 1 | 0.0 | | | | | | | |
| | | 1.4 | | | **2** | | | | |
| | 1 | 0.0 | | | | | | | |
| | | | | | **3** | | | | |
| | 1 | 100.9 | | | | | | | |
| 4-5': Moist, gray-brown M-F SAND | | 14.6 | | | **4** | | | | |
| | 1 | | | | | | | | |
| | | 6.9 | | | **5** | | | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID** **B17 S**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| 5-7': Wet light gray M-F SAND | 2 | 1.0 | ▽ | | 5 | | | | |
| | 2 | 0.0 | | | 6 | **B17S (6)** | **COMP** | | |
| 7-9': gray CLAY organic layer (same as previous borings) | 2 | 2.8 | | | 7 | | | | |
| | 2 | 0.0 | | | 8 | | | | |
| 9-10': native west gray M-F SAND | 2 | 0.0 | | | 9 | | | | |
| SAA | 3 | 0.0 | | | 10 | | | | |
| | 3 | 0.0 | | | 11 | | | | |
| ****end boring at 12'**** | | | | | 12 | | | | |
| | | | | | 13 | | | | |
| | | | | | 14 | | | | |
| | | | | | 15 | | | | |

## NOTES

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID B17 W**



| | | | | |
|---|---|---|---|---|
| Project **79 Arverne Development** | | Site Location **3-60 Beach 79th St.** | | WCD Project No. **17-9838CM** |
| Elevation & Datum | | **DATE/TIME:** | Start **2/11/2019 11:05** End **2/11/2019 11:25** | WCD Staff **T. Motley, J. Rios** |
| Drilling Contractor **Core Down Drilling** | Drilling Equipment **Geoprobe 5' Macrocore** | | | Driller **Andrew** |
| Drilling Method **Direct Push** | Bit Size & Type | | | Borehole Diameter **2"** |
| **CASING** | | | | Completion Depth **10'** |
| Casing Hammer: | Wt. | Drop | | **WATER LEVEL** |
| **SAMPLER** | | | | First / Compl. / 24 HR |
| Sampler Hammer: | Wt. | Drop | | **8'** |

| **Surface Materials: sand and gravel** / **SAMPLE DESCRIPTION** | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING Sample ID | Type | Interval | Blows /6 in. |
|---|---|---|---|---|---|---|---|---|---|
| Top 6": wet brown very F SAND with some F gravel | 1 | 0.0 | | 35 | 0 | | | | |
| Dry brown-black LOAM with some orange staining, trace rock fragments | | | | | | | | | |
| | 1 | 2.7 | | | 1 | | | | |
| | | | | | | | | | |
| | 1 | 4.9 | | | 2 | | | | |
| Brick, C&D | | | | | | | | | |
| Dry to slightly moist compact brown to black clayey F SAND with gravel, fining downward sequence | 1 | 4.2 | | | 3 | | | | |
| | | | | | | | | | |
| | 1 | 6.5 | | | 4 | | | | |
| 4.5': SAA; moist | | | | | | | | | |
| | | | | | 5 | | | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID B17 W**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| 5-6': moist brown/gray SAND, rock, clay | 2 | 2.7 | | 55 | 5 6 | | | | |
| 6-8': Moist/wet gray CLAY with organics (same as previous borings); swamp odor | 2 | | | | 7 | | | | |
| | 2 | 120.7 | ▽ | | 8 | | | | |
| 8-10':NATIVE wet gray SAND | 2 | | | | 9 | **B17W (8)** | **COMP** | | |
| | 2 | 38.9 | | | 10 | | | | |
| ****end boring at 10'**** | | | | | 11 | | | | |
| | | | | | 12 | | | | |
| | | | | | 13 | | | | |
| | | | | | 14 | | | | |
| | | | | | 15 | | | | |

## NOTES

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

WCD GROUP
A GALLAGHER BASSETT COMPANY

**Boring ID B19 15' N**



| | | | | |
|---|---|---|---|---|
| Project **79 Arverne Development** | | Site Location **3-60 Beach 79th St.** | | WCD Project No. **17-9838CM** |
| Elevation & Datum | | **DATE/TIME:** | Start **1/25/2019 08:15** End **1/25/2019 08:30** | WCD Staff **J. Rios** |
| Drilling Contractor **Core Down Drilling** | Drilling Equipment **Geoprobe 5' Macrocore** | | | Driller **Andrew** |
| Drilling Method **Direct Push** | Bit Size & Type | | | Borehole Diameter |
| **CASING** | | | | Completion Depth **15'** |
| Casing Hammer: | Wt. | Drop | | **WATER LEVEL** |
| **SAMPLER** | | | | First / Compl. / 24 HR |
| Sampler Hammer: | Wt. | Drop | | **7'** |

| **Surface Materials: C&D** / **SAMPLE DESCRIPTION** | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | **SAMPLING** Sample ID | Type | Interval | Blows /6 in. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | **0** | | | | |
| Crushed concrete | 1 | 0.0 | | 65 | | | | | |
| Dry to moist, brown to black brittle LOAM | | | | | **1** | | | | |
| | 1 | 0.0 | | | | | | | |
| | | | | | **2** | | | | |
| | 1 | 0.0 | | | | | | | |
| | | | | | **3** | | | | |
| | 1 | 0.0 | | | | | | | |
| Slightly moist, gray-brown M SAND, N/O, N/S | | | | | **4** | | | | |
| | 1 | 0.0 | | | | **N** | | | |
| | | | | | **5** | **B1915' (4-5)** | **VOC** | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID** **B19 15' N**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| SAA | 2 | 0.0 | | 80 | 5 | | | | |
| 6.5-7' black LOAM | 2 | 0.0 | ▽ | | 6 | | | | |
| 7-10' Saturated gray-brown M SAND, with red staining at 9.5-10' | 2 | 0.0 | | | 7 | **B1915'N (7-8)** | **VOC** | | |
| | 2 | 0.0 | | | 8 | | | | |
| | 2 | 0.0 | | | 9 | | | | |
| Saturated brown to gray-brown M SAND, with red staining at 11.5-12' | 3 | 0.0 | | 100 | 10 | | | | |
| | 3 | 0.0 | | | 11 | | | | |
| | 3 | 0.0 | | | 12 | | | | |
| | 3 | 0.0 | | | 13 | | | | |
| | 3 | 0.0 | | | 14 | | | | |
| ****end boring at 15'**** | 3 | 0.0 | | | 15 | | | | |

## NOTES

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

WCD GROUP
A GALLAGHER BASSETT COMPANY

**Boring ID B19 5' W**



| | | | | |
|---|---|---|---|---|
| Project **79 Arverne Development** | | Site Location **3-60 Beach 79th St.** | | WCD Project No. **17-9838CM** |
| Elevation & Datum | | **DATE/TIME:** Start **1/25/2019 08:45** | End **1/25/2019 09:00** | WCD Staff **J. Rios** |
| Drilling Contractor **Core Down Drilling** | Drilling Equipment **Geoprobe 5' Macrocore** | | | Driller **Andrew** |
| Drilling Method **Direct Push** | Bit Size & Type | | | Borehole Diameter |
| **CASING** | | | | Completion Depth **15'** |
| Casing Hammer: | Wt. | Drop | | **WATER LEVEL** |
| **SAMPLE** | | | | First / Compl. / 24 HR |
| Sampler Hammer: | Wt. | Drop | | **5'** |

**Surface Materials: C&D**

| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING Sample ID | Type | Interval | Blows /6 in. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | | |
| Crushed concrete and C&D | 1 | 0.0 | | 90 | | | | | |
| Moist dark brown LOAM | | | | | 1 | | | | |
| | 1 | 0.0 | | | | | | | |
| | | | | | 2 | | | | |
| | 1 | 0.3 | | | | | | | |
| | | | | | 3 | | | | |
| | 1 | 0.0 | | | | **B19 5' W (3-4)** | **VOC** | | |
| Dry green to brown compact clayey silty with some F gravel | | | | | 4 | | | | |
| Slightly moist, gray-brown M SAND | 1 | 0.0 | | | | | | | |
| Bottom 2": dark brown SAND with some silt/loam | | | | ▽ | 5 | | | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID** **B19 5' W**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| Saturated gray-brown M-C SAND, with minor shell fragments, with orange staining at 6-7' | 2 | 0.0 | | 90 | 5 | **B19 5' W (5-6)** | **VOC** | | |
| | 2 | 0.0 | | | 6 | | | | |
| | 2 | 0.0 | | | 7 | | | | |
| | 2 | 0.0 | | | 8 | | | | |
| | 2 | 0.0 | | | 9 | | | | |
| SAA, with trace fine gravel | 3 | 0.0 | | | 10 | | | | |
| Homogenous dark gray CLAY with organic fibers | 3 | 0.0 | | | 11 | | | | |
| Saturated gray M SAND | 3 | 0.0 | | | 12 | | | | |
| | 3 | 0.0 | | | 13 | | | | |
| ****end boring at 15'**** | 3 | 0.0 | | | 14 | | | | |
| | | | | | 15 | | | | |

## NOTES

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID B19 15' E**



| | | | | |
|---|---|---|---|---|
| Project **79 Arverne Development** | | Site Location **3-60 Beach 79th St.** | | WCD Project No. **17-9838CM** |
| Elevation & Datum | | **DATE/TIME:** | Start **1/25/2019 09:30** End **1/25/2019 09:45** | WCD Staff **J. Rios** |
| Drilling Contractor **Core Down Drilling** | Drilling Equipment **Geoprobe 5' Macrocore** | | | Driller **Andrew** |
| Drilling Method **Direct Push** | Bit Size & Type | | | Borehole Diameter |
| **CASING** | | | | Completion Depth **15'** |
| Casing Hammer: | Wt. | Drop | | **WATER LEVEL** |
| **SAMPLER** | | | | First / Compl. / 24 HR |
| Sampler Hammer: | Wt. | Drop | | **5'** |

| **Surface Materials: C&D** / **SAMPLE DESCRIPTION** | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | **SAMPLING** Sample ID | Type | Interval | Blows /6 in. |
|---|---|---|---|---|---|---|---|---|---|
| Top 2": dry asphalt | 1 | 0.0 | | 65 | **0** | | | | |
| Crushed concrete | | | | | | | | | |
| | | | | | **1** | | | | |
| | 1 | 0.0 | | | | | | | |
| | | | | | **2** | | | | |
| | 1 | 0.3 | | | | | | | |
| | | | | | **3** | | | | |
| Dry dark brown sandy LOAM with trace gravel with 1" long sand lens at 4' | 1 | 0.0 | | | | | | | |
| | | | | | **4** | | | | |
| | 1 | 0.0 | | | | | **B19 15' E (4-5)** | **VOC** | |
| Bottom 3": slightly moist brown clayey F SAND with orange staining | | | ▽ | | **5** | | | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID B19 15' E**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| 5': very wet black shiny silty LOAM<br>5.5': black to gray mottled F SAND with F gravel, C&D | 2 | 0.0 | | 90 | 5 | **B19 15' E (5-6)** | **VOC** | | |
| 6.5': Saturated gray F SAND, with orange staining | 2 | 0.0 | | | 6 | | | | |
| Saturated gray M- F SAND, fining downward sequence; black staining at ~9' | 2 | 0.0 | | | 7 | | | | |
| | 2 | 0.0 | | | 8 | | | | |
| | 2 | 0.0 | | | 9 | | | | |
| Saturated gray F-M SAND (SAA) with trace shells | 3 | 1.2 | | 100 | 10 | | | | |
| 11' 10": Saturated dark gray CLAY with some F SAND, organics (same as previous borings) | 3 | 0.4 | | | 11 | | | | |
| 12' 7": Saturated gray F SAND | 3 | 0.0 | | | 12 | | | | |
| | 3 | 0.0 | | | 13 | | | | |
| ****end boring at 15'**** | 3 | 0.0 | | | 14 | | | | |
| | | | | | 15 | | | | |

## NOTES

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

WCD GROUP
A GALLAGHER BASSETT COMPANY

**Boring ID B19 20' S**



| | | | | | |
|---|---|---|---|---|---|
| Project **79 Arverne Development** | | Site Location **3-60 Beach 79th St.** | | | WCD Project No. **17-9838CM** |
| Elevation & Datum | | **DATE/TIME:** | Start **2/11/2019 09:00** | End**1/25/2019 09:15** | WCD Staff **T. Motley, J. Rios** |
| Drilling Contractor **Core Down Drilling** | Drilling Equipment **Geoprobe 5' Macrocore** | | | | Driller **Andrew** |
| Drilling Method **Direct Push** | Bit Size & Type | | | | Borehole Diameter **2"** |
| **CASING** | | | | | Completion Depth **20'** |
| Casing Hammer: | Wt. | Drop | | | **WATER LEVEL** |
| **SAMPLER** | | | | | First / Compl. / 24 HR |
| Sampler Hammer: | Wt. | Drop | | | **5'** |

| **Surface Materials: gravel, C&D** / **SAMPLE DESCRIPTION** | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | **SAMPLING** Sample ID | Type | Interval | Blows /6 in. |
|---|---|---|---|---|---|---|---|---|---|
| Top 1": dry gravel | 1 | 0.0 | | 30 | **0** | | | | |
| Dry crushed concrete | | | | | **1** | | | | |
| Dry black LOAM | 1 | 0.0 | | | | | | | |
| | | | | | **2** | | | | |
| Moist, gray M-F SAND with orange staining at bottom 1" of sleeve | 1 | 0.0 | | | | | | | |
| | | | | | **3** | | | | |
| | 1 | 0.0 | | | | **B1920' S (0-5)** | **COMP** | | |
| | | | | | **4** | | | | |
| | 1 | 0.0 | | | | **B1920'S (4)** | **VOC** | | |
| | | | ▽ | | **5** | | | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID** **B19 20' S**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| Saturated SAA; orange staining continues in top 2" only | 2 | 0.0 | | 55 | 5 | | | | |
| | 2 | 0.0 | | | 6 | | | | |
| | 2 | 102 | | | 7 | B1920'S (7) | VOC | | |
| Moist gray-green CLAY with abundant organics, organic odor | 2 | 308 | | | 8 | | | | |
| | 2 | 0.0 | | | 9 | | | | |
| Top 1": saturated gray silty SAND<br>Grades to saturated gray M-C SAND | 3 | 0.0 | | 75 | 10 | | | | |
| | 3 | 0.0 | | | 11 | | | | |
| | 3 | 0.0 | | | 12 | B1920'S (12) | VOC | | |
| | 3 | 0.0 | | | 13 | | | | |
| | 3 | 0.0 | | | 14 | | | | |
| | 3 | 0.0 | | | 15 | | | | |

## NOTES

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID** **B19 20' S**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| SAA | 4 | 0.0 | | 100 | 15 | | | | |
| | 4 | 0.0 | | | 16 | | | | |
| | 4 | 0.0 | | | 17 | | | | |
| | 4 | 0.0 | | | 18 | | | | |
| | 4 | 0.0 | | | 19 | | | | |
| ****end boring at 20'**** | 4 | 0.0 | | | 20 | | | | |
| | | | | | 21 | | | | |
| | | | | | 22 | | | | |
| | | | | | 23 | | | | |
| | | | | | 24 | | | | |
| | | | | | 25 | | | | |

**NOTES** Soil vapor probe SV-1 installed at 4'

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

WCD GROUP
A GALLAGHER BASSETT COMPANY

**Boring ID B29**



| | | | | |
|---|---|---|---|---|
| Project **79 Arverne Development** | | Site Location **3-60 Beach 79th St.** | | WCD Project No. **17-9838CM** |
| Elevation & Datum | | **DATE/TIME:** | Start **1/25/2019 10:15** End **1/25/2019 10:30** | WCD Staff **J. Rios** |
| Drilling Contractor **Core Down Drilling** | Drilling Equipment **Geoprobe 5' Macrocore** | | | Driller **Andrew** |
| Drilling Method **Direct Push** | Bit Size & Type | | | Borehole Diameter |
| **CASING** | | | | Completion Depth **12'** |
| Casing Hammer: | Wt. | Drop | | **WATER LEVEL** |
| **SAMPLER** | | | | First / Compl. / 24 HR |
| Sampler Hammer: | Wt. | Drop | | **5'** |

| **Surface Materials: topsoil and C&D** / **SAMPLE DESCRIPTION** | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING: Sample ID | Type | Interval | Blows /6 in. |
|---|---|---|---|---|---|---|---|---|---|
| Top 2": slightly moist topsoil | 1 | 0.0 | | 60 | 0 | | | | |
| Crushed concrete | | | | | 1 | | | | |
| Dry dark brown LOAM | 1 | 0.0 | | | | | | | |
| | | | | | 2 | | | | |
| Brick, C&D | 1 | 0.0 | | | | | | | |
| | | | | | 3 | | | | |
| Orange F GRAVEL | 1 | 0.0 | | | | | | | |
| Moist, compact, dark brown LOAM | | | | | 4 | | | | |
| | 1 | 0.0 | | | | | | | |
| | | | ▽ | | 5 | | | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID** **B29**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| Very wet black silty/loam with some clay; strong petroleum odor 5-10’ | 2 | 3.5 | | 95 | 5 | | | | |
| 6.5’: very wet gray F SAND | 2 | 5.0 | | | 6 | **B29 (6.5-7.5) COMP + VOC** | | | |
| 7.5’: F sandy CLAY with some organics | 2 | 5.7 | | | 7 | | | | |
| Dark gray CLAY with some organics (same as previous borings) | 2 | 4.8 | | | 8 | | | | |
| | 2 | 4.0 | | | 9 | | | | |
| 10.5’: Saturated gray M SAND | 3 | 0.0 | | 100 | 10 | | | | |
| | 3 | 0.0 | | | 11 | | | | |
| ****end boring at 12’**** | | | | | 12 | | | | |
| | | | | | 13 | | | | |
| | | | | | 14 | | | | |
| | | | | | 15 | | | | |

**NOTES** Strong petroleum odor, 5-10’ sleeve

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID B30**



| | | | | |
|---|---|---|---|---|
| Project **79 Arverne Development** | | Site Location **3-60 Beach 79th St.** | | WCD Project No. **17-9838CM** |
| Elevation & Datum | | **DATE/TIME:** | Start **1/25/2019 11:00** End **1/25/2019 11:15** | WCD Staff **J. Rios** |
| Drilling Contractor **Core Down Drilling** | Drilling Equipment **Geoprobe 5' Macrocore** | | | Driller **Andrew** |
| Drilling Method **Direct Push** | Bit Size & Type | | | Borehole Diameter |
| **CASING** | | | | Completion Depth **12'** |
| Casing Hammer: | Wt. | Drop | | **WATER LEVEL** |
| **SAMPLER** | | | | First / Compl. / 24 HR |
| Sampler Hammer: | Wt. | Drop | | **8'** |

| **Surface Materials: sand and gravel**<br>**SAMPLE DESCRIPTION** | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | **SAMPLING** Sample ID | Type | Interval | Blows /6 in. |
|---|---|---|---|---|---|---|---|---|---|
| Top 6": wet brown very F SAND with some F gravel | 1 | 0.0 | | 65 | 0 | **B30 (0-0.5)** | **COMP + VOC** | | |
| Dry brown-black LOAM with some orange staining, trace rock fragments | | | | | | | | | |
| | 1 | 0.0 | | | 1 | | | | |
| | | | | | | | | | |
| | 1 | 0.0 | | | 2 | | | | |
| | | | | | | | | | |
| Brick, C&D | | | | | 3 | | | | |
| Dry to slightly moist compact brown to black clayey F SAND with gravel, fining downward sequence | 1 | 0.0 | | | | | | | |
| | | | | | 4 | | | | |
| | 1 | 0.0 | | | | | | | |
| Bottom 6": crushed concrete | | | | | 5 | | | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID B30**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| Top 1": black LOAM<br>Slightly moist gray SAND | 2 | 0.0 | | 45 | 5 | | | | |
| Wet to saturated black gravelly C sand | 2 | 8 | | | 6 | B30 (6-7) | COMP + VOC | | |
| Wet to saturated black gravelly C sand with some orange staining | 2 | 15 | ▽ | | 7 | | | | |
| Moist dark gray CLAY with organics (same as previous borings); slight organic odor from decaying material | 2 | 10 | | | 8 | | | | |
| | 2 | 4 | | | 9 | | | | |
| | 3 | 10 | | 100 | 10 | | | | |
| Bottom 6": Saturated gray M SAND with some organics | 3 | 4 | | | 11 | | | | |
| ****end boring at 12'**** | | | | | 12 | | | | |
| | | | | | 13 | | | | |
| | | | | | 14 | | | | |
| | | | | | 15 | | | | |

## NOTES

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID B31**

Sheet 1 of 2

| | | | | |
|---|---|---|---|---|
| Project **79 Arverne Development** | Site Location **3-60 Beach 79th St.** | | | WCD Project No. **17-9838CM** |
| Elevation & Datum | **DATE/TIME:** | Start **2/11/2019 13:15** | End **2/11/2019 13:30** | WCD Staff **T. Motley, J. Rios** |
| Drilling Contractor **Core Down Drilling** | Drilling Equipment **Geoprobe 5' Macrocore** | | | Driller **Andrew** |
| Drilling Method **Direct Push** | Bit Size & Type | | | Borehole Diameter **2"** |
| **CASING** | | | | Completion Depth **15'** |
| Casing Hammer: | Wt. | Drop | | **WATER LEVEL** |
| **SAMPLER** | | | | First / Compl. / 24 HR |
| Sampler Hammer: | Wt. | Drop | | **10'** |

| **Surface Materials: loam** / **SAMPLE DESCRIPTION** | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING: Sample ID | Type | Interval | Blows /6 in. |
|---|---|---|---|---|---|---|---|---|---|
| Top 1": Moist brown organic LOAM | 1 | 52.5 | | 30 | 0 | B31 (0-5) | COMP | | |
| Black LOAM/FILL | | | | | 1 | | | | |
| Moist brown C SAND with gravel | 1 | 0.0 | | | | | | | |
| C&D/FILL, with dry black compacted loam | | | | | 2 | | | | |
| | 1 | 13.3 | | | | B31 (2) | VOC | | |
| | | | | | 3 | | | | |
| | 1 | 0.0 | | | | | | | |
| | | | | | 4 | | | | |
| Concrete | 1 | 4.0 | | | | | | | |
| | | | | | 5 | | | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

WCD GROUP
A GALLAGHER BASSETT COMPANY

**Boring ID B31**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| 1" of recovery: brick | 2 | 0.0 | | 2 | 5 | | | | |
| | 2 | | | | 6 | | | | |
| | 2 | | | | 7 | | | | |
| | 2 | | | | 8 | | | | |
| | 2 | | | | 9 | | | | |
| | 2 | | ▽ | | 10 | | | | |
| Wet brown mud with brick fragments | 3 | 0.0 | | 60 | 11 | **B31 (10-12)** | **COMP** | | |
| Saturated gray M-C SAND | 3 | 63.5 | | | 12 | | | | |
| | 3 | 472 | | | 13 | **B31 (12)** | **VOC** | | |
| | 3 | 12 | | | 14 | | | | |
| ****end boring at 15'**** | 3 | 18.8 | | | 15 | | | | |

## NOTES

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID B32**



| | | | | |
|---|---|---|---|---|
| Project **79 Arverne Development** | | Site Location **3-60 Beach 79th St.** | | WCD Project No. **17-9838CM** |
| Elevation & Datum | | **DATE/TIME:** | Start **2/11/2019 13:15** End **2/11/2019 13:25** | WCD Staff **T. Motley, J. Rios** |
| Drilling Contractor **Core Down Drilling** | Drilling Equipment **Geoprobe 5' Macrocore** | | | Driller **Andrew** |
| Drilling Method **Direct Push** | Bit Size & Type | | | Borehole Diameter **2"** |
| **CASING** | | | | Completion Depth **15'** |
| Casing Hammer: | Wt. | Drop | | **WATER LEVEL** |
| **SAMPLER** | | | | First / Compl. / 24 HR |
| Sampler Hammer: | Wt. | Drop | | **10'** |

| **Surface Materials: Fill** / **SAMPLE DESCRIPTION** | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING: Sample ID | Type | Interval | Blows /6 in. |
|---|---|---|---|---|---|---|---|---|---|
| 0-5': Dry FILL (concrete, brick, stone, C sand) | 1 | 1.7 | | 15 | 0 | | | | |
| | | | | | 1 | | | | |
| *sleeve fell; no sample recovered from 0-5' | 1 | | | | | | | | |
| | | | | | 2 | | | | |
| | 1 | 1.5 | | | | | | | |
| | | | | | 3 | | | | |
| | 1 | | | | | | | | |
| | | | | | 4 | | | | |
| | 1 | 0.0 | | | | | | | |
| | | | | | 5 | | | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID B32**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| 5-7': SAA, N/O; moist at 5'<br>dark gray clayey SILT with trace gravel, trace sand | 2 | 1.7 | | 55 | 5<br>6 | B32 (5-10) | COMP | | |
| | 2 | 2.8 | | | 7 | | | | |
| 7-8': black FILL (C sand, gravel, crushed rock) | 2 | 21.7 (7.5') | | | 8 | B32 (7.5) | MS/ MSD | | |
| 8-9': FILL (C brown sand, gravel, rock, shale) | 2 | 0.0 | | | 9 | | | | |
| 9-10': crushed concrete; wet at 9.5' | 2 | 6.4 | ▽ | | 10 | | | | |
| 10-13': wet gray CLAY (same as previous borings) | 3 | 6.4 | | 80 | 11 | B32 (10-15) | COMP | | |
| | 3 | 25.6 | | | 12 | B32 (11.5) | VOC | | |
| | 3 | 6.4 | | | 13 | | | | |
| 13-15': NATIVE Wet gray M-F SAND | 3 | 6.5 | | | 14 | | | | |
| ****end boring at 15'**** | 3 | 0.0 | | | 15 | | | | |

## NOTES

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

WCD GROUP
A GALLAGHER BASSETT COMPANY

**Boring ID B33**



| | | | | |
|---|---|---|---|---|
| Project **79 Arverne Development** | | Site Location **3-60 Beach 79th St.** | | WCD Project No. **17-9838CM** |
| Elevation & Datum | | **DATE/TIME:** | Start **2/11/2019 10:45** End **2/11/2019 11:00** | WCD Staff **T. Motley, J. Rios** |
| Drilling Contractor **Core Down Drilling** | Drilling Equipment **Geoprobe 5' Macrocore** | | | Driller **Andrew** |
| Drilling Method **Direct Push** | Bit Size & Type | | | Borehole Diameter **2"** |
| **CASING** | | | | Completion Depth **15'** |
| Casing Hammer: | Wt. | Drop | | **WATER LEVEL** |
| **SAMPLER** | | | | First / Compl. / 24 HR |
| Sampler Hammer: | Wt. | Drop | | **5'** |

| **Surface Materials: C&D** / **SAMPLE DESCRIPTION** | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | **SAMPLING** Sample ID | Type | Interval | Blows /6 in. |
|---|---|---|---|---|---|---|---|---|---|
| C&D (brick, plastic, rock fragments, minor glass fragments) | 1 | 0.0 | | 40 | **0** | **B33 (0-5)** | **COMP** | | |
| | | | | | **1** | | | | |
| | 1 | 0.0 | | | | **B33 (1)** | **VOC** | | |
| | | | | | **2** | | | | |
| | 1 | 0.0 | | | | | | | |
| | | | | | **3** | | | | |
| | 1 | 0.0 | | | | | | | |
| | | | | | **4** | | | | |
| | 1 | 0.0 | | | | | | | |
| Bottom 2": brick | | | ▽ | | **5** | | | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

WCD GROUP
A GALLAGHER BASSETT COMPANY

**Boring ID B33**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| Top 2": saturated wood with petroleum odor<br><br>Black fine clayey SAND | 2 | 0.0 | | 45 | 5 | | | | |
| 6-10': gray CLAY with organic matter (same as previous borings) | 2 | 3.5 | | | 6 | **B33 (6-10)** | **COMP** | | |
| | 2 | 6.5 | | | 7 | | | | |
| | 2 | 6.2 | | | 8 | | | | |
| bottom 2": dark gray clayey SAND with wood fragments | 2 | 34.7 | | | 9 | **B33 (9)** | **VOC** | | |
| 10-15': Saturated light gray M-C SAND | 3 | 0.0 | | 95 | 10 | | | | |
| | 3 | 0.0 | | | 11 | | | | |
| | 3 | 0.0 | | | 12 | | | | |
| | 3 | 0.0 | | | 13 | | | | |
| | 3 | 0.0 | | | 14 | | | | |
| ****end boring at 15'**** | 3 | 0.0 | | | 15 | | | | |

## NOTES

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

WCD GROUP
A GALLAGHER BASSETT COMPANY

**Boring ID SV-2 Soil**



| | | | | | | |
|---|---|---|---|---|---|---|
| Project **79 Arverne Development** | | Site Location **3-60 Beach 79th St.** | | | WCD Project No. **17-9838CM** | |
| Elevation & Datum | | **DATE/TIME:** | Start **2/11/2019 10:15** | End **2/11/2019 10:30** | WCD Staff **T. Motley, J. Rios** | |
| Drilling Contractor **Core Down Drilling** | Drilling Equipment **Geoprobe 5' Macrocore** | | | | Driller **Andrew** | |
| Drilling Method **Direct Push** | Bit Size & Type | | | | Borehole Diameter **2"** | |
| **CASING** | | | | | Completion Depth **10'** | |
| Casing Hammer: | Wt. | Drop | | | **WATER LEVEL** | |
| **SAMPLER** | | | | | First | Compl. / 24 HR |
| Sampler Hammer: | Wt. | Drop | | | **5'** | |

**Surface Materials: concrete**

| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING Sample ID | Type | Interval | Blows /6 in. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | | | | |
| Top 3": concrete | 1 | 0.0 | | 50 | | SV-2 (0-5) | COMP | | |
| F-M sand, orange staining at top | | | | | 1 | | | | |
| | 1 | 0.0 | | | | SV-2 (1) | VOC | | |
| | | | | | 2 | | | | |
| Dry compacted black LOAM | 1 | 0.0 | | | | | | | |
| | | | | | 3 | | | | |
| | 1 | 0.0 | | | | | | | |
| | | | | | 4 | | | | |
| | 1 | 0.0 | | | | | | | |
| Bottom 1": black C SAND | | | ▽ | | 5 | | | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID** **SV-2 Soil**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| Saturated M-C gray sand | 2 | 0.0 | | 75 | 5 | | | | |
| Moist gray CLAY with organic matter (same as previous borings) | 2 | 54.0 | | | 6 | | | | |
| | 2 | 116 | | | 7 | **SV-2 (7-9)** | **COMP** | | |
| SAA, organic matter absent from bottom of CLAY layer | 2 | 258 | | | 8 | | | | |
| Saturated gray M-C SAND | 2 | 700 | | | 9 | **SV-2 (9)** | **VOC** | | |
| ****end boring at 10'**** | | | | | 10 | | | | |
| | | | | | 11 | | | | |
| | | | | | 12 | | | | |
| | | | | | 13 | | | | |
| | | | | | 14 | | | | |
| | | | | | 15 | | | | |

**NOTES** Soil vapor probe SV-2 installed at 4'

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

WCD GROUP
A GALLAGHER BASSETT COMPANY

**Boring ID SV-5 Soil**



| | | | | |
|---|---|---|---|---|
| Project **79 Arverne Development** | | Site Location **3-60 Beach 79th St.** | | WCD Project No. **17-9838CM** |
| Elevation & Datum | | **DATE/TIME:** | Start **2/11/2019 14:05** End **2/11/2019 14:15** | WCD Staff **T. Motley, J. Rios** |
| Drilling Contractor **Core Down Drilling** | Drilling Equipment **Geoprobe 5' Macrocore** | | | Driller **Andrew** |
| Drilling Method **Direct Push** | Bit Size & Type | | | Borehole Diameter **2"** |
| **CASING** | | | | Completion Depth **15'** |
| Casing Hammer: | Wt. | Drop | | **WATER LEVEL** |
| **SAMPLER** | | | | First / Compl. / 24 HR |
| Sampler Hammer: | Wt. | Drop | | **9.5'** |

| **Surface Materials: fill** / **SAMPLE DESCRIPTION** | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | **SAMPLING** Sample ID | Type | Interval | Blows /6 in. |
|---|---|---|---|---|---|---|---|---|---|
| 0-5': Dry FILL (brown C sand, crushed rock, brick) | 1 | 0.0 | | 45 | **0** | **SV-5 (0-5)** | **COMP, MSD** | | |
| | | | | | **1** | | | | |
| | 1 | 0.0 | | | | | | | |
| | | | | | **2** | | | | |
| | 1 | 1.7 | | | | | | | |
| | | | | | **3** | | | | |
| | 1 | 1.5 | | | | | | | |
| | | | | | **4** | | | | |
| | 1 | 0.0 | | | | **SV-5 (5)** | **VOC** | | |
| | | | | | **5** | | | | |

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# SOIL/ROCK BORING LOG

**Boring ID** **SV-5 Soil**



| SAMPLE DESCRIPTION | Sleeve | PID screening (ppm) | Water Level | % Recovery | DEPTH SCALE (ft.) | SAMPLING | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Sample ID | Type | Interval | Blows /6 in. |
| ***No sleeve 5-10'; 5-15' sleeve***<br>5-7': SAA—moist | 3 | 3.6 | | 25 | 5 | | | | |
| Moist gray CLAY with organic matter (same as previous borings) | 3 | | | | 6 | **SV-5 (6-12)** | **COMP** | | |
| | 3 | 36.3 | | | 7 | **SV-5 (7.5)** | **VOC** | | |
| SAA, organic matter absent from bottom of CLAY layer | 3 | | | | 8 | | | | |
| | 3 | 12.4 | ▽ | | 9 | | | | |
| 10-15': NATIVE Saturated gray M-C SAND | 3 | | | | 10 | | | | |
| | 3 | 7.6 | | | 11 | | | | |
| | 3 | | | | 12 | | | | |
| | 3 | 6.4 | | | 13 | | | | |
| ****end boring at 15'**** | 3 | | | | 14 | | | | |
| | | | | | 15 | | | | |

**NOTES** Soil vapor probe SV-5 installed at 4'

**ND** – non-detect **PID** – photoionization detector **ppm** – parts per million **NAPL** – non-aqueous phase liquid **SAA** – same as above
**BGS** – below grade surface **F** – fine **M** – medium **C** – coarse **P** – plastic **N/S** – no staining **N/O** – no odor **NR** – no recovery

# BORING LOGS – 2020 REMEDIAL INVESTIGATION (GALLAGHER BASSETT)

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22 IBM Road
Suite 101
Poughkeepsie, NY 12601
P: 845.452.1658
F: 845.485.7083

# SOIL BORING LOG

Boring ID: B30N18



| | | | |
|---|---|---|---|
| **Project Name:** | 3-60 Beach 79th Street | **Driller:** | Core Down Drilling |
| **Project Number:** | 17-9838 | **Drill Rig:** | Geoprobe 7228DT |
| **Address:** | 3-60 Beach 79th Street | **Drilling Method:** | Direct Push |
| **Logged By:** | T. Motley | **Sample Method:** | Macrocore |
| **Start/End Date:** | 1/28/2020 | **Ground Elevation:** | approx. 8.5 feet asl (NAVD 88) |
| **Weather:** | Partly Cloudy, 40s | **Total Depth:** | 15 feet |

| Sleeve # | Depth (ft bgs) | Recovery (%) | Sample ID / Interval | Moisture Content | PID Reading (ppm) | Material Description |
|---|---|---|---|---|---|---|
| 1 | 1 | | | | | FILL (not described) |
| | 2 | | | | | |
| | 3 | | | | | |
| | 4 | | | | | |
| | 5 | | | | | |
| 2 | 6 | 33 | | D to M | | FILL (crushed stone and brick, black-stained C sand, clay, fines)<br>N/O |
| | 7 | | | | | |
| | 8 | | B30N18 (8-10) | | | |
| | 9 | | B30N18 (9) | | 2.0 | 9': water table<br>Black staining at 9' |
| | 10 | | | | | |
| 3 | 11 | 85 | | W | 12.0 | 10-13' Gray CLAY<br>10-15' N/O, N/S |
| | 12 | | | | | |
| | 13 | | B30N18 (13) | | 20.0 | 13-15' Gray native SAND |
| | 14 | | B30N18 (13-15) | | 80.0 | |
| | 15 | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

**Abbreviations:**

NR = No Recovery
N/O = No Odor
N/S = No Staining
SAA = Same As Above

and = 36-50%
some = 21-35%
little = 11-20%
trace = 1-10%

**Grain size:**
F = Fine
M = Medium
C = Coarse

**Moisture Content:**
D = Dry
M = Moist
W = Wet
S = Saturated

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# SOIL BORING LOG

Boring ID: B30E7



| | | | |
|---|---|---|---|
| **Project Name:** | 3-60 Beach 79th Street | **Driller:** | Core Down Drilling |
| **Project Number:** | 17-9838 | **Drill Rig:** | Geoprobe 7228DT |
| **Address:** | 3-60 Beach 79th Street | **Drilling Method:** | Direct Push |
| **Logged By:** | T. Motley | **Sample Method:** | Macrocore |
| **Start/End Date:** | 1/28/2020 | **Ground Elevation:** | approx. 8.5 feet asl (NAVD 88) |
| **Weather:** | Partly Cloudy, 40s | **Total Depth:** | 15 feet |

| Sleeve # | Depth (ft bgs) | Recovery (%) | Sample ID / Interval | Moisture Content | PID Reading (ppm) | Material Description |
|---|---|---|---|---|---|---|
| 1 | 1 | | | | | FILL (not described) |
| | 2 | | | | | |
| | 3 | | | | | |
| | 4 | | | | | |
| | 5 | | | | | |
| 2 | 6 | 66 | | | 10.0 | FILL (crushed stone and brick, C-F sand, fines)<br>5-10' petroleum odors |
| | 7 | | | | | |
| | 8 | | B30E7 (8-10) | | 5-9 | 8': water table |
| | 9 | | B30E7 (9) | | 55.0 | Odor and staining at 9-10' |
| | 10 | | | | | |
| 3 | 11 | 85 | | M to W | 12.0 | 10-13' Gray CLAY<br>10-15' petroleum odors |
| | 12 | | | | | |
| | 13 | | B30E7 (13-15) | | 20.0 | 13-15' Gray native SAND |
| | 14 | | B30E7 (14) | | 80.0 | |
| | 15 | | | | | |
| | | | | | | |

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# SOIL BORING LOG

Boring ID: B30W18 

| | | | |
|---|---|---|---|
| **Project Name:** | 3-60 Beach 79th Street | **Driller:** | Core Down Drilling |
| **Project Number:** | 17-9838 | **Drill Rig:** | Geoprobe 7228DT |
| **Address:** | 3-60 Beach 79th Street | **Drilling Method:** | Direct Push |
| **Logged By:** | T. Motley | **Sample Method:** | Macrocore |
| **Start/End Date:** | 1/28/2020 | **Ground Elevation:** | approx. 7.5 feet asl (NAVD 88) |
| **Weather:** | Partly Cloudy, 40s | **Total Depth:** | 14 feet |

| Sleeve # | Depth (ft bgs) | Recovery (%) | Sample ID / Interval | Moisture Content | PID Reading (ppm) | Material Description |
|---|---|---|---|---|---|---|
| 1 | 1 | | | | | FILL (not described) |
| | 2 | | | | | |
| | 3 | | | | | |
| | 4 | | | | | 4-6': FILL (coarse brown sand, crushed concrete, F-M sand, crushed brick, fines) |
| | 5 | | | | 6.0 | |
| 2 | 6 | 55 | B30W18 (6-8) | M | | 6-8': FILL with black stain (coarse sand, small stone, F-M sand) |
| | 7 | | | | | 7': water table |
| | 8 | | B30W (7.5) | | 82.6 | Petroleum odors 4-8', staining at 6-8' |
| | 9 | | | | 28.0 | 8-11': gray CLAY |
| | 10 | | B30W18 (10-12) | | | |
| 3 | 11 | 62 | | W | | 11-14': gray native F-M SAND, fines |
| | 12 | | BW3018 (11.5) | | 87.0 | |
| | 13 | | | | | |
| | 14 | | | | 31.0 | |
| | 15 | | | | | |
| | | | | | | |

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# SOIL BORING LOG

Boring ID: B30S10



| | | | |
|---|---|---|---|
| **Project Name:** | 3-60 Beach 79th Street | **Driller:** | Core Down Drilling |
| **Project Number:** | 17-9838 | **Drill Rig:** | Geoprobe 7228DT |
| **Address:** | 3-60 Beach 79th Street | **Drilling Method:** | Direct Push |
| **Logged By:** | T. Motley | **Sample Method:** | Macrocore |
| **Start/End Date:** | 1/28/2020 | **Ground Elevation:** | approx. 8 feet asl (NAVD 88) |
| **Weather:** | Partly Cloudy, 40s | **Total Depth:** | 15 feet |

| Sleeve # | Depth (ft bgs) | Recovery (%) | Sample ID / Interval | Moisture Content | PID Reading (ppm) | Material Description |
|---|---|---|---|---|---|---|
| 1 | 1 | | | | | FILL (not described) |
| | 2 | | | | | |
| | 3 | | | | | |
| | 4 | | | | | |
| | 5 | | | | | |
| 2 | 6 | 75 | | M | | 5-8' FILL (coarse brown sand, crushed concrete, F-M sand, coarse brick) |
| | 7 | | | | | 7': water table<br>Petroleum odors 5-9', staining at 9' |
| | 8 | | B30S10 (8-10) | | | VOCs: 13-28 ppm, 5-9'<br>8-9' FILL with black stain (same as previous boring) |
| | 9 | | | | | |
| | 10 | | B30S10 (9) | | 28.0 | |
| 3 | 11 | 84 | B30S10 (10) | W | 5000+ | 10-13' gray CLAY<br>VOC reading at top of clay |
| | 12 | | | | | |
| | 13 | | B30S10 (13) | | | 13-15' gray native SAND |
| | 14 | | B30S10 (13-15) | | 275.0 | |
| | 15 | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

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# SOIL BORING LOG

Boring ID: B34



| | | | |
|---|---|---|---|
| **Project Name:** | 3-60 Beach 79th Street | **Driller:** | Core Down Drilling |
| **Project Number:** | 17-9838 | **Drill Rig:** | Geoprobe 7228DT |
| **Address:** | 3-60 Beach 79th Street | **Drilling Method:** | Direct Push |
| **Logged By:** | T. Motley | **Sample Method:** | Macrocore |
| **Start/End Date:** | 1/29/2020 | **Ground Elevation:** | approx. 8.5 feet asl (NAVD 88) |
| **Weather:** | Partly Cloudy, 30s | **Total Depth:** | 15 feet |

| Sleeve # | Depth (ft bgs) | Recovery (%) | Sample ID / Interval | Moisture Content | PID Reading (ppm) | Material Description |
|---|---|---|---|---|---|---|
| 1 | 1 | 100 | | D | 2.0 | 0-5' FILL (C sand, crushed stone, brick and concrete, M-F sand)<br>N/O |
| | 2 | | | | | |
| | 3 | | | | 1.5 | |
| | 4 | | | | | |
| | 5 | | | | 0.0 | |
| 2 | 6 | 65 | | W at 9' | 0.5 | 5-9' FILL |
| | 7 | | | | 1.2 | |
| | 8 | | B34 (8-10) | | | |
| | 9 | | B34 (9) | | 3.0 | 9' water table |
| | 10 | | | | 2.5 | 9-10' C-M SAND mixed with clay; minor staining at 9' |
| 3 | 11 | 85 | | W | 2.0 | 10-13' Gray CLAY |
| | 12 | | | | | |
| | 13 | | B34 (13-15) | | 2.5 | 13-15' Gray native F-M SAND<br>N/O |
| | 14 | | B34 (14) | | | |
| | 15 | | | | 10.0 | |
| | | | | | | |

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**Grain size:**
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# SOIL BORING LOG

Boring ID: B35



| | | | |
|---|---|---|---|
| **Project Name:** | 3-60 Beach 79th Street | **Driller:** | Core Down Drilling |
| **Project Number:** | 17-9838 | **Drill Rig:** | Geoprobe 7228DT |
| **Address:** | 3-60 Beach 79th Street | **Drilling Method:** | Direct Push |
| **Logged By:** | T. Motley | **Sample Method:** | Macrocore |
| **Start/End Date:** | 1/29/2020 | **Ground Elevation:** | approx. 8.5 feet asl (NAVD 88) |
| **Weather:** | Partly Cloudy, 30s | **Total Depth:** | 15 feet |

| Sleeve # | Depth (ft bgs) | Recovery (%) | Sample ID / Interval | Moisture Content | PID Reading (ppm) | Material Description |
|---|---|---|---|---|---|---|
| 1 | 1 | 80 | | D | 0.0 | 0-5' FILL (brown C sand, crushed stone, brick and concrete, M-F sand)<br>N/O |
| | 2 | | | | | |
| | 3 | | | | 0.0 | |
| | 4 | | | | | |
| | 5 | | | | 0.0 | |
| 2 | 6 | 70 | | | | 5-6' SAA |
| | 7 | | | | | 6-8' wood fragments |
| | 8 | | | | | |
| | 9 | | B35 (8-10) | | 3.0 | 8' water table<br>8-10' FILL (brown/black C sand, crushed stone, clay) |
| | 10 | | B35 (9) | | 75.0 | 9-10' slight odor and visible staining |
| 3 | 11 | 90 | | W | 50.0 | 10-13' Gray CLAY |
| | 12 | | | | | |
| | 13 | | B35 (13-15) | | 15.0 | 13-15' Gray native F-M SAND |
| | 14 | | B35 (13) | | | N/O |
| | 15 | | | | 0.0 | |
| | | | | | | NOTE: collected MS/MSD samples from B35 (8-10)--an additional 10' boring was made right next to B35 to obtain enough material |

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# SOIL BORING LOG

Boring ID: B36



| | | | |
|---|---|---|---|
| **Project Name:** | 3-60 Beach 79th Street | **Driller:** | Core Down Drilling |
| **Project Number:** | 17-9838 | **Drill Rig:** | Geoprobe 7228DT |
| **Address:** | 3-60 Beach 79th Street | **Drilling Method:** | Direct Push |
| **Logged By:** | T. Motley | **Sample Method:** | Macrocore |
| **Start/End Date:** | 1/29/2020 | **Ground Elevation:** | approx. 8 feet asl (NAVD 88) |
| **Weather:** | Partly Cloudy, 30s | **Total Depth:** | 15 feet |

| Sleeve # | Depth (ft bgs) | Recovery (%) | Sample ID / Interval | Moisture Content | PID Reading (ppm) | Material Description |
|---|---|---|---|---|---|---|
| 1 | 1 | 80 | | D | 0.0 | FILL (crushed stone, brick and concrete, brown C sand) |
| | 2 | | | | 0.0 | |
| | 3 | | | | 0.0 | |
| | 4 | | | | 0.0 | |
| | 5 | | | | 3.0 | |
| 2 | 6 | 85 | | M at 7' | 0.0 | 5-9' FILL (crushed stone and brick, brown C sand, clay)<br>5-10' Petroleum odors<br>Note: visible petroleum impacts above clay layer, 7-9' |
| | 7 | | B36 (7-9) | | | |
| | 8 | | B36 (8) | | 10.5 | |
| | 9 | | | | 74.0 | |
| | 10 | | | | 55.0 | 9-10' Gray-black CLAY |
| 3 | 11 | 95 | B36 (11-13) | W | 70.0 | 10-11' Gray CLAY |
| | 12 | | Duplicate<br>B36 (11.5) | | 250.0 | 11-15' Gray native M-F SAND |
| | 13 | | Duplicate | | | |
| | 14 | | | | 70.0 | |
| | 15 | | | | 12.0 | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

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**Moisture Content:**
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# BORING LOGS – GALLAGHER BASSETT 2021 2SB SERIES

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-01 (SHEET 1 OF 38) | **Beach 79th Street – Pre-Design Investigation**<br>**3-60 Beach 79th Street, Far Rockaway, Queens, New York**<br>**NYSDEC BCP ID: C241207** | *GBTS PROJECT 21003-0131* |
|---|---|---|
| | DATE: 2021-10-25 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: SS, VP, JH WEATHER: Sunny, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>**SOIL / MATERIAL DESCRIPTION** | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (80%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill, then brown SILT LOAM with gravel | Dry to moist | 0.4 | yes | ND | ND | |
| **5 – 9'** (90%) | Brown SILT LOAM with gravel, then orange and gray LOAMY SAND, then greenish-gray SILTY CLAY with organics (plant roots, wood) at ~8' | Moist | 68.9 | yes | yes | ND | **8'** |
| | ****** End of Boring at 9' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

Top 80% of recovered material in 0-5' sleeve

**Field Evidence of Contamination**

Strong petroleum and solvent odors, staining, bottom half of 5-9' interval, PID 68.9 ppm at ~8'

**Field Notes**

Sample 2SB-01 8' collected from material near clay layer at point of highest PID reading

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-02 (SHEET 2 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-25 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: SS, VP, JH WEATHER: Sunny, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (80%) | Concrete aggregate, then ~3" layer of brick, then dark brown unsorted fill, then brown SILT LOAM with gravel | Dry to moist | 0.0 | ND | ND | ND | |
| **5 – 9'** (80%) | Tannish-gray SILT LOAM with gravel | Moist | 0.0 | ND | ND | ND | |
| **9 – 11'** (100%) | ~8" gray SILT LOAM, then greenish-gray SILTY CLAY with organics (plant roots, wood) at ~11' | Moist to wet | 30.8 | yes | ND | ND | **11'** |
| | ****** End of Boring at 11' ***** | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

Top 70% of recovered material in 0-5' sleeve

**Field Evidence of Contamination**

Moderate solvent odors in 9-11' interval, PID 30.8 ppm at ~11'

**Field Notes**

Sample 2SB-02 11' collected from material near clay layer at point of highest PID reading

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-03 (SHEET 3 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-25 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: SS, VP, JH WEATHER: Sunny, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (80%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill, then brown SILT LOAM with gravel | Dry to moist | ND | ND | ND | ND | |
| **5 – 10'** (70%) | Dark brown SILT LOAM with gravel, then orange and gray LOAMY SAND, then greenish-gray SILTY CLAY with organics (plant roots, wood) at ~10' | Moist to wet | ND | ND | ND | ND | **9'** |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

Top 80% of recovered material in 0-5' sleeve

**Field Evidence of Contamination**

None observed

**Field Notes**

Sample 2SB-03 9' collected from material near clay layer

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-04 (SHEET4 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-25 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: SS, VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (80%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (gravel, ash, glass fragments) | Moist | 0.0 | ND | ND | ND | |
| **5 – 10'** (100%) | Brown SILT LOAM then greenish-gray SILTY CLAY with organics (plant roots, wood) at ~9' | Moist | 47.8 | yes | ND | ND | **9'** |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-5' sleeve

**Field Evidence of Contamination**

Strong petroleum and solvent odors bottom half of 5-10' interval, PID 47.8 ppm at ~8'

**Field Notes**

Sample 2SB-04 9' collected from material near clay layer at point of highest PID reading

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-05 (SHEET 5 OF 38) | **Beach 79th Street – Pre-Design Investigation**<br>**3-60 Beach 79th Street, Far Rockaway, Queens, New York**<br>**NYSDEC BCP ID: C241207** | *GBTS PROJECT 21003-0131* |
|---|---|---|
| | DATE: 2021-10-25 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: SS, VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>**SOIL / MATERIAL DESCRIPTION** | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (100%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (gravel, ash, glass fragments) | Dry | ND | ND | ND | ND | |
| **5 – 10'** (90%) | Brown SILT LOAM with trace fill to ~8', then orange and gray LOAMY SAND, then greenish-gray SILTY CLAY with organics (plant roots, wood) at ~8' | Dry to moist | 48.7 | yes | ND | ND | **8'** |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-5' sleeve

**Field Evidence of Contamination**

Strong petroleum and solvent odors bottom half of 5-10' interval, PID 48.7 ppm at ~7.5'

**Field Notes**

Sample 2SB-05 8' collected from material near clay layer at point of highest PID reading

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-06 (SHEET 6 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-25 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: SS, VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (100%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (gravel, ash, glass fragments) | Dry to moist | 0.0 | yes | ND | ND | |
| **5 – 10'** (100%) | Unsorted fill to ~7, then brown SILT LOAM with gravel, then gray SANDY LOAM to ~8', then greenish-gray SILTY CLAY with organics (plant roots, wood) at 8' | Moist | 43.7 | yes | yes | ND | **8'** |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

~0-7'

**Field Evidence of Contamination**

Strong petroleum and solvent odors, staining, bottom half of from ~7.5-10', PID 43.7 ppm at ~8'

**Field Notes**

FROG PGC utilized to screen sample from ~8'; potentially elevated CVOCs not detected

Sample 2SB-06 8' collected from material near clay layer at point of highest PID reading

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-07 (SHEET 7 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-25 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: SS, VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: SOIL<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (90%) | Topsoil and broken concrete to ~2', then dark brown unsorted fill (gravel, ash, glass fragments) | Dry | 0.0 | ND | ND | ND | |
| **5 – 10'** (100%) | Unsorted fill to ~7', then yellowish-red LOAMY SAND to ~9', then greenish-gray SILTY CLAY with organics (plant roots, wood) from ~8' | Moist | 0.7 | yes | ND | ND | **10'** |
| | ****** End of Boring at 10' ***** | | | | | | |
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| | | | | | | | |

***Notes***

**Fill Materials**

~0-7'

**Field Evidence of Contamination**

Moderate odors from ~9-10', PID 0.7 ppm at ~10'

**Field Notes**

FROG PGC utilized to screen sample from ~10'; potentially elevated CVOCs not detected

Sample 2SB-07 10' collected from material near clay layer at point of highest PID reading

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-08 (SHEET 8 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-25 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: SS, VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (90%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill, then gray SILT LOAM | Dry | 15.4 | yes | ND | ND | |
| **5 – 10'** (90%) | Gray SILT LOAM with gravel top ~7', then dark brown to black stained SANDY LOAM with organics (plant roots, wood) | Moist | 122.9 | yes | yes | ND | **9'**<br>**8-10'** |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

Top 80% of recovered material in 0-5' sleeve

**Field Evidence of Contamination**

Strong petroleum odors/staining in smear zone, PID 122.9 ppm at ~9' (above water table)

**Field Notes**

Sample 2SB-08 9' collected from material near clay layer at point of highest PID reading; 2SB-09 8-10' composite collected from stained material in smear zone

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-09 (SHEET 9 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-25 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: SS, VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (100%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (coal, brick, glass, wood) | Dry | 0.0 | ND | ND | ND | |
| **5 – 10'** (90%) | Tannish-orange and gray LOAMY SAND with gravel, then greenish-gray SILTY CLAY with organics (plant roots, wood) at ~10' | Moist | 58.4 | yes | ND | ND | |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-5' sleeve

**Field Evidence of Contamination**

Strong petroleum odors bottom half of 5-10' interval, PID 58.4 ppm at ~8'

**Field Notes**

No samples collected

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-10 (SHEET 10 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-25 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: SS, VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (100%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, wood, brick), then brown SILT LOAM with gravel | Dry to moist | ND | ND | ND | ND | |
| **5 – 10'** (100%) | Brown SILT LOAM with gravel and unsorted fill, then blackish-gray SILTY CLAY with organics (plant roots, wood) at ~9' | Moist | 19.2 | yes | ND | ND | **10'** |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

~0-8'

**Field Evidence of Contamination**

Strong odors bottom half of 5-10' interval, PID 19.2 ppm at ~10'

**Field Notes**

Sample 2SB-10 10' collected from material at point of highest PID reading

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-11 (SHEET 11 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-25 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: SS, VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (100%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (coal, ash, brick) and gravel | Dry to moist | 0.5 | ND | ND | ND | |
| **5 – 10'** (75%) | Dark brown unsorted fill (coal, ash, brick) and gravel, then greenish-gray CLAY LOAM with gravel | Moist | 2.0 | yes | ND | ND | **10'** |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

~0-8'

**Field Evidence of Contamination**

MIld petroleum and solvent odors bottom half of 5-10' interval, PID 2.0 ppm at ~10'

**Field Notes**

Sample 2SB-11 10' collected from material near clay layer at point of highest PID reading

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-12 (SHEET 12 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-26 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Heavy rain, 50s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (70%) | Concrete aggregate, then tannish-brown unsorted fill (coal, ash, brick) and gravel | Dry to moist | N/A | ND | ND | ND | |
| **5 – 10'** (60%) | Brown M-C LOAMY SAND with gravel and organics, then ~6" brick layer, then gray SANDY LOAM with gravel, then greenish-gray SILTY CLAY with organics | Moist | N/A | yes | ND | ND | **9'** |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-5' sleeve

**Field Evidence of Contamination**

Mild petroleum odors bottom half of 5-10' interval

**Field Notes**

Sample 2SB-12 9' collected from material near clay layer

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-13 (SHEET 13 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-26 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Heavy rain, 50s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (80%) | Concrete aggregate, then tannish-brown unsorted fill (coal, ash, brick, some organics) and gravel | Dry to moist | N/A | yes | ND | ND | |
| **5 – 10'** (90%) | Brown SILT LOAM with gravel and organics, then gray SANDY LOAM | Moist to wet | N/A | yes | ND | ND | **10'** |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

Top 80% of recovered material in 0-5' sleeve

**Field Evidence of Contamination**

Mild odors in 0-5' interval; strong petroleum and solvent odors bottom half of 5-10' interval

**Field Notes**

Sample 2SB-13 10' collected from material near clay layer

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-14 (SHEET 14 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-26 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Heavy rain, 50s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (60%) | Concrete aggregate, then tannish-brown unsorted fill (coal, ash, brick, some organics) and gravel | Dry | 0.0 | ND | ND | ND | |
| **5 – 10'** (70%) | Brown SILT LOAM with organics, then black petroleum-stained C SAND with gravel, then gray SILT LOAM | Moist | 75.8 | yes | yes | ND | **10'**<br>**8-10'** |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-5' sleeve

**Field Evidence of Contamination**

Strong petroleum and solvent odors, staining, bottom half 5-9' interval, PID 75.8 ppm at ~10'

**Field Notes**

Sample 2SB-14 10' collected from material at point of highest PID reading

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-15 (SHEET 15 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-26 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Heavy rain, 50s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (80%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (coal, ash, brick) | Dry to moist | 0.0 | yes | ND | ND | |
| **5 – 10'** (100%) | Dark brownish-black petroleum stained SILT LOAM, then greenish-gray SILTY CLAY with organics (plant roots, wood) at ~7' | Moist | 49.3 | yes | yes | ND | **6'** |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-5' sleeve

**Field Evidence of Contamination**

Strong petroleum and solvent odors bottom half of 5-10' interval, PID 49.3 ppm at ~6'

**Field Notes**

Sample 2SB-15 6' collected from material near clay layer at point of highest PID reading

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-16 (SHEET 16 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-26 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Heavy rain, 50s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (80%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (coal, ash, brick) | Dry to moist | 0.0 | yes | ND | ND | |
| **5 – 10'** (100%) | Grayish-black petroleum stained SILT LOAM with gravel to ~7', then greenish-gray SILTY CLAY with organics (plant roots, wood) | Moist | 219.5 | yes | yes | ND | **7'**<br>**5-7'** |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-5' sleeve

**Field Evidence of Contamination**

Strong petroleum and solvent odors, staining, top half of 5-10' interval, PID 219.5 ppm at ~7'

**Field Notes**

Sample 2SB-16 7' collected from material near clay layer at point of highest PID reading

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-17 (SHEET 17 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-26 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Heavy rain, 50s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (70%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (coal, ash, brick) | Dry to moist | 0.4 | yes | ND | ND | |
| **5 – 10'** (90%) | Reddish-brown SILT LOAM with gravel to ~8', then greenish-gray SILTY CLAY with organics (plant roots, wood) | Moist | 20.2 | yes | ND | ND | **7'** |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-5' sleeve

**Field Evidence of Contamination**

Strong petroleum odors top half of 5-10' interval, PID 20.2 ppm at ~7'

**Field Notes**

Samples 2SB-17 7' and DUP-20211026 collected from material near clay layer at point of highest PID reading.

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-18 (SHEET 18 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-26 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Heavy rain, 50s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (90%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (coal, ash, brick) | Dry to moist | N/A | ND | ND | ND | |
| **5 – 10'** (20%) | Dark brown unsorted fill (coal, ash, brick), then reddish-brown SILT LOAM | Moist to wet | N/A | yes | yes | ND | **10'** |
| **10 – 13'** (70%) | Grayish-brown SILT LOAM, then greenish-gray SILTY CLAY with organics (plant roots, wood) at 12' | Wet | N/A | yes | yes | ND | **12'** |
| | ****** End of Boring at 13' ***** | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-5' sleeve

**Field Evidence of Contamination**

Strong petroleum odors in 5-10' (reddish-brown SILT LOAM) and 10-13' intervals

**Field Notes**

FROG PGC utilized to screen sample from ~12'; potentially elevated CVOCs detected
Sample 2SB-18 10' collected from petroleum-impacted material in 5-10' interval
Sample 2SB-18 12' collected from material near clay layer (MS/MSD from this sample)
PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-19 (SHEET 19 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-26 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Heavy rain, 50s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (80%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) | Dry | N/A | ND | ND | ND | |
| **5 – 10'** (90%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) to ~9', then dark brownish-black petroleum-stained LOAMY SAND with gravel | Moist to wet | N/A | yes | yes | ND | **10'** |
| **10 – 13'** (100%) | Dark brownish-black petroleum-stained LOAMY SAND to ~12', then then greenish-gray SILTY CLAY with organics (plant roots, wood) | Wet | N/A | yes | yes | ND | **12'** |
| | ****** End of Boring at 13' ***** | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

~0-9' sleeve

**Field Evidence of Contamination**

Strong petroleum odors and staining ~10-12'

**Field Notes**

Sample 2SB-19 10' collected from petroleum-impacted material
Sample 2SB-19 12' collected from material near clay layer
PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-20 (SHEET 20 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-26 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Heavy rain, 50s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (85%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) | Dry | N/A | ND | ND | ND | |
| **5 – 10'** (100%) | Brownish-red to black stained SILT LOAM with gravel to ~9', then SILTY CLAY with organics (plant roots, wood) | Moist | N/A | yes | yes | ND | **9'** |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-5' sleeve

**Field Evidence of Contamination**

Strong petroleum odors and staining from~7-9'

**Field Notes**

FROG PGC utilized to screen sample from ~9'; potentially elevated CVOCs not detected

Sample 2SB-20 9' collected from material near clay layer

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-21 (SHEET 21 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-26 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Heavy rain, 50s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (100%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) | Dry to moist | N/A | ND | ND | ND | |
| **5 – 10'** (90%) | Dark brown to black (petroleum stained) LOAMY SAND, then greenish-gray SILTY CLAY with organics (plant roots, wood) in bottom 6" of material in sleeve | Moist | N/A | yes | yes | ND | |
| **10 – 13'** (100 %) | Brownish-gray LOAMY SAND to ~12', then greenish-gray SILTY CLAY with organics (plant roots, wood) | Moist to wet | N/A | yes | ND | ND | **13'** |
| | ****** End of Boring at 13' ***** | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-5' sleeve

**Field Evidence of Contamination**

Strong petroleum and solvent odors bottom half of 5-9' interval

Gross petroleum contamination from ~8-10'

**Field Notes**

Sample 2SB-21 13' collected from material near clay layer

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-22 (SHEET 22 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-26 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Heavy rain, 50s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (100%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) | Dry to moist | N/A | ND | ND | ND | |
| **5 – 10'** (80%) | Dark brown unsorted fill (ash, coal, brick), then reddish-brown LOAMY SAND | Moist | N/A | yes | ND | ND | |
| **10 – 13'** (100%) | Brownish-gray LOAMY SAND to ~11', then greenish-gray SILTY CLAY with organics (plant roots, wood) | Moist to wet | N/A | yes | ND | ND | **11'** |
| | ****** End of Boring at 13' ***** | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-5 sleeve and top 50% of 5-10' sleeve

**Field Evidence of Contamination**

Mild petroleum odors bottom half of 5-10' interval and top ~1' of 10-13' interval

**Field Notes**

Sample 2SB-22 11' collected from material near clay layer

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-23 (SHEET 23 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-26 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Rain, 50s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (100%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) | Dry to moist | N/A | yes | ND | ND | |
| **5 – 10'** (90%) | Brown to black petroleum stained SANDY LOAM with gravel to ~9', then greenish-gray SILTY CLAY with organics (plant roots, wood) | Moist | N/A | yes | yes | ND | **10'** |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-5' sleeve

**Field Evidence of Contamination**

Strong petroleum odors and staining from ~8-10'

**Field Notes**

Sample 2SB-23 10' collected from material near clay layer

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-24 (SHEET 24 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-26 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Overcast, 50s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (80%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) | Dry to moist | N/A | ND | ND | ND | |
| **5 – 10'** (75%) | Dark brown unsorted fill (ash, coal, brick), then dark brown to black petroleum stained SANDY LOAM | Moist | N/A | yes | yes | ND | |
| **10 – 13'** (100%) | Dark brown to black petroleum stained SANDY LOAM to ~11', then greenish-gray SILTY CLAY with organics (plant roots, wood) | Moist to wet | N/A | yes | yes | ND | **11'** |
| | ****** End of Boring at 13' ***** | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-5' sleeve and top ~1' of recovered material in 5-10' sleeve

**Field Evidence of Contamination**

Strong petroleum odors bottom half of 5-10' interval and top ~1' of 10-13 interval

**Field Notes**

Sample 2SB-24 11' collected from material near clay layer

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-25 (SHEET 25 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-26 DRILLER (RIG) Core Down (7822DT Geoprobe, 5' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 5'** (100%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) | Dry to moist | N/A | ND | ND | ND | |
| **5 – 10'** (70%) | Dark brown unsorted fill (ash, coal, brick, organics), then dark brown to black petroleum stained SANDY LOAM | Moist | N/A | yes | yes | ND | **10'** |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-5' sleeve

**Field Evidence of Contamination**

Gross petroleum contamination (staining and odors) from 9-10' interval

**Field Notes**

Sample 2SB-25 10' collected from material near clay layer

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-26 (SHEET 26 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-27 DRILLER (RIG) Core Down (7822DT Geoprobe, 4' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 3'** (100%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) | Dry to moist | N/A | ND | ND | ND | |
| | ****** End of Boring (Refusal) at 3' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-3'

**Field Evidence of Contamination**

None

**Field Notes**

Refusal at 3' (likely on concrete slab, ~1" of concrete in cutting shoe); no samples collected

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-27 (SHEET 27 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-27 DRILLER (RIG) Core Down (7822DT Geoprobe, 4' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 3'** (90%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) | Dry to moist | N/A | ND | ND | ND | |
| | ****** End of Boring (Refusal) at 3' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-3'

**Field Evidence of Contamination**

None observed

**Field Notes**

Refusal at 3' (likely on concrete slab, ~1" of concrete in cutting shoe); no samples collected

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-28 (SHEET 28 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-27 DRILLER (RIG) Core Down (7822DT Geoprobe, 4' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 4'** (100%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) | Moist | N/A | ND | ND | ND | |
| **4 – 8'** (100%) | Dark brown unsorted fill (ash, coal, brick) to ~5', then black, petroleum stained C SAND with gravel to ~7', then greenish-gray SILTY CLAY with organics (plant roots, wood) | Moist | N/A | yes | yes | ND | **8'** |
| | ****** End of Boring at 8' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

~0-5'

**Field Evidence of Contamination**

Strong petroleum odors and staining from ~5-6'

**Field Notes**

FROG PGC utilized to screen sample from ~8'; potentially elevated CVOCs not detected

Sample 2SB-28 8' collected from material near clay layer

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-29 (SHEET 29 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-27 DRILLER (RIG) Core Down (7822DT Geoprobe, 4' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 3'** (100%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) | Dry | N/A | ND | ND | ND | |
| | ****** End of Boring at 3' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-3'

**Field Evidence of Contamination**

None

**Field Notes**

Refusal at 3' (likely on concrete slab, ~1" of concrete in cutting shoe); no samples collected

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-30 (SHEET 30 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-27 DRILLER (RIG) Core Down (7822DT Geoprobe, 4' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 3'** (100%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) | Dry | N/A | ND | ND | ND | |
| | ****** End of Boring at 3' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-3'

**Field Evidence of Contamination**

None

**Field Notes**

Refusal at 3' (likely on concrete slab, ~1" of concrete in cutting shoe); no samples collected

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-31 (SHEET 31 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-27 DRILLER (RIG) Core Down (7822DT Geoprobe, 4' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 4'** (50%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) | Dry to moist | N/A | ND | ND | ND | |
| **4 – 8'** (50%) | Brown to black petroleum stained SILT LOAM with gravel, then greenish-gray SILTY CLAY with organics (plant roots, wood) at ~8' | Moist | N/A | yes | yes | ND | **8'** |
| | ****** End of Boring at 9' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

Top 80% of recovered material in 0-5' sleeve

**Field Evidence of Contamination**

Strong petroleum odors and staining in 5-9' interval

**Field Notes**

Sample 2SB-31 8' collected from material near clay layer

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-32 (SHEET 32 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-27 DRILLER (RIG) Core Down (7822DT Geoprobe, 4' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 4'** (70%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) | Dry to moist | N/A | ND | ND | ND | |
| **4 – 8'** (70%) | Brownish-black petroleum stained SANDY LOAM with gravel then grayish-black petroleum stained SILT LOAM. | Moist | N/A | yes | yes | yes | **8'** |
| **8 – 10'** (50%) | Greenish-gray SILTY CLAY with organics (plant roots, wood) | Moist to wet | N/A | yes | ND | ND | |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-4' sleeve

**Field Evidence of Contamination**

Strong petroleum odors/staining and free product bottom half of 4-8' interval

**Field Notes**

FROG PGC utilized to screen sample from ~8'; potentially elevated CVOCs detected

Sample 2SB-32 8' collected from near clay layer (point of most significant contamination)

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-33 (SHEET 33 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-27 DRILLER (RIG) Core Down (7822DT Geoprobe, 4' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 4'** (80%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) | Dry to moist | N/A | ND | ND | ND | |
| **4 – 8'** (0%) | No recovery | Wet | N/A | ND | ND | ND | |
| **8 – 10'** (80%) | Grayish-black petroleum stained SILT LOAM, then greenish-gray SILTY CLAY with organics (plant roots, wood) | Wet | N/A | yes | yes | ND | **9'** |
| | ****** End of Boring at 10' ***** | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-4' sleeve

**Field Evidence of Contamination**

Strong petroleum and solvent odors top half of 8-10' interval

**Field Notes**

FROG PGC utilized to screen sample from ~9'; potentially elevated CVOCs not detected

Sample 2SB-33 9' collected from material near clay layer

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-34 (SHEET 34 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-27 DRILLER (RIG) Core Down (7822DT Geoprobe, 4' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 3'** (50%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) and organics (wood) | Dry | N/A | yes | ND | ND | **3'** |
| | ****** End of Boring (refusal) at 3' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-3'

**Field Evidence of Contamination**

Strong solvent odors in organic material in bottom of 0-3' interval

**Field Notes**

Sample 2SB-03 8' collected from organic material exhibiting odors in bottom of 0-3' interval

PID non-operational Refusal at 3' (likely on concrete slab, ~1" of concrete in cutting shoe).

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-35 (SHEET 35 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-27 DRILLER (RIG) Core Down (7822DT Geoprobe, 4' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 4'** (80%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick); organic material (wood) in bottom ~6" of recovered material | Dry to moist | N/A | yes | ND | ND | |
| **4 – 8'** (100%) | Dark brown unsorted fill (ash, coal, brick) to ~6', then gray SILT LOAM to ~7.5', then greenish-gray SILTY CLAY with organics (plant roots, wood) | Moist | N/A | yes | yes | ND | **8'** |
| | ****** End of Boring at 8' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

~0-6'

**Field Evidence of Contamination**

Strong solvent odors in bottom ~6" of 0-4 interval and throughout 4-8' interval

**Field Notes**

FROG PGC utilized to screen sample from ~8'; potentially elevated CVOCs not detected

Sample 2SB-35 8' collected from material near clay layer

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-36 (SHEET 36 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-27 DRILLER (RIG) Core Down (7822DT Geoprobe, 4' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 4'** (50%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) | Dry to moist | N/A | ND | ND | ND | |
| | ****** End of Boring (refusal) at 4' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-4' sleeve

**Field Evidence of Contamination**

None

**Field Notes**

Refusal at 4' (likely on concrete slab, ~1" of concrete in cutting shoe); no samples collected

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-37 (SHEET 37 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-27 DRILLER (RIG) Core Down (7822DT Geoprobe, 4' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 4'** (70%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) | Dry | N/A | ND | ND | ND | |
| **4 – 8'** (60%) | Brownish-black petroleum stained SILT LOAM with gravel then greenish-gray SILTY CLAY with organics (plant roots, wood) | Moist | N/A | yes | yes | ND | **8'** |
| | ****** End of Boring at 8' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-4' sleeve

**Field Evidence of Contamination**

Strong petroleum odors and staining throughout 4-8' interval

**Field Notes**

FROG PGC utilized to screen sample from ~8'; potentially elevated CVOCs not detected

Sample 2SB-37 8' collected from material near clay layer

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# Soil Boring Log

GALLAGHER BASSETT | TECHNICAL SERVICES

| 2SB-38 (SHEET 38 OF 38) | Beach 79th Street – Pre-Design Investigation<br>3-60 Beach 79th Street, Far Rockaway, Queens, New York<br>NYSDEC BCP ID: C241207 | GBTS PROJECT 21003-0131 |
|---|---|---|
| | DATE: 2021-10-27 DRILLER (RIG) Core Down (7822DT Geoprobe, 4' macro-core)<br>GBTS STAFF: VP, JH WEATHER: Overcast, 60s °F | |

| BORING INTERVAL (RECOVERY) | SURFACE MATERIAL: CONCRETE AGGREGATE (1')<br>SOIL / MATERIAL DESCRIPTION | MOISTURE | PID (PPM) | ODORS | STAINING | NAPL | SAMPLES COLLECTED |
|---|---|---|---|---|---|---|---|
| **0 – 4'** (80%) | Concrete aggregate and weathered white rock, then dark brown unsorted fill (ash, coal, brick) | Dry | N/A | ND | ND | ND | |
| **4 – 8'** (70%) | Brownish-black petroleum stained SILT LOAM with gravel then greenish-gray SILTY CLAY with organics (plant roots, wood) | Dry to moist | N/A | yes | yes | ND | **8'** |
| | ****** End of Boring at 8' ***** | | | | | | |
| | | | | | | | |
| | | | | | | | |

***Notes***

**Fill Materials**

0-4' sleeve

**Field Evidence of Contamination**

Strong petroleum odors and staining throughout 4-8' interval

**Field Notes**

Sample 2SB-38 8' collected from material near clay layer

PID non-operational

**ND** (non-detect) **PID** (photoionization detector) **ppm** (parts per million) **NAPL** (non-aqueous phase liquid)
**F** (fine) **M** (medium) **C** (coarse) **SI** (slight)

# BORING LOGS – GEI 3-SERIES (PRE-DESIGN INVESTIGATION 2023)

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-01

| | | | |
|---|---|---|---|
| **Boring Location** | North Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/19/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1<br>2<br>3<br>4 | S1 | | 48 | 36 | 0.0<br><br>0.0 | 0"-6" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%)<br><br>6"-8" - CRUSHED CONCRETE<br><br>8"-36" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |
| 5<br>6<br>7<br>8 | S2 | 3SB-01 (7-8) | 48 | 34 | 0.0<br><br>1.0 | 0"-30" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%)<br><br>30"-34" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-02

| | | | |
|---|---|---|---|
| **Boring Location** | North Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/18/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1–4 | S1 | | 48 | 40 | 0.0<br>0.5 | 0"-10" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%)<br><br>10"-12" - CRUSHED BRICKS<br><br>12"-40" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |
| 5–8 | S2 | 3SB-02 (7-8) | 48 | 42 | 0.0<br>1.4 | 0"-40" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%)<br><br>40"-42" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-03

| | | | |
|---|---|---|---|
| **Boring Location** | North Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/20/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 4 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1<br>2<br>3<br>4 | S1 | 3SB-03 (3-4) | 48 | 32 | 0.0<br>0.1 | 0"-5" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%)<br><br>5"-6" - CRUSHED BRICKS<br><br>6"-32" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |

END OF BORING 4-feet Due to Refusal

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-04

| | | | |
|---|---|---|---|
| **Boring Location** | North Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/18/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 10 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1–4 | S1 | | 48 | 40 | 0.0<br>0.5 | 0"-10" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%)<br><br>12"-40" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |
| 5–8 | S2 | | 48 | 38 | 0.0<br>1.0 | 0"-30" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%)<br><br>30"-38" - SP: FINE TO MEDIUM GRADED SAND<br>White fine to medium grained sand (80%) with some silt (20%) |
| 9–10 | | 3SB-04 (7-8) | 24 | 22 | 1.1 | 0"-22" - SP: FINE TO MEDIUM GRADED SAND<br>White fine to medium grained sand (80%) with some silt (20%) |

END OF BORING 10-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-05

| | | | |
|---|---|---|---|
| **Boring Location** | North Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/18/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1<br>2<br>3<br>4 | S1 | | 48 | 32 | 0.0<br>0.0 | 0"-4" - CRUSHED CONCRETE<br><br>4"-32" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%) |
| 5<br>6<br>7<br>8 | S2 | 3SB-05 (6.5-7.5) | 48 | 23 | 0.0<br>0.0 | 0"-23" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-06

| | | | |
|---|---|---|---|
| **Boring Location** | East Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/18/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1–4 | S1 | | 48 | 40 | 0.0<br>0.0 | 0"-3" - CRUSHED CONCRETE<br><br>3"-40" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%) |
| 5–8 | S2 | 3SB-06 (6-7) | 48 | 35 | 0.0<br>0.0 | 0"-34" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%)<br><br>34"-35" - OL: CLAY<br>Black organic clay (100%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-07

| | | | |
|---|---|---|---|
| **Boring Location** | East Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/18/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1–4 | S1 | | 48 | 36 | 0.0<br>0.0 | 0"-5" - CRUSHED CONCRETE<br><br>5"-36" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%) |
| 5–8 | S2 | 3SB-07 (7-8) | 48 | 46 | 0.0<br>1.9 | 0"-44" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%)<br><br>44"-46" - OL: CLAY<br>Black organic clay (100%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-08

| | | | |
|---|---|---|---|
| **Boring Location** | East Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/18/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1 2 3 4 | S1 | | 48 | 42 | 0.0<br>0.2 | 0"-2" - CRUSHED CONCRETE<br><br>2"-42" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%) |
| 5 6 7 8 | S2 | 3SB-08 (7-8) | 48 | 42 | 0.3<br>2.1 | 0"-39" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%)<br><br>39"-42" - OL: CLAY<br>Black organic clay (100%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-09

| | | | |
|---|---|---|---|
| **Boring Location** | East Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/18/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1 2 3 4 | S1 | | 48 | 46 | 0.0<br>0.0 | 0"-2" - CRUSHED BRICK<br><br>2"-46" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%) |
| 5 6 7 8 | S2 | 3SB-09 (7-8) | 48 | 48 | 0.0<br>5.2 | 0"-47" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%)<br><br>47"-48" - OL: CLAY<br>Black organic clay (100%) |

END OF BORING 8-feet

GEI Consultants

# EXPLORATION LOG

## SOIL BORING 3SB-10

| | | | |
|---|---|---|---|
| **Boring Location** | East Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/18/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1–4 | S1 | | 48 | 32 | 0.0<br>0.0 | 0"-32" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%) |
| 5–8 | S2 | 3SB-10 (7-8) | 48 | 42 | 0.0<br>1.1 | 0"-42" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-11

| | | | |
|---|---|---|---|
| **Boring Location** | Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/18/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1–4 | S1 | | 48 | 38 | 0.0<br>0.0 | 0"-6" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%)<br><br>8"-10" - CRUSHED CONCRETE<br><br>10"-38" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |
| 5–8 | S2 | 3SB-11 (7-8) | 48 | 42 | 0.0<br>0.1 | 0"-40" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%)<br><br>40"-42" - OL: CLAY<br>Black organic clay (100%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-12

| | | | |
|---|---|---|---|
| **Boring Location** | Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/18/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1–4 | S1 | | 48 | 35 | 0.0<br>0.2 | 0"-15" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%)<br><br>15"-35" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |
| 5–8 | S2 | 3SB-12 (7-8) | 48 | 35 | 0.0<br>0.3 | 0"-34" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%)<br><br>34"-35" - OL: CLAY<br>Black organic clay (100%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-13

| | | | |
|---|---|---|---|
| **Boring Location** | Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/18/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1–4 | S1 | | 48 | 40 | 0.0<br>0.2 | 0"-36" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%)<br><br>36"-40" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |
| 5–8 | S2 | 3SB-13 (7-8) | 48 | 36 | 0.0<br>1.2 | 0"-31" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%)<br><br>31"-36" - OL: CLAY<br>Black organic clay (100%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-14

| | | | |
|---|---|---|---|
| **Boring Location** | Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/18/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1<br>2<br>3<br>4 | S1 | | 48 | 45 | 0.0<br><br>0.2 | 0"-41" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%)<br><br>41"-45" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |
| 5<br>6<br>7<br>8 | S2 | 3SB-14 (7-8) | 48 | 29 | 0.0<br><br>1.2 | 0"-28" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%)<br><br>28"-29" - OL: CLAY<br>Black organic clay (100%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-15

| | | | |
|---|---|---|---|
| **Boring Location** | Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/18/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1–4 | S1 | | 48 | 34 | 0.0<br>0.2 | 0"-32" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%)<br><br>32"-34" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |
| 5–8 | S2 | 3SB-15 (7-8) | 48 | 41 | 0.0<br>0.9 | 0"-38" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%)<br><br>38"-41" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-17

| | | | |
|---|---|---|---|
| **Boring Location** | Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/18/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1 2 3 4 | S1 | | 48 | 32 | 0.0<br>0.2 | 0"-32" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%) |
| 5 6 7 8 | S2 | 3SB-17 (7-8) | 48 | 29 | 0.0<br>0.9 | 0"-29" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-18

| | | | |
|---|---|---|---|
| **Boring Location** | Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/18/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1 2 3 4 | S1 | | 48 | 48 | 0.0<br>0.0 | 0"-6" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%)<br><br>6"-10" - CRUSHED CONCRETE<br><br>10"-48" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |
| 5 6 7 8 | S2 | 3SB-18 (7-8) | 48 | 48 | 0.0<br>0.1 | 0"-45" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%)<br><br>45"-48" - OL: CLAY<br>Black organic clay (100%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-20

| | | | |
|---|---|---|---|
| **Boring Location** | North Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/20/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1–4 | S1 | | 48 | 30 | 0.0<br>0.0 | 0"-3" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%)<br>3"-4" - CRUSHED CONCRETE<br>4"-30" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |
| 5–8 | S2 | 3SB-20 (7-8) | 48 | 31 | 0.0<br>1.9 | 0"-30" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%)<br>30"-31" - OL: CLAY<br>Black organic clay (100%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-21

| | | | |
|---|---|---|---|
| **Boring Location** | North Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/20/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1 2 3 4 | S1 | | 48 | 40 | 0.0<br>0.0 | 0"-2" - CRUSHED BRICK<br><br>2"-40" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%) |
| 5 6 7 8 | S2 | 3SB-21 (7-8) | 48 | 34 | 0.0<br>2.9 | 0"-30" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%)<br><br>30"-34" - OL: CLAY<br>Black organic clay (100%) |

END OF BORING 8-feet

GEI Consultants

# EXPLORATION LOG

## SOIL BORING 3SB-22

| | | | |
|---|---|---|---|
| **Boring Location** | Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/19/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1<br>2<br>3<br>4 | S1 | | 48 | 34 | 0.0<br>0.2 | 0"-20" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%)<br><br>20"-34" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |
| 5<br>6<br>7<br>8 | S2 | 3SB-22 (7-8) | 48 | 48 | 0.0<br>1.2 | 0"-45" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%)<br><br>45"-48" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-23

| | | | |
|---|---|---|---|
| **Boring Location** | Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/19/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1 2 3 4 | S1 | | 48 | 40 | 0.0<br>0.2 | 0"-30" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%)<br><br>30"-40" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |
| 5 6 7 8 | S2 | 3SB-23 (7-8) | 48 | 42 | 0.0<br>1.0 | 0"-38" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%)<br><br>38"-42" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-24

| | | | |
|---|---|---|---|
| **Boring Location** | Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/19/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1–4 | S1 | | 48 | 46 | 0.0<br>0.2 | 0"-8" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%)<br><br>8"-10" - CRUSHED CONCRETE<br><br>10"-46" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |
| 5–8 | S2 | 3SB-24 (7-8) | 48 | 41 | 0.0<br>1.0 | 0"-38" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%)<br><br>38"-41" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-25

| | | | |
|---|---|---|---|
| **Boring Location** | Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/20/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1<br>2<br>3<br>4 | S1 | | 48 | 39 | 0.0<br>0.0 | 0"-32" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%)<br><br>32"-39" - SM: SILT TO FINE GRADED SAND<br>Black silt to fine grained sand (80%) with some fill (20%) |
| 5<br>6<br>7<br>8 | S2 | 3SB-25 (7-8) | 48 | 32 | 0.0<br>1.9 | 0"-30" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%)<br><br>30"-32" - OL: CLAY<br>Black organic clay (100%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-26

| | | | |
|---|---|---|---|
| **Boring Location** | Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/20/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1–4 | S1 | | 48 | 32 | 0.0<br>0.0 | 0"-32" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%) |
| 5–8 | S2 | 3SB-26 (7-8) | 48 | 40 | 0.0<br>1.9 | 0"-39" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%)<br><br>39"-40" - OL: CLAY<br>Black organic clay (100%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-27

| | | | |
|---|---|---|---|
| **Boring Location** | Central Portion of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/20/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1<br>2<br>3<br>4 | S1 | | 48 | 30 | 0.0<br>0.0 | 0"-30" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%) |
| 5<br>6<br>7<br>8 | S2 | 3SB-27 (7-8) | 48 | 48 | 0.0<br>2.9 | 0"-45" - SP: FINE TO MEDIUM GRADED SAND<br>Black fine to medium grained sand (80%) with some fill (20%)<br><br>45"-48" - OL: CLAY<br>Black organic clay (100%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-41

| | | | |
|---|---|---|---|
| **Boring Location** | North Side of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/19/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1–4 | S1 | | 48 | 30 | 0.0<br>0.0 | 0"-30" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%) |
| 5–8 | S2 | 3SB-41 (7-8) | 48 | 42 | 0.0<br>0.0 | 0"-42" - SP: FINE TO MEDIUM GRADED SAND<br>White fine to medium grained sand (80%) with some silt (20%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-42

| | | | |
|---|---|---|---|
| **Boring Location** | North Side of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/19/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1<br>2<br>3<br>4 | S1 | | 48 | 38 | 0.0<br>0.0 | 0"-30" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%)<br><br>30"-38" - SP: FINE TO MEDIUM GRADED SAND<br>White fine to medium grained sand (80%) with some silt (20%) |
| 5<br>6<br>7<br>8 | S2 | 3SB-42 (7-8) | 48 | 38 | 0.0<br>0.0 | 0"-38" - SP: FINE TO MEDIUM GRADED SAND<br>White fine to medium grained sand (80%) with some silt (20%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-43

| | | | |
|---|---|---|---|
| **Boring Location** | North Side of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/19/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1 2 3 4 | S1 | | 48 | 44 | 0.0<br>0.0 | 0"-25" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%)<br><br>25"-44" - SP: FINE TO MEDIUM GRADED SAND<br>White fine to medium grained sand (80%) with some silt (20%) |
| 5 6 7 8 | S2 | 3SB-43 (7-8) | 48 | 32 | 0.0<br>0.0 | 0"-32" - SP: FINE TO MEDIUM GRADED SAND<br>White fine to medium grained sand (80%) with some silt (20%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-44

| | | | |
|---|---|---|---|
| **Boring Location** | North Side of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/19/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1–4 | S1 | | 48 | 48 | 0.0<br>0.0 | 0"-32" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%)<br><br>32"-48" - SP: FINE TO MEDIUM GRADED SAND<br>White fine to medium grained sand (80%) with some silt (20%) |
| 5–8 | S2 | 3SB-44 (7-8) | 48 | 29 | 0.0<br>0.0 | 0"-29" - SP: FINE TO MEDIUM GRADED SAND<br>White fine to medium grained sand (80%) with some silt (20%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-45

| | | | |
|---|---|---|---|
| **Boring Location** | North Side of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/19/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1<br>2<br>3<br>4 | S1 | | 48 | 38 | 0.0<br><br><br>0.0 | 0"-32" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%)<br><br>32"-38" - SP: FINE TO MEDIUM GRADED SAND<br>White fine to medium grained sand (80%) with some silt (20%) |
| 5<br>6<br>7<br>8 | S2 | 3SB-45 (7-8) | 48 | 32 | 0.0<br><br><br>0.0 | 0"-29" - SP: FINE TO MEDIUM GRADED SAND<br>White fine to medium grained sand (80%) with some silt (20%)<br><br>29"-32" - OL: CLAY<br>Black organic clay (100%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-46

| | | | |
|---|---|---|---|
| **Boring Location** | North Side of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/19/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1–4 | S1 | | 48 | 32 | 0.0<br>0.0 | 0"-32" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%) |
| 5–8 | S2 | 3SB-46 (7-8) | 48 | 45 | 0.0<br>0.0 | 0"-44" - SP: FINE TO MEDIUM GRADED SAND<br>White fine to medium grained sand (80%) with some silt (20%)<br><br>44"-45" - OL: CLAY<br>Black organic clay (100%) |

END OF BORING 8-feet

GEI Consultants

## EXPLORATION LOG

## SOIL BORING 3SB-47

| | | | |
|---|---|---|---|
| **Boring Location** | North Side of Site | **Client:** | 79 Arverne Development LLC |
| **Project Number:** | 2204799 | **Project Name:** | 3-60 Beach 79th Street |
| **Logged By:** | L. Robertson | **Site Address:** | 3-60 Beach 79th Street , Far Rockaway NY |
| **Date:** | 1/19/2023 | **Contractor:** | Tri State Drilling Tech Inc |
| **Drill Type:** | Geoprobe 5410DT | **Driller:** | Paul Rechica |
| **Elevation (Start):** | | **Drilling Method:** | Direct Push |
| **Elevation (End):** | | **Total Depth (feet):** | 8 |

| Depth (feet) | Sample Identification | Lab Sample Interval (feet) | Penetration (inches) | Recovery (inches) | PID Jar HS / Remarks | Sample Description |
|---|---|---|---|---|---|---|
| 1 2 3 4 | S1 | | 48 | 29 | 0.0<br>0.0 | 0"-29" - SP: FINE TO MEDIUM GRADED SAND<br>Black/Brown fine to medium grained sand (80%) with some fill (20%) |
| 5 6 7 8 | S2 | 3SB-46 (7-8) | 48 | 48 | 0.0<br>0.0 | 0"-44" - SP: FINE TO MEDIUM GRADED SAND<br>White fine to medium grained sand (80%) with some silt (20%)<br><br>44"-48" - OL: CLAY<br>Black organic clay (100%) |

END OF BORING 8-feet

# APPENDIX E – INJECTION WELL AND GROUNDWATER MONITORING WELL BORING AND CONSTRUCTION LOGS

# Injection Well Logs - Anchor QEA 2024

# MONITORING WELL CONSTRUCTION DATA

| DATE: 10/15/2024 | CLIENT: 79 Arverne Development, LLC | Site No: BCP SITE # C241207 |
|---|---|---|

WELL/BORING NO: IW-1

STATE PLANE COORDINATES:

NORTH 154829.50

EAST 1038384.80

PROJECT NAME: Beach 79th Far Rockaway

ADDRESS: 3-60 Beach 79th St

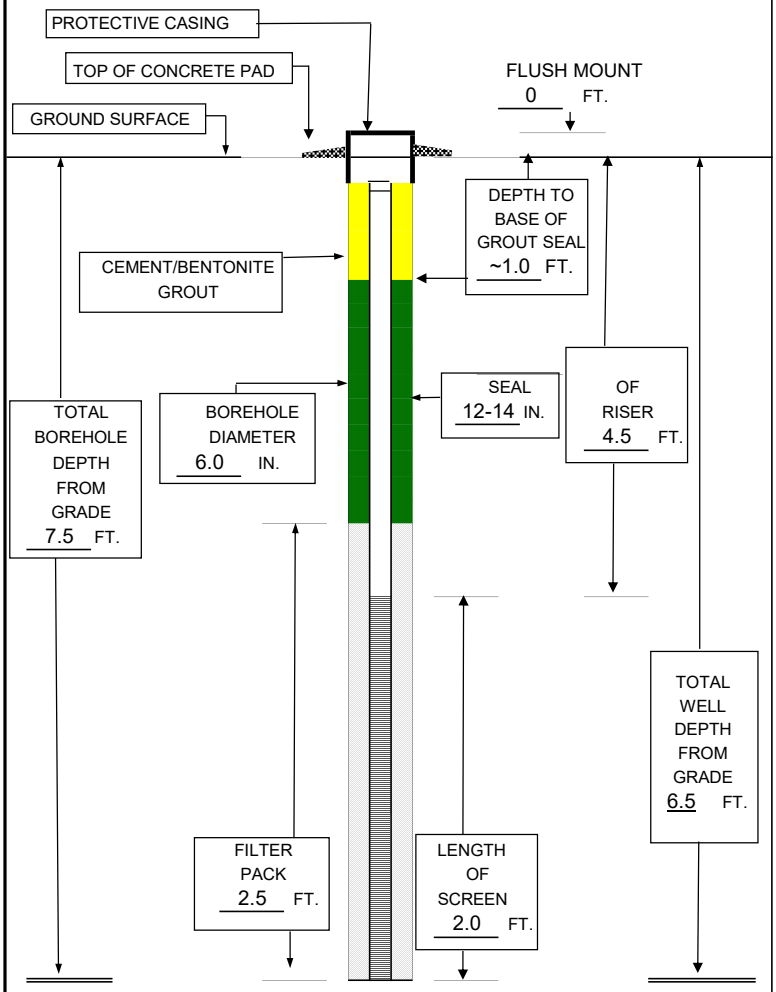
Rockaway Beach, New York 1163

TOP OF SLAB ELEVATION:

WELL CONTRACTOR: Eastern Environmental Solutions Inc

TOP OF PVC CASING ELEVAT 5.45

## WELL SCHEMATIC




ALL ELEVATIONS ARE IN FEET NGVD

## CONSTRUCTION DATA

CASING INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] CARBON [ ] OTHER

DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN.

JOINTS: [ ] THREADED [ ] WELDED [ ] SCREWED [ ] COUPLED [ ] OTHER

SCHEDULE:

SCREEN INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] TEFLON [ ] OTHER

DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN

SLOT: [X] 0.010 [ ] 0.020 [ ] OTHER ____ IN

CENTRALIZER: [ ] YES [ ] NO

FILTER PACK MATERIAL

20/40 SAND [ ]

OTHER [X] FilPro No. 1 Quartz Sand

BENTONITE WELL SEAL

[ ] 1/2-INCH PELLETS

[ ] 1/4-INCH PELLETS

[ ] CHIPS

[X] OTHER Granular

SURFACE PROTECTION

CONCRETE PAD: [ ] 3'X3' [ ] 4'X4' [X] OTHER ~1 FT

WELL SUMP/CAP

[ ] YES

[X] NO

LENGTH ____ FT.

ANCHOR QEA

# MONITORING WELL CONSTRUCTION DATA

| DATE: 10/17/2024 | CLIENT: 79 Arverne Development, LLC | Site No: BCP SITE # C241207 |
|---|---|---|

WELL/BORING NO: IW-2

STATE PLANE COORDINATES:

NORTH 154659.26

EAST 1038380.60

PROJECT NAME: Beach 79th Far Rockaway

ADDRESS: 3-60 Beach 79th St

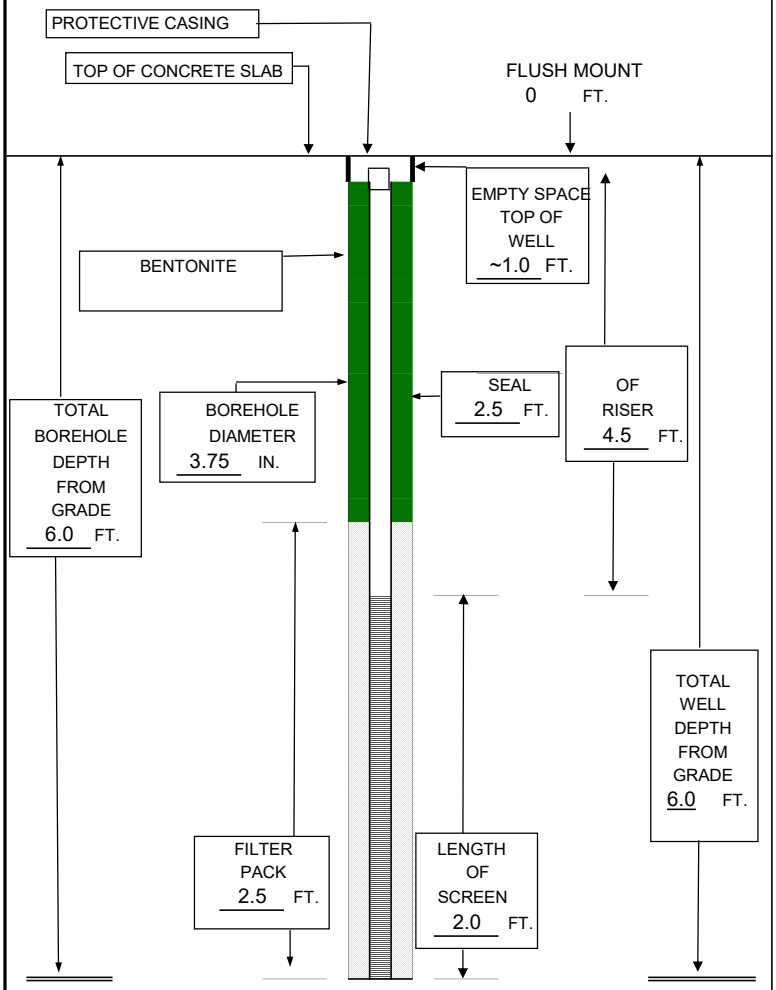
Rockaway Beach, New York 1163

TOP OF STEEL CASING: 8.12

WELL CONTRACTOR: Eastern Environmental Solutions Inc

TOP OF PVC CASING ELEVAT 7.67

## WELL SCHEMATIC




ALL ELEVATIONS ARE IN FEET NGVD

## CONSTRUCTION DATA

CASING INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] CARBON [ ] OTHER

DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN.

JOINTS: [ ] THREADED [ ] WELDED [ ] SCREWED [ ] COUPLED [ ] OTHER

SCHEDULE:

SCREEN INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] TEFLON [ ] OTHER

DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN

SLOT: [X] 0.010 [ ] 0.020 [ ] OTHER ____ IN

CENTRALIZER: [ ] YES [ ] NO

FILTER PACK MATERIAL

20/40 SAND [ ]

OTHER [X] FilPro No. 1 Quartz Sand

BENTONITE WELL SEAL

[ ] 1/2-INCH PELLETS

[ ] 1/4-INCH PELLETS

[ ] CHIPS

[X] OTHER Granular

SURFACE PROTECTION

CONCRETE PAD: [ ] 3'X3' [ ] 4'X4' [X] OTHER ____ FT

WELL SUMP/CAP

[ ] YES

[X] NO

LENGTH ____ FT.

Direct Push

ANCHOR QEA

# MONITORING WELL CONSTRUCTION DATA

| DATE: 10/18/2024 | CLIENT: 79 Arverne Development, LLC | Site No: BCP SITE # C241207 |
|---|---|---|

WELL/BORING NO: IW-3

STATE PLANE COORDINATES:

NORTH 154688.80

EAST 1038384.08

PROJECT NAME: Beach 79th Far Rockaway

ADDRESS: 3-60 Beach 79th St

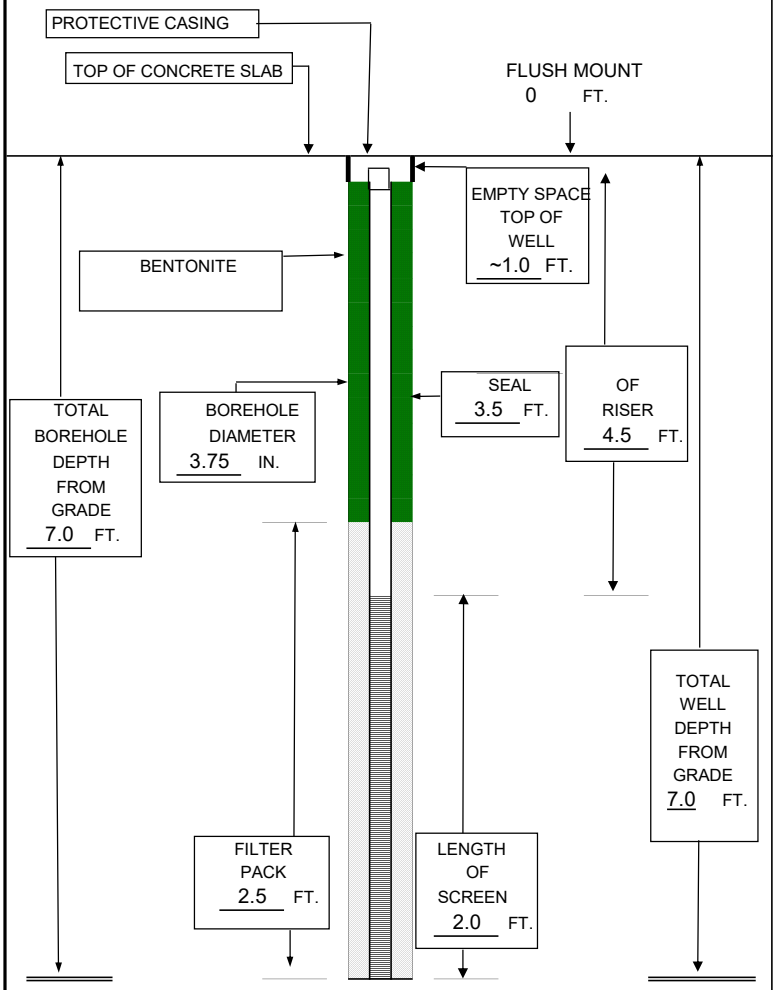
Rockaway Beach, New York 1163

TOP OF STEEL CASING ELEV: 8.06

WELL CONTRACTOR: Eastern Environmental Solutions Inc

TOP OF PVC CASING ELEV: 7.01

## WELL SCHEMATIC




ALL ELEVATIONS ARE IN FEET NGVD

## CONSTRUCTION DATA

CASING INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] CARBON [ ] OTHER

DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN.

JOINTS: [ ] THREADED [ ] WELDED [ ] SCREWED [ ] COUPLED [ ] OTHER

SCHEDULE:

SCREEN INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] TEFLON [ ] OTHER

DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN

SLOT: [X] 0.010 [ ] 0.020 [ ] OTHER ____ IN

CENTRALIZER: [ ] YES [ ] NO

FILTER PACK MATERIAL

20/40 SAND [ ]

OTHER [X] FilPro No. 1 Quartz Sand

BENTONITE WELL SEAL

[ ] 1/2-INCH PELLETS

[ ] 1/4-INCH PELLETS

[ ] CHIPS

[X] OTHER Granular

SURFACE PROTECTION

CONCRETE PAD: [ ] 3'X3' [ ] 4'X4' [X] OTHER ____ FT

WELL SUMP/CAP

[ ] YES

[X] NO

LENGTH ____ FT.

Direct Push

ANCHOR QEA

\\WCL-FS1\Syracuse\Projects\Harmony Group\Far Rockaway - Remedial Construction Support\06 Notes and Data\Boring Logs\October 2024 well install notes\Well Construction Logs Far Rockaway

# MONITORING WELL CONSTRUCTION DATA

| DATE: 10/18/2024 | CLIENT: 79 Arverne Development, LLC | Site No: BCP SITE # C241207 |
|---|---|---|

WELL/BORING NO: IW-4

STATE PLANE COORDINATES:

NORTH 154718.99

EAST 1038387.36

PROJECT NAME: Beach 79th Far Rockaway

ADDRESS: 3-60 Beach 79th St

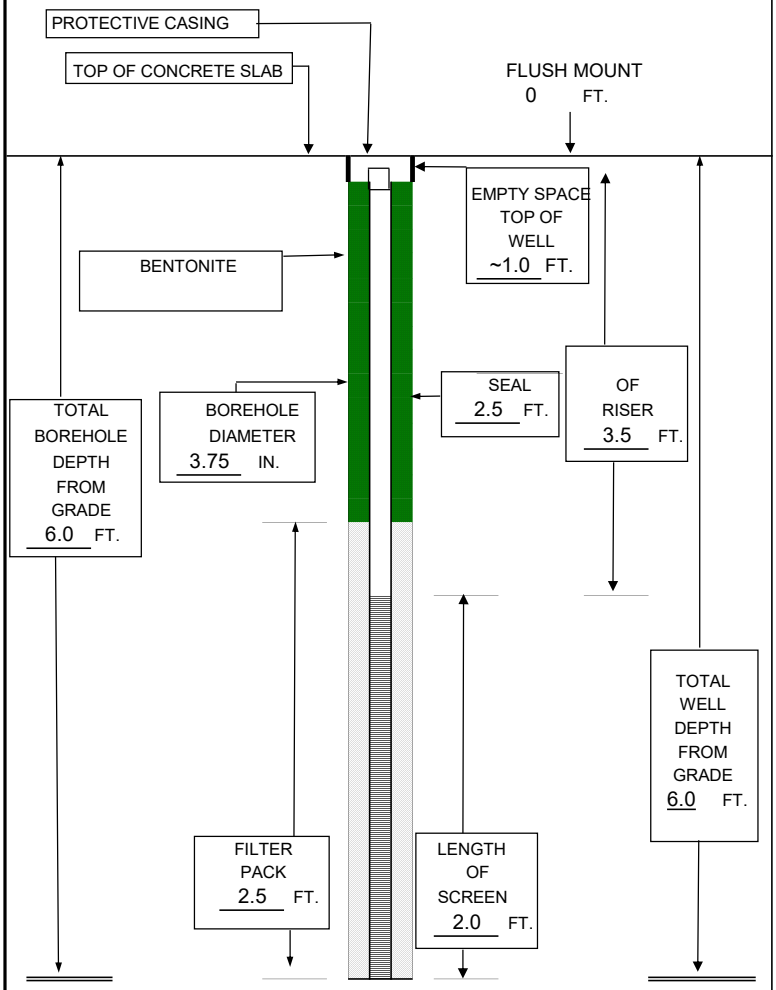
Rockaway Beach, New York 1163

TOP OF STEEL CASING ELEV 8.09

WELL CONTRACTOR: Eastern Environmental Solutions Inc

TOP OF PVC CASING ELEV: 7.04

## WELL SCHEMATIC




ALL ELEVATIONS ARE IN FEET NGVD

## CONSTRUCTION DATA

CASING INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] CARBON [ ] OTHER

DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN.

JOINTS: [ ] THREADED [ ] WELDED [ ] SCREWED [ ] COUPLED [ ] OTHER

SCHEDULE:

SCREEN INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] TEFLON [ ] OTHER

DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN

SLOT: [X] 0.010 [ ] 0.020 [ ] OTHER ____ IN

CENTRALIZER: [ ] YES [ ] NO

FILTER PACK MATERIAL

20/40 SAND [ ]

OTHER [X] FilPro No. 1 Quartz Sand

BENTONITE WELL SEAL

[ ] 1/2-INCH PELLETS

[ ] 1/4-INCH PELLETS

[ ] CHIPS

[X] OTHER Granular

SURFACE PROTECTION

CONCRETE PAD: [ ] 3'X3' [ ] 4'X4' [X] OTHER ____ FT

WELL SUMP/CAP

[ ] YES

[X] NO

LENGTH ____ FT.

Direct Push

ANCHOR QEA

\\WCL-FS1\Syracuse\Projects\Harmony Group\Far Rockaway - Remedial Construction Support\06 Notes and Data\Boring Logs\October 2024 well install notes\Well Construction Logs Far Rockaway

# MONITORING WELL CONSTRUCTION DATA

| DATE: 10/17/2024 | CLIENT: 79 Arverne Development, LLC | Site No: BCP SITE # C241207 |
|---|---|---|

WELL/BORING NO: IW-5

STATE PLANE COORDINATES:
NORTH 154655.31
EAST 1038415.38

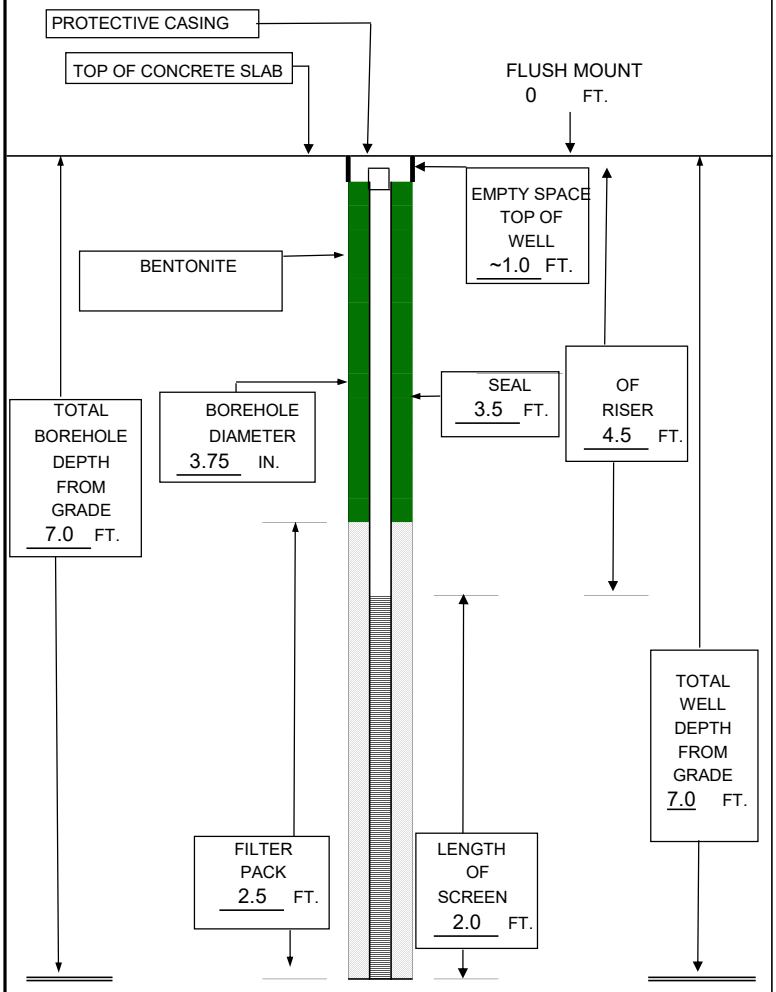
PROJECT NAME: Beach 79th Far Rockaway
ADDRESS: 3-60 Beach 79th St
Rockaway Beach, New York 1163

TOP OF STEEL CASING ELEV: 8.13

WELL CONTRACTOR: Eastern Environmental Solutions Inc

TOP OF PVC CASING ELEV: 7.81

## WELL SCHEMATIC




ALL ELEVATIONS ARE IN FEET NGVD

## CONSTRUCTION DATA

CASING INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] CARBON [ ] OTHER
DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN.
JOINTS: [ ] THREADED [ ] WELDED [ ] SCREWED [ ] COUPLED [ ] OTHER
SCHEDULE:

SCREEN INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] TEFLON [ ] OTHER
DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN
SLOT: [X] 0.010 [ ] 0.020 [ ] OTHER ____ IN

CENTRALIZER: [ ] YES [ ] NO

FILTER PACK MATERIAL

20/40 SAND [ ]
OTHER [X] FilPro No. 1 Quartz Sand

BENTONITE WELL SEAL

[ ] 1/2-INCH PELLETS
[ ] 1/4-INCH PELLETS
[ ] CHIPS
[X] OTHER Granular

SURFACE PROTECTION

CONCRETE PAD: [ ] 3'X3' [ ] 4'X4' [X] OTHER ____ FT

WELL SUMP/CAP

[ ] YES
[X] NO
LENGTH ____ FT.

Direct Push

ANCHOR QEA

# MONITORING WELL CONSTRUCTION DATA

| DATE: 10/17/2024 | CLIENT: 79 Arverne Development, LLC | Site No: BCP SITE # C241207 |
|---|---|---|

WELL/BORING NO: IW-6

STATE PLANE COORDINATES:

NORTH 154685.12

EAST 1038418.74

PROJECT NAME: Beach 79th Far Rockaway

ADDRESS: 3-60 Beach 79th St

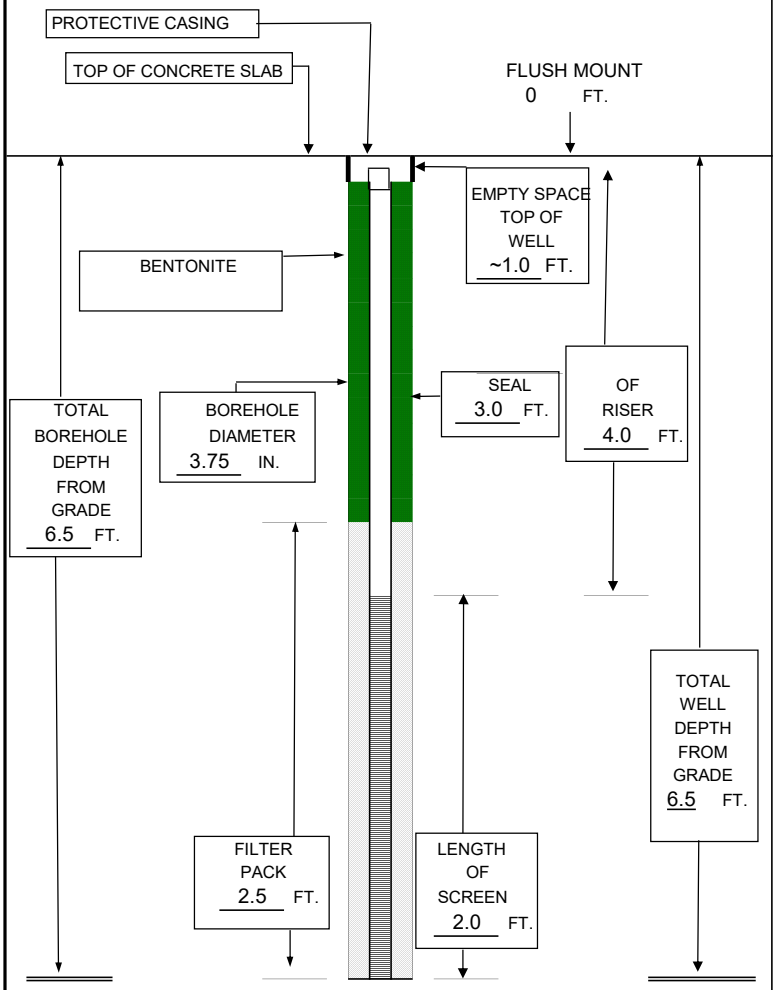
Rockaway Beach, New York 1163

TOP OF STEEL CASING ELEV: 8.07

WELL CONTRACTOR: Eastern Environmental Solutions Inc

TOP OF PVC CASING ELEV: 7.20

## WELL SCHEMATIC




ALL ELEVATIONS ARE IN FEET NGVD

## CONSTRUCTION DATA

CASING INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] CARBON [ ] OTHER

DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN.

JOINTS: [ ] THREADED [ ] WELDED [ ] SCREWED [ ] COUPLED [ ] OTHER

SCHEDULE:

SCREEN INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] TEFLON [ ] OTHER

DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN

SLOT: [X] 0.010 [ ] 0.020 [ ] OTHER ____ IN

CENTRALIZER: [ ] YES [ ] NO

FILTER PACK MATERIAL

20/40 SAND [ ]

OTHER [X] FilPro No. 1 Quartz Sand

BENTONITE WELL SEAL

[ ] 1/2-INCH PELLETS

[ ] 1/4-INCH PELLETS

[ ] CHIPS

[X] OTHER Granular

SURFACE PROTECTION

CONCRETE PAD: [ ] 3'X3' [ ] 4'X4' [X] OTHER ____ FT

WELL SUMP/CAP

[ ] YES

[X] NO

LENGTH ____ FT.

Direct Push

ANCHOR QEA

# MONITORING WELL CONSTRUCTION DATA

| DATE: 10/18/2024 | CLIENT: 79 Arverne Development, LLC | Site No: BCP SITE # C241207 |
|---|---|---|

WELL/BORING NO: IW-7

STATE PLANE COORDINATES:

NORTH 154714.99

EAST 1038421.33

PROJECT NAME: Beach 79th Far Rockaway

ADDRESS: 3-60 Beach 79th St

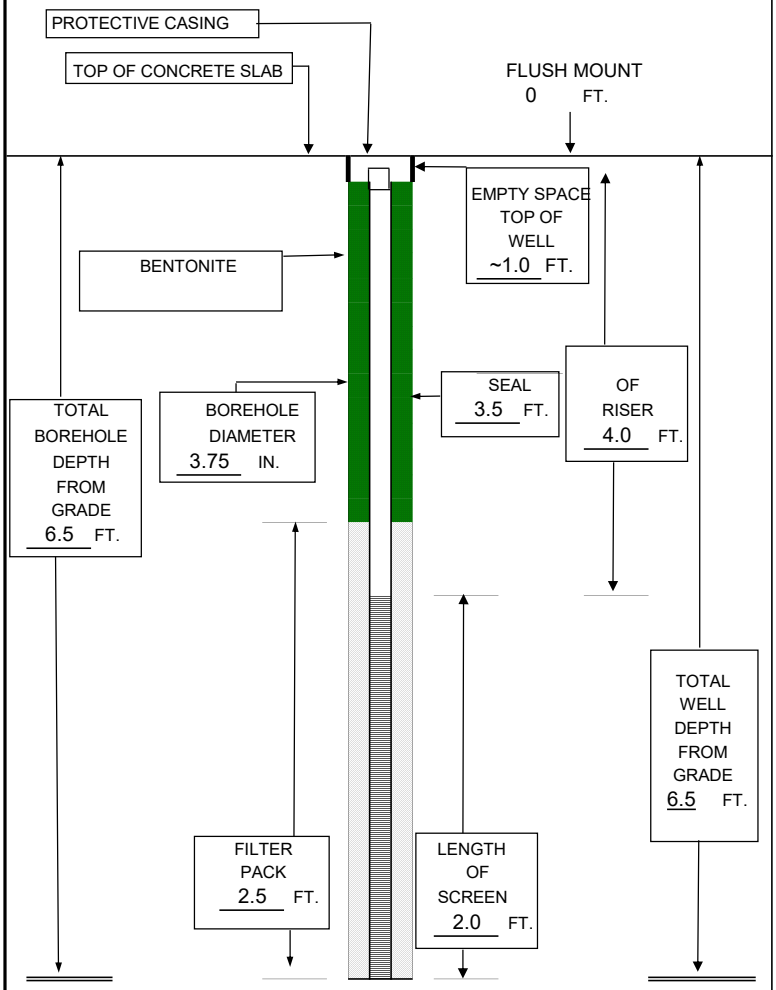
Rockaway Beach, New York 1163

TOP OF STEEL CASING ELEV: 8.06

WELL CONTRACTOR: Eastern Environmental Solutions Inc

TOP OF PVC CASING ELEV: 7.13

## WELL SCHEMATIC




ALL ELEVATIONS ARE IN FEET NGVD

## CONSTRUCTION DATA

CASING INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] CARBON [ ] OTHER

DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN.

JOINTS: [ ] THREADED [ ] WELDED [ ] SCREWED [ ] COUPLED [ ] OTHER

SCHEDULE:

SCREEN INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] TEFLON [ ] OTHER

DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN

SLOT: [X] 0.010 [ ] 0.020 [ ] OTHER ____ IN

CENTRALIZER: [ ] YES [ ] NO

FILTER PACK MATERIAL

20/40 SAND [ ]

OTHER [X] FilPro No. 1 Quartz Sand

BENTONITE WELL SEAL

[ ] 1/2-INCH PELLETS

[ ] 1/4-INCH PELLETS

[ ] CHIPS

[X] OTHER Granular

SURFACE PROTECTION

CONCRETE PAD: [ ] 3'X3' [ ] 4'X4' [X] OTHER ____ FT

WELL SUMP/CAP

[ ] YES

[X] NO

LENGTH ____ FT.

Direct Push

ANCHOR QEA

# MONITORING WELL CONSTRUCTION DATA

| DATE: 10/16/2024 | CLIENT: 79 Arverne Development, LLC | Site No: BCP SITE # C241207 |
|---|---|---|

WELL/BORING NO: IW-8

STATE PLANE COORDINATES:
NORTH 154652.02
EAST 1038445.23

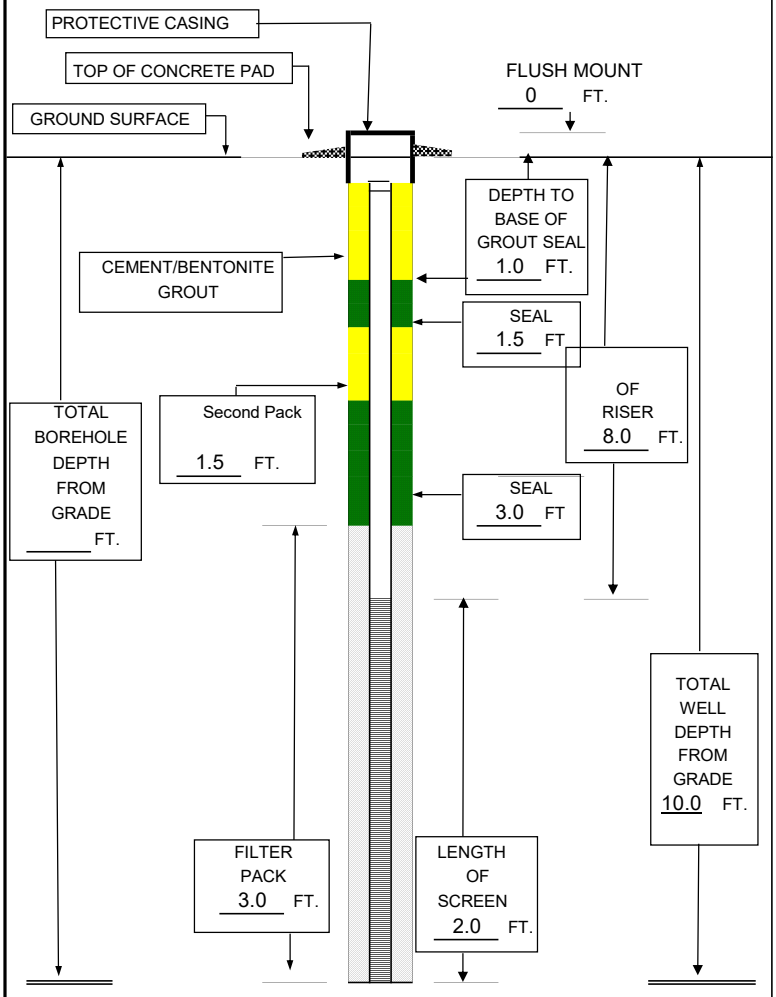
PROJECT NAME: Beach 79th Far Rockaway
ADDRESS: 3-60 Beach 79th St
Rockaway Beach, New York 1163

TOP OF STEEL CASING ELEV: 8.17

WELL CONTRACTOR: Eastern Environmental Solutions Inc

TOP OF PVC CASING ELEV: 7.85

## WELL SCHEMATIC




ALL ELEVATIONS ARE IN FEET NGVD

## CONSTRUCTION DATA

CASING INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] CARBON [ ] OTHER
DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN.
JOINTS: [ ] THREADED [ ] WELDED [ ] SCREWED [ ] COUPLED [ ] OTHER
SCHEDULE:

SCREEN INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] TEFLON [ ] OTHER
DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN
SLOT: [X] 0.010 [ ] 0.020 [ ] OTHER ____ IN

CENTRALIZER: [ ] YES [ ] NO

FILTER PACK MATERIAL

20/40 SAND [ ]
OTHER [X] FilPro No. 1 Quartz Sand

BENTONITE WELL SEAL

[ ] 1/2-INCH PELLETS
[ ] 1/4-INCH PELLETS
[ ] CHIPS
[X] OTHER Granular

SURFACE PROTECTION

CONCRETE PAD: [ ] 3'X3' [ ] 4'X4' [X] OTHER ~1 FT

WELL SUMP/CAP

[ ] YES
[X] NO
LENGTH ____ FT.

ANCHOR QEA

# MONITORING WELL CONSTRUCTION DATA

| DATE: 10/17/2024 | CLIENT: 79 Arverne Development, LLC | Site No: BCP SITE # C241207 |
|---|---|---|

WELL/BORING NO: IW-9

STATE PLANE COORDINATES:

NORTH 154682.60

EAST 1038441.93

PROJECT NAME: Beach 79th Far Rockaway

ADDRESS: 3-60 Beach 79th St

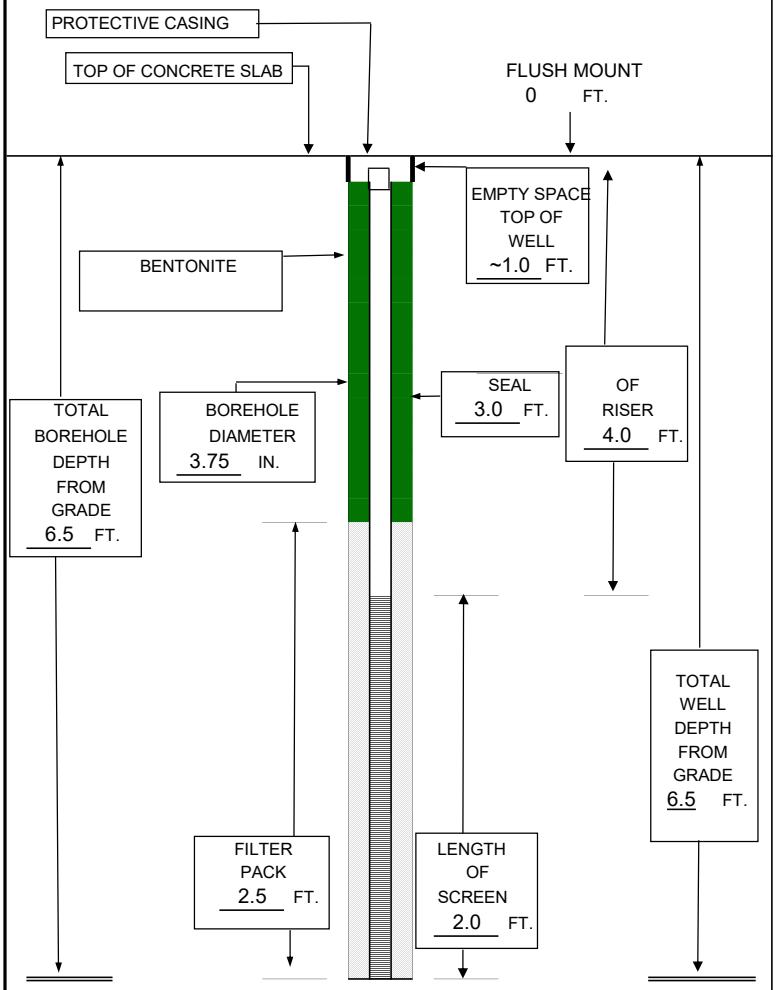
Rockaway Beach, New York 1163

TOP OF STEEL CASING ELEV. 8.17

WELL CONTRACTOR: Eastern Environmental Solutions Inc

TOP OF CASING ELEVATION: 7.85

## WELL SCHEMATIC




ALL ELEVATIONS ARE IN FEET NGVD

## CONSTRUCTION DATA

CASING INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] CARBON [ ] OTHER

DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN.

JOINTS: [ ] THREADED [ ] WELDED [ ] SCREWED [ ] COUPLED [ ] OTHER

SCHEDULE:

SCREEN INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] TEFLON [ ] OTHER

DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN

SLOT: [X] 0.010 [ ] 0.020 [ ] OTHER ____ IN

CENTRALIZER: [ ] YES [ ] NO

FILTER PACK MATERIAL

20/40 SAND [ ]

OTHER [X] FilPro No. 1 Quartz Sand

BENTONITE WELL SEAL

[ ] 1/2-INCH PELLETS

[ ] 1/4-INCH PELLETS

[ ] CHIPS

[X] OTHER Granular

SURFACE PROTECTION

CONCRETE PAD: [ ] 3'X3' [ ] 4'X4' [X] OTHER ____ FT

WELL SUMP/CAP

[ ] YES

[X] NO

LENGTH ____ FT.

Direct Push

ANCHOR QEA

# MONITORING WELL CONSTRUCTION DATA

| DATE: 10/17/2024 | CLIENT: 79 Arverne Development, LLC | Site No: BCP SITE # C241207 |
|---|---|---|

WELL/BORING NO: IW-10

STATE PLANE COORDINATES:
NORTH 154709.04
EAST 1038444.80

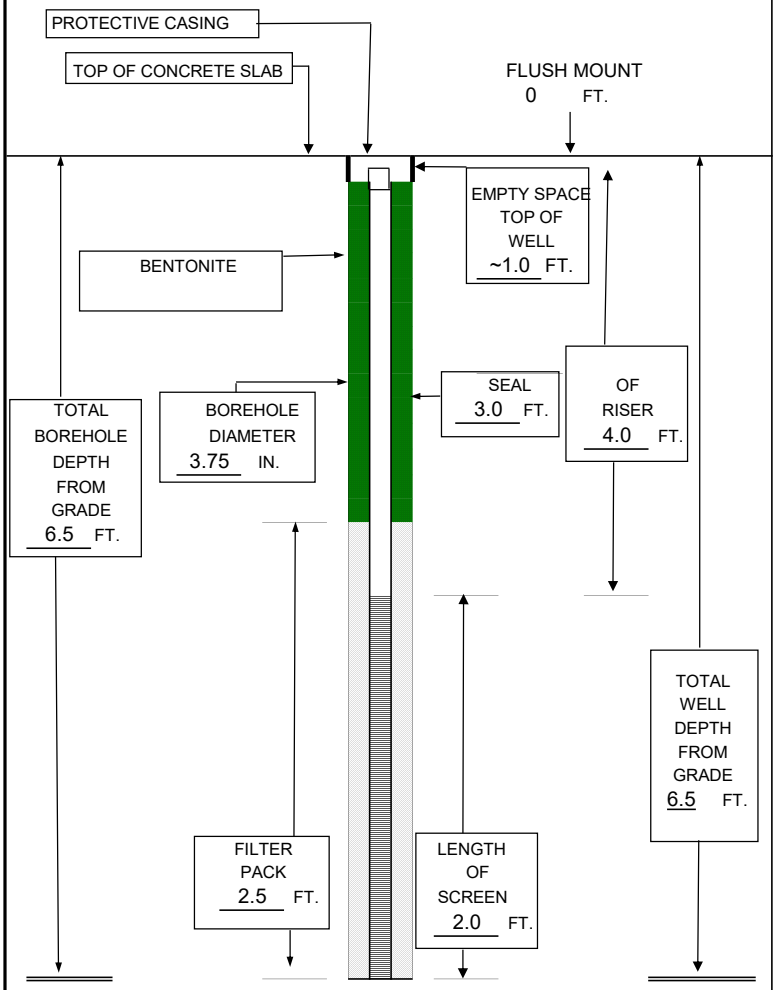
PROJECT NAME: Beach 79th Far Rockaway
ADDRESS: 3-60 Beach 79th St
Rockaway Beach, New York 1163

TOP OF STEEL CASING ELEV: 8.17

WELL CONTRACTOR: Eastern Environmental Solutions Inc

TOP OF PVC CASING ELEV: 7.50

## WELL SCHEMATIC




ALL ELEVATIONS ARE IN FEET NGVD

## CONSTRUCTION DATA

CASING INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] CARBON [ ] OTHER
DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN.
JOINTS: [ ] THREADED [ ] WELDED [ ] SCREWED [ ] COUPLED [ ] OTHER
SCHEDULE:

SCREEN INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] TEFLON [ ] OTHER
DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER ____ IN
SLOT: [X] 0.010 [ ] 0.020 [ ] OTHER ____ IN

CENTRALIZER: [ ] YES [ ] NO

FILTER PACK MATERIAL

20/40 SAND [ ]
OTHER [X] FilPro No. 1 Quartz Sand

BENTONITE WELL SEAL

[ ] 1/2-INCH PELLETS
[ ] 1/4-INCH PELLETS
[ ] CHIPS
[X] OTHER Granular

SURFACE PROTECTION

CONCRETE PAD: [ ] 3'X3' [ ] 4'X4' [X] OTHER ____ FT

WELL SUMP/CAP

[ ] YES
[X] NO
LENGTH ____ FT.

Direct Push

ANCHOR QEA

# Post-Construction Monitoring Well Logs - Anchor QEA 2024

# MONITORING WELL CONSTRUCTION DATA

| DATE: 10/15/2024 | CLIENT: 79 Arverne Development, LLC | Site No: BCP SITE # C241207 |
|---|---|---|

WELL/BORING NO: PMW-1

PROJECT NAME: Beach 79th Far Rockaway

ADDRESS: 3-60 Beach 79th St
Rockaway Beach, New York 1163

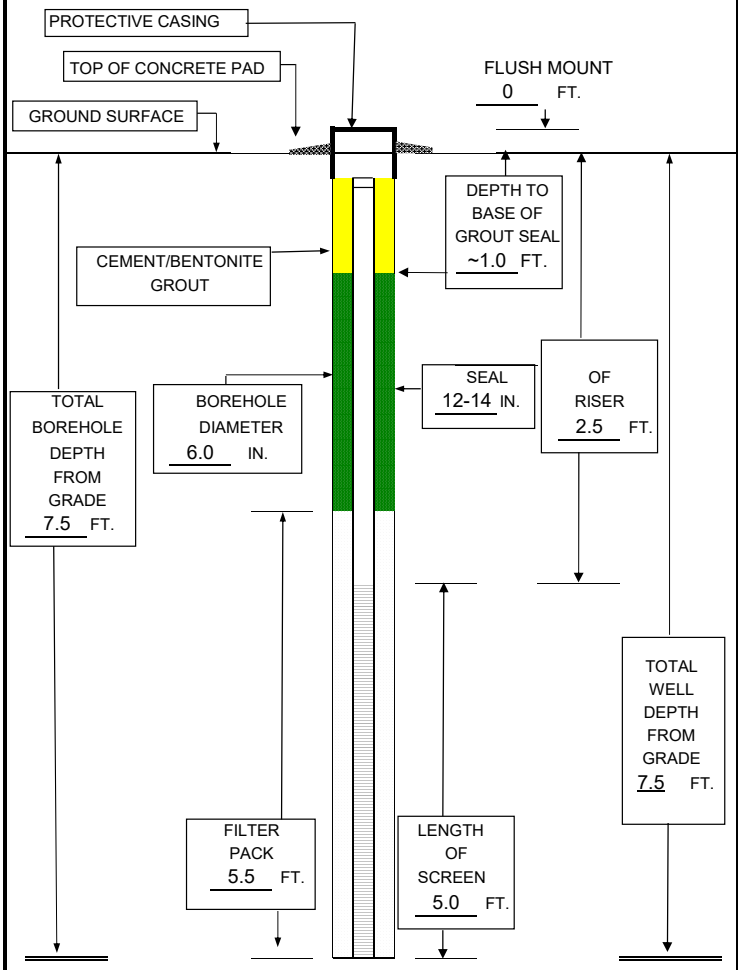
WELL CONTRACTOR: Eastern Environmental Solutions Inc

STATE PLANE COORDINATES:
NORTH 154837.44
EAST 1038382.68

TOP OF STEEL CASING ELEV: 5.65

TOP OF PVC CASING ELEV 5.49

## WELL SCHEMATIC




ALL ELEVATIONS ARE IN FEET NGVD

## CONSTRUCTION DATA

CASING INFORMATION

MATERIAL: [E] PVC [ ] STAINLESS [ ] CARBON
[ ] OTHER
DIAMETER: [X] 2" [ ] 4" [ ] 6"
[ ] OTHER IN.
JOINTS: [ ] THREADED [ ] WELDED
[ ] SCREWED [ ] COUPLED
[ ] OTHER
SCHEDULE:

SCREEN INFORMATION

MATERIAL: [X] PVC
[ ] STAINLESS
[ ] TEFLON
[ ] OTHER
DIAMETER: [E] 2"
[ ] 4"
[ ] 6"
[ ] OTHER IN
SLOT: [X] 0.010
[ ] 0.020
[ ] OTHER IN

CENTRALIZER: [ ] YES [ ] NO

FILTER PACK MATERIAL

20/40 SAND [ ]
OTHER [X] FilPro No. 1 Quartz Sand

BENTONITE WELL SEAL

[ ] 1/2-INCH PELLETS
[ ] 1/4-INCH PELLETS
[ ] CHIPS
[E] OTHER Granular

SURFACE PROTECTION

CONCRETE PAD: [ ] 3'X3'
[ ] 4'X4'
[E] OTHER ~1 FT

WELL SUMP/CAP

[ ] YES
[E] NO
LENGTH FT.

ANCHOR QEA

# MONITORING WELL CONSTRUCTION DATA

| DATE: 10/15/2024 | CLIENT: 79 Arverne Development, LLC | Site No: BCP SITE # C241207 |
|---|---|---|

WELL/BORING NO: PMW-2

PROJECT NAME: Beach 79th Far Rockaway

ADDRESS: 3-60 Beach 79th St
Rockaway Beach, New York 1163

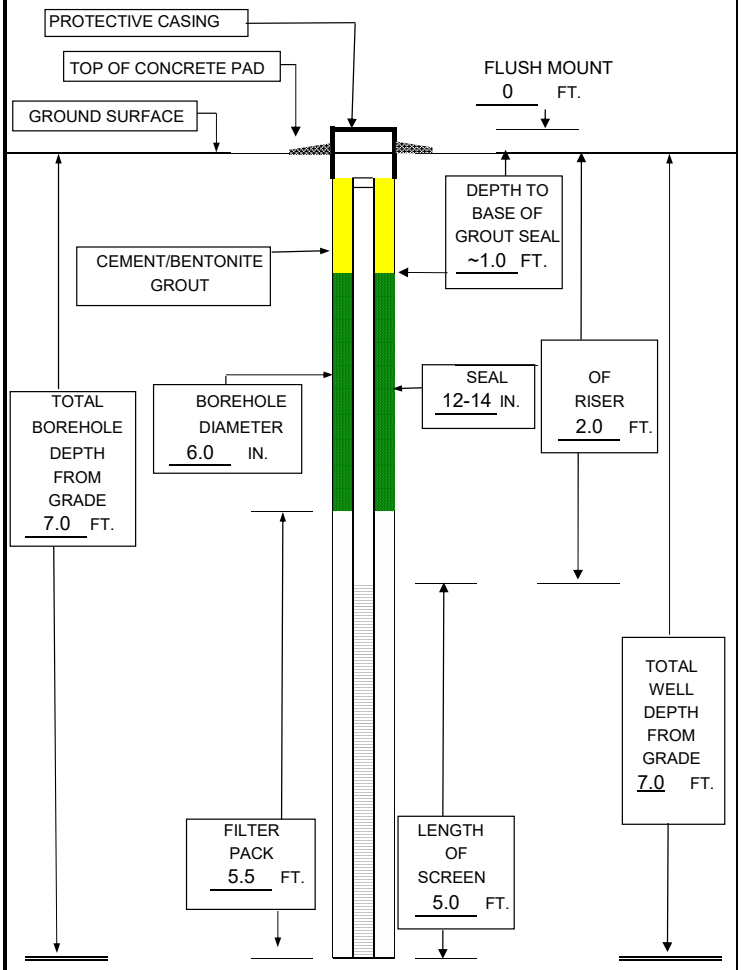
WELL CONTRACTOR: Eastern Environmental Solutions Inc

STATE PLANE COORDINATES:
NORTH 154765.07
EAST 1038372.31

TOP OF STEEL CASING ELEV: 6.42

TOP OF PVC CASING ELEV: 6.22

## WELL SCHEMATIC




ALL ELEVATIONS ARE IN FEET NGVD

## CONSTRUCTION DATA

CASING INFORMATION

MATERIAL: [E] PVC [ ] STAINLESS [ ] CARBON [ ] OTHER
DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER IN.
JOINTS: [ ] THREADED [ ] WELDED [ ] SCREWED [ ] COUPLED [ ] OTHER
SCHEDULE:

SCREEN INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] TEFLON [ ] OTHER
DIAMETER: [E] 2" [ ] 4" [ ] 6" [ ] OTHER IN
SLOT: [X] 0.010 [ ] 0.020 [ ] OTHER IN

CENTRALIZER: [ ] YES [ ] NO

FILTER PACK MATERIAL

20/40 SAND [ ]
OTHER [X] FilPro No. 1 Quartz Sand

BENTONITE WELL SEAL

[ ] 1/2-INCH PELLETS
[ ] 1/4-INCH PELLETS
[ ] CHIPS
[E] OTHER Granular

SURFACE PROTECTION

CONCRETE PAD: [ ] 3'X3' [ ] 4'X4' [E] OTHER ~1 FT

WELL SUMP/CAP

[ ] YES
[E] NO
LENGTH FT.

ANCHOR QEA

# MONITORING WELL CONSTRUCTION DATA

| DATE: 10/14/2024 | CLIENT: 79 Arverne Development, LLC | Site No: BCP SITE # C241207 |
|---|---|---|

WELL/BORING NO: PMW-3

PROJECT NAME: Beach 79th Far Rockaway

ADDRESS: 3-60 Beach 79th St
Rockaway Beach, New York 1163

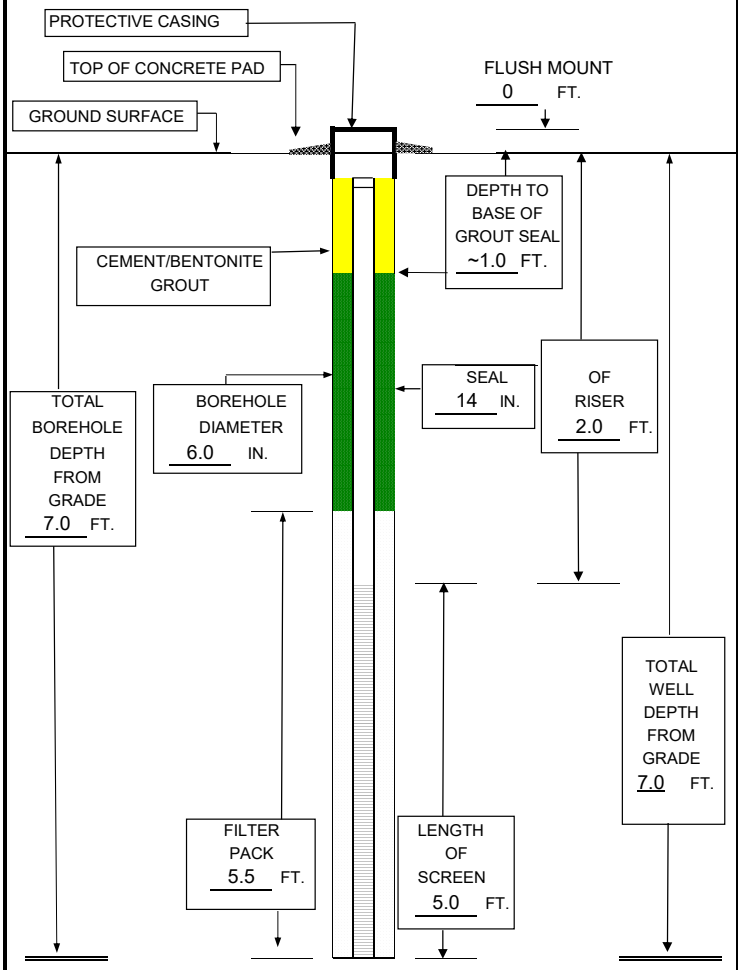
WELL CONTRACTOR: Eastern Environmental Solutions Inc

STATE PLANE COORDINATES:
NORTH 154618.63
EAST 1038345.59

TOP OF STEEL CASING ELEV: 5.24

TOP OF PVC CASING ELEV: 4.97

## WELL SCHEMATIC




ALL ELEVATIONS ARE IN FEET NGVD

## CONSTRUCTION DATA

CASING INFORMATION

MATERIAL: [E] PVC [ ] STAINLESS [ ] CARBON [ ] OTHER
DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER IN.
JOINTS: [ ] THREADED [ ] WELDED [ ] SCREWED [ ] COUPLED [ ] OTHER
SCHEDULE:

SCREEN INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] TEFLON [ ] OTHER
DIAMETER: [E] 2" [ ] 4" [ ] 6" [ ] OTHER IN
SLOT: [X] 0.010 [ ] 0.020 [ ] OTHER IN

CENTRALIZER: [ ] YES [ ] NO

FILTER PACK MATERIAL

20/40 SAND [ ]
OTHER [X] FilPro No. 1 Quartz Sand

BENTONITE WELL SEAL

[ ] 1/2-INCH PELLETS
[ ] 1/4-INCH PELLETS
[ ] CHIPS
[E] OTHER Granular

SURFACE PROTECTION

CONCRETE PAD: [ ] 3'X3' [ ] 4'X4' [E] OTHER ~1 FT

WELL SUMP/CAP

[ ] YES
[E] NO
LENGTH FT.

ANCHOR QEA

# MONITORING WELL CONSTRUCTION DATA

| DATE: 10/15/2024 | CLIENT: 79 Arverne Development, LLC | Site No: BCP SITE # C241207 |
|---|---|---|

WELL/BORING NO: PMW-4

PROJECT NAME: Beach 79th Far Rockaway

ADDRESS: 3-60 Beach 79th St
Rockaway Beach, New York 1163

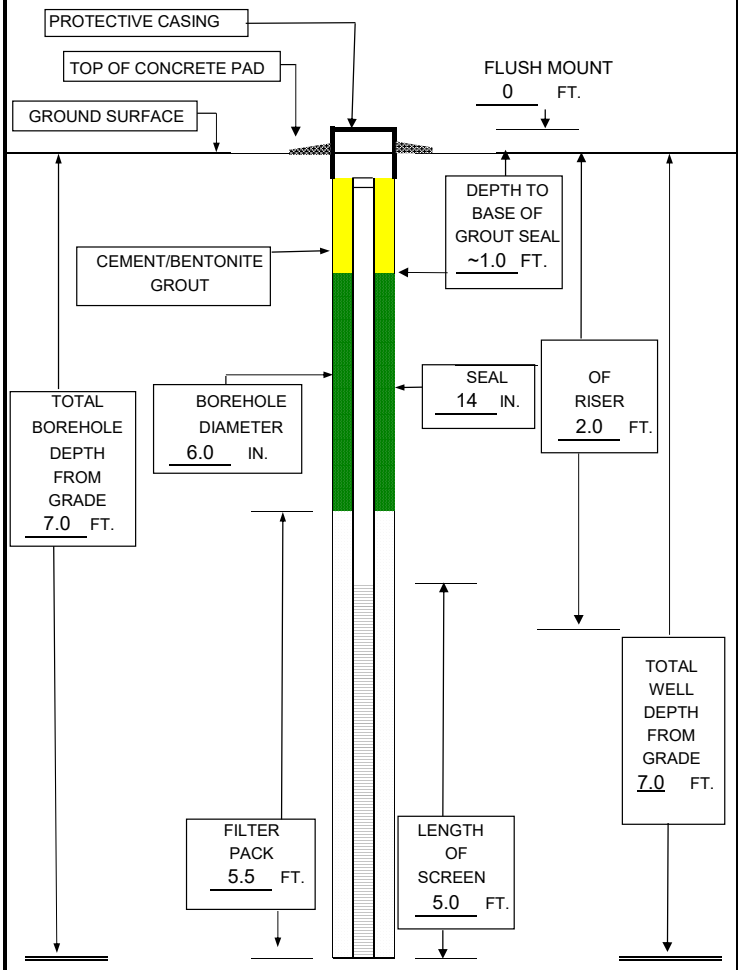
WELL CONTRACTOR: Eastern Environmental Solutions Inc

STATE PLANE COORDINATES:
NORTH 154758.35
EAST 1038425.64

TOP OF STEEL CASING ELEV: 7.21

TOP OF PVC CASING ELEV: 6.93

## WELL SCHEMATIC




ALL ELEVATIONS ARE IN FEET NGVD

## CONSTRUCTION DATA

CASING INFORMATION

MATERIAL: [E] PVC [ ] STAINLESS [ ] CARBON [ ] OTHER
DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER IN.
JOINTS: [ ] THREADED [ ] WELDED [ ] SCREWED [ ] COUPLED [ ] OTHER
SCHEDULE:

SCREEN INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] TEFLON [ ] OTHER
DIAMETER: [E] 2" [ ] 4" [ ] 6" [ ] OTHER IN
SLOT: [X] 0.010 [ ] 0.020 [ ] OTHER IN

CENTRALIZER: [ ] YES [ ] NO

FILTER PACK MATERIAL

20/40 SAND [ ]
OTHER [X] FilPro No. 1 Quartz Sand

BENTONITE WELL SEAL

[ ] 1/2-INCH PELLETS
[ ] 1/4-INCH PELLETS
[ ] CHIPS
[E] OTHER Granular

SURFACE PROTECTION

CONCRETE PAD: [ ] 3'X3' [ ] 4'X4' [E] OTHER ~1 FT

WELL SUMP/CAP

[ ] YES
[E] NO
LENGTH FT.

ANCHOR QEA

# MONITORING WELL CONSTRUCTION DATA

| DATE: 10/14/2024 | CLIENT: 79 Arverne Development, LLC | Site No: BCP SITE # C241207 |
|---|---|---|

WELL/BORING NO: PMW-5

PROJECT NAME: Beach 79th Far Rockaway

ADDRESS: 3-60 Beach 79th St
Rockaway Beach, New York 1163

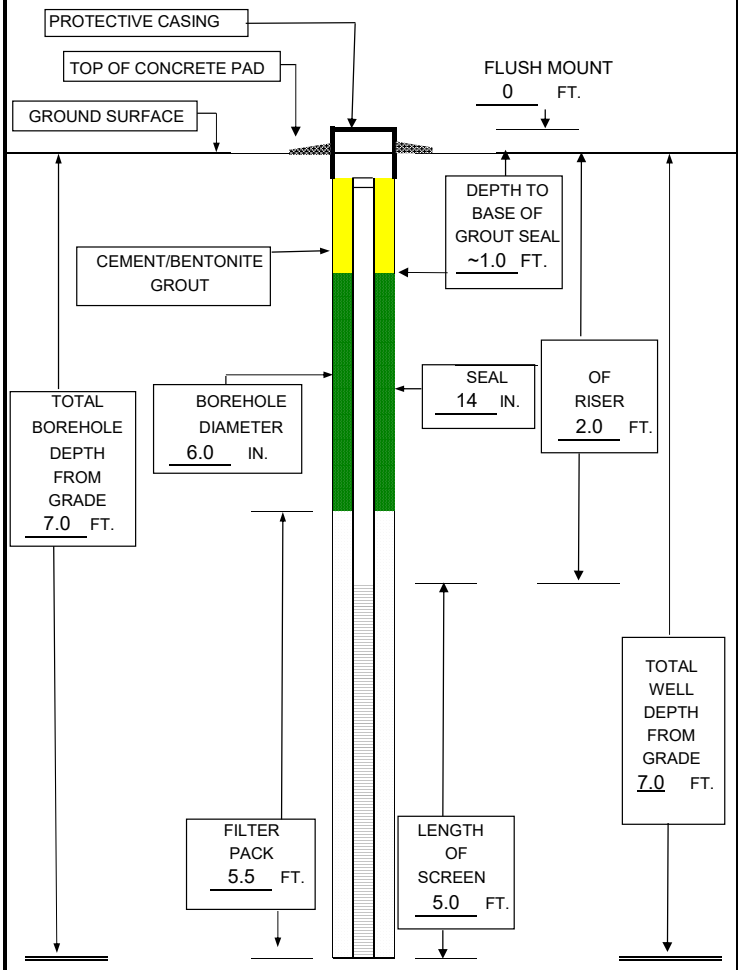
WELL CONTRACTOR: Eastern Environmental Solutions Inc

STATE PLANE COORDINATES:
NORTH 154715.34
EAST 1038354.02

TOP OF STEEL CASING ELEV: 6.20

TOP OF PVC CASING ELEV: 5.84

## WELL SCHEMATIC




ALL ELEVATIONS ARE IN FEET NGVD

## CONSTRUCTION DATA

CASING INFORMATION

MATERIAL: [E] PVC [ ] STAINLESS [ ] CARBON [ ] OTHER
DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER IN.
JOINTS: [ ] THREADED [ ] WELDED [ ] SCREWED [ ] COUPLED [ ] OTHER
SCHEDULE:

SCREEN INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] TEFLON [ ] OTHER
DIAMETER: [E] 2" [ ] 4" [ ] 6" [ ] OTHER IN
SLOT: [X] 0.010 [ ] 0.020 [ ] OTHER IN

CENTRALIZER: [ ] YES [ ] NO

FILTER PACK MATERIAL

20/40 SAND [ ]
OTHER [X] FilPro No. 1 Quartz Sand

BENTONITE WELL SEAL

[ ] 1/2-INCH PELLETS
[ ] 1/4-INCH PELLETS
[ ] CHIPS
[E] OTHER Granular

SURFACE PROTECTION

CONCRETE PAD: [ ] 3'X3' [ ] 4'X4' [E] OTHER ~1 FT

WELL SUMP/CAP

[ ] YES
[E] NO
LENGTH FT.

ANCHOR QEA

# MONITORING WELL CONSTRUCTION DATA

| DATE: 10/18/2024 | CLIENT: 79 Arverne Development, LLC | Site No: BCP SITE # C241207 |
|---|---|---|

WELL/BORING NO: PMW-6

PROJECT NAME: Beach 79th Far Rockaway

ADDRESS: 3-60 Beach 79th St
Rockaway Beach, New York 1163

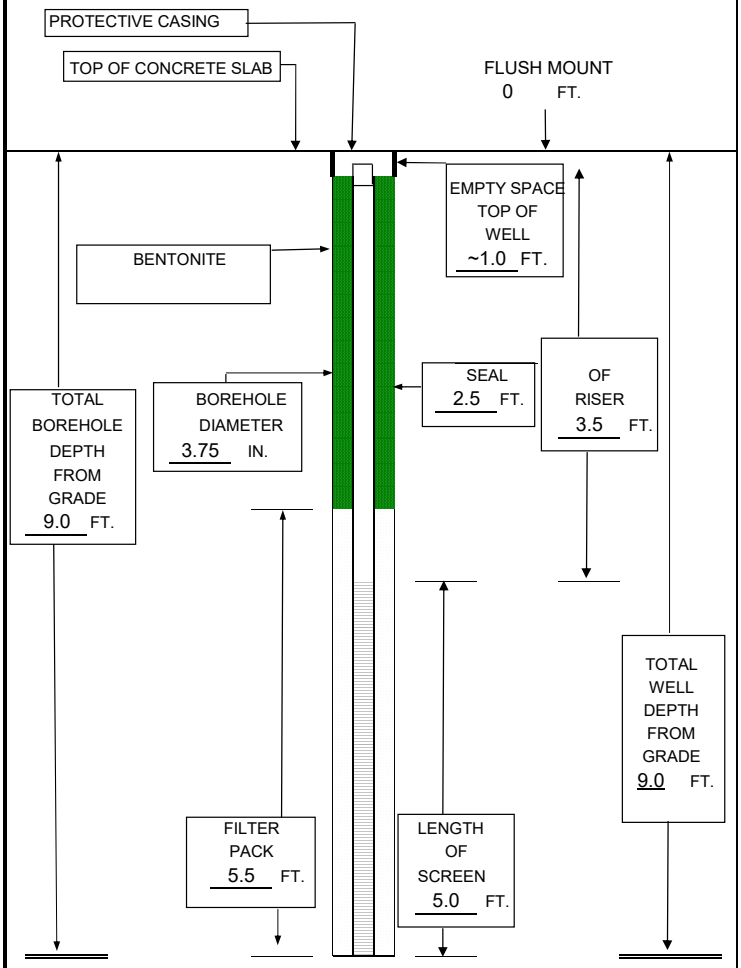
WELL CONTRACTOR: Eastern Environmental Solutions Inc

STATE PLANE COORDINATES:
NORTH 154712.31
EAST 1038401.99

TOP OF STEEL CASING ELEV: 8.03

TOP OF PVC CASING ELEV: 7.72

## WELL SCHEMATIC




ALL ELEVATIONS ARE IN FEET NGVD

## CONSTRUCTION DATA

CASING INFORMATION

MATERIAL: [E] PVC [ ] STAINLESS [ ] CARBON [ ] OTHER
DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER IN.
JOINTS: [ ] THREADED [ ] WELDED [ ] SCREWED [ ] COUPLED [ ] OTHER
SCHEDULE:

SCREEN INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] TEFLON [ ] OTHER
DIAMETER: [E] 2" [ ] 4" [ ] 6" [ ] OTHER IN
SLOT: [X] 0.010 [ ] 0.020 [ ] OTHER IN

CENTRALIZER: [ ] YES [ ] NO

FILTER PACK MATERIAL

20/40 SAND [ ]
OTHER [X] FilPro No. 1 Quartz Sand

BENTONITE WELL SEAL

[ ] 1/2-INCH PELLETS
[ ] 1/4-INCH PELLETS
[ ] CHIPS
[E] OTHER Granular

SURFACE PROTECTION

CONCRETE PAD: [ ] 3'X3' [ ] 4'X4' [E] OTHER FT

WELL SUMP/CAP

[ ] YES
[E] NO
LENGTH FT.

Direct Push

ANCHOR QEA

# MONITORING WELL CONSTRUCTION DATA

| DATE: 10/17/2024 | CLIENT: 79 Arverne Development, LLC | Site No: BCP SITE # C241207 |
|---|---|---|

WELL/BORING NO: PMW-7

PROJECT NAME: Beach 79th Far Rockaway

ADDRESS: 3-60 Beach 79th St
Rockaway Beach, New York 1163

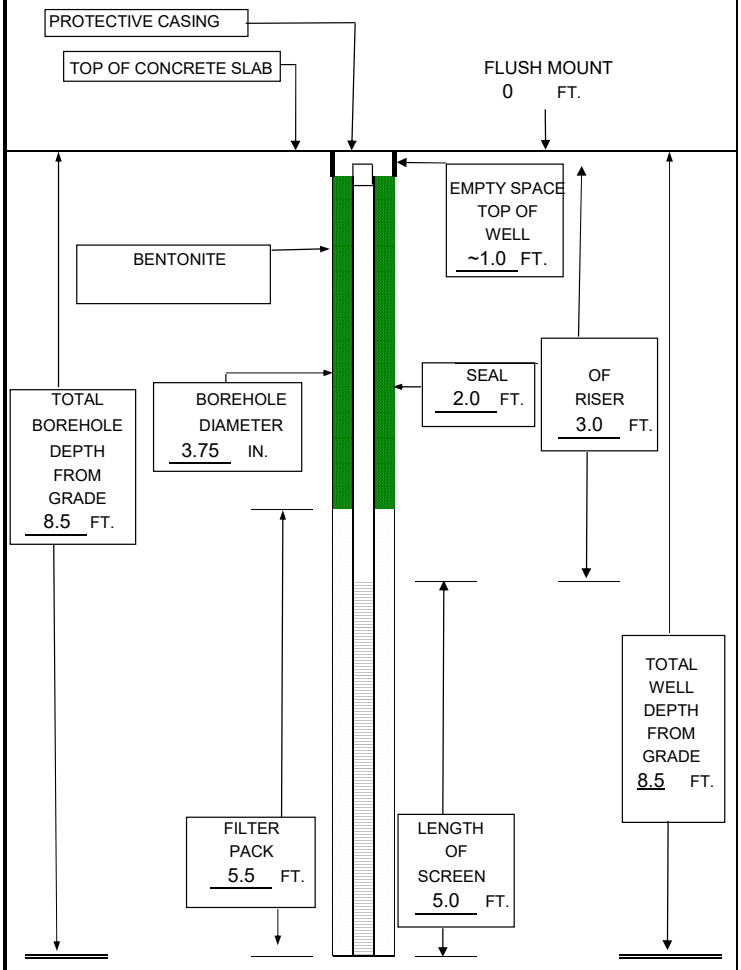
WELL CONTRACTOR: Eastern Environmental Solutions Inc

STATE PLANE COORDINATES:
NORTH 154703.71
EAST 1038437.12

TOP OF STEEL CASING ELEV: 8.06

TOP OF CASING ELEVATION: 7.67

## WELL SCHEMATIC




ALL ELEVATIONS ARE IN FEET NGVD

## CONSTRUCTION DATA

CASING INFORMATION

MATERIAL: [E] PVC [ ] STAINLESS [ ] CARBON [ ] OTHER
DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER IN.
JOINTS: [ ] THREADED [ ] WELDED [ ] SCREWED [ ] COUPLED [ ] OTHER
SCHEDULE:

SCREEN INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] TEFLON [ ] OTHER
DIAMETER: [E] 2" [ ] 4" [ ] 6" [ ] OTHER IN
SLOT: [X] 0.010 [ ] 0.020 [ ] OTHER IN

CENTRALIZER: [ ] YES [ ] NO

FILTER PACK MATERIAL

20/40 SAND [ ]
OTHER [X] FilPro No. 1 Quartz Sand

BENTONITE WELL SEAL

[ ] 1/2-INCH PELLETS
[ ] 1/4-INCH PELLETS
[ ] CHIPS
[E] OTHER Granular

SURFACE PROTECTION

CONCRETE PAD: [ ] 3'X3' [ ] 4'X4' [E] OTHER FT

WELL SUMP/CAP

[ ] YES
[E] NO
LENGTH FT.

Direct Push

ANCHOR QEA

# MONITORING WELL CONSTRUCTION DATA

| DATE: 10/14/2024 | CLIENT: 79 Arverne Development, LLC | Site No: BCP SITE # C241207 |
|---|---|---|

WELL/BORING NO: PMW-8

PROJECT NAME: Beach 79th Far Rockaway

ADDRESS: 3-60 Beach 79th St
Rockaway Beach, New York 1163

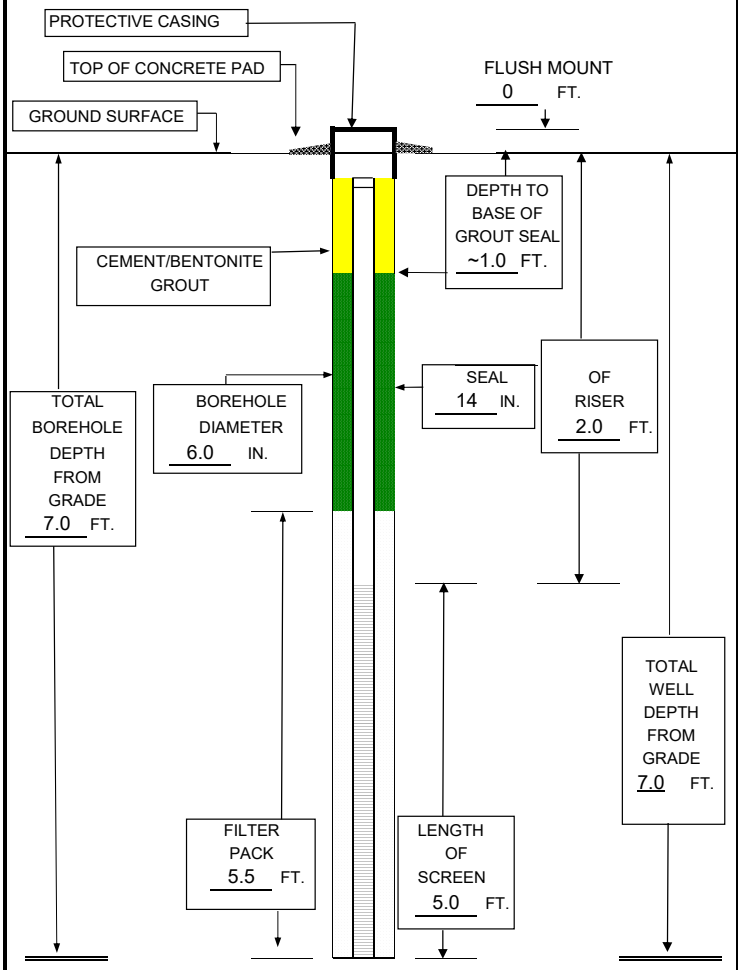
WELL CONTRACTOR: Eastern Environmental Solutions Inc

STATE PLANE COORDINATES:
NORTH 154507.34
EAST 1038401.96

TOP OF STEEL CASING ELEV: 5.90

TOP OF PVC CASING ELEV: 5.78

## WELL SCHEMATIC




ALL ELEVATIONS ARE IN FEET NGVD

## CONSTRUCTION DATA

CASING INFORMATION

MATERIAL: [E] PVC [ ] STAINLESS [ ] CARBON [ ] OTHER
DIAMETER: [X] 2" [ ] 4" [ ] 6" [ ] OTHER IN.
JOINTS: [ ] THREADED [ ] WELDED [ ] SCREWED [ ] COUPLED [ ] OTHER
SCHEDULE:

SCREEN INFORMATION

MATERIAL: [X] PVC [ ] STAINLESS [ ] TEFLON [ ] OTHER
DIAMETER: [E] 2" [ ] 4" [ ] 6" [ ] OTHER IN
SLOT: [X] 0.010 [ ] 0.020 [ ] OTHER IN

CENTRALIZER: [ ] YES [ ] NO

FILTER PACK MATERIAL

20/40 SAND [ ]
OTHER [X] FilPro No. 1 Quartz Sand

BENTONITE WELL SEAL

[ ] 1/2-INCH PELLETS
[ ] 1/4-INCH PELLETS
[ ] CHIPS
[E] OTHER Granular

SURFACE PROTECTION

CONCRETE PAD: [ ] 3'X3' [ ] 4'X4' [E] OTHER ~1 FT

WELL SUMP/CAP

[ ] YES
[E] NO
LENGTH FT.

ANCHOR QEA

# APPENDIX F – ANALYTICAL DATA TABLES - PREVIOUS INVESTIGATIONS

2017 Site Investigation – VOCs in Soil

**Table 1B: VOCs in Soil (2017 Samples)**
BCP ID: C241207 - 3-60 Beach 79th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *2017 Sample data in mg/Kg (ppm)* | | | Sample ID | B1 | | B2 | | B3 Shallow | | B3 Deep | | B4 | | B5 | | B6 | | B7 | | B8 Shallow | | B8 deep | | B9 | | B10 | | B11 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ indicated value* | | | Sample Date | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/9/2017 | | 6/9/2017 | | 6/9/2017 | | 6/9/2017 | | 6/9/2017 | | 7/5/2017 | |
| | | | Sample Depth | 8 feet bgs | | 9 feet bgs | | 2.5 feet bgs | | 9 feet bgs | | 2 feet bgs | | 8.5 feet bgs | | 8 feet bgs | | 9.5 feet bgs | | 2 feet bgs | | 11 feet bgs | | 11.5 feet bgs | | 8 feet bgs | | 3 feet bgs | |
| **VOCs, 8260** | **Protection of Groundwater (ppm)** | **UUSCO (ppm)** | **CUSCO (ppm)** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1,2-Tetrachloroethane | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.0026 | U | 0.0011 | U |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.0026 | U | 0.0011 | U |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.0026 | U | 0.0011 | U |
| 1,1-Dichloropropene | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,2,3-Trichloropropane | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetramethylbenzene | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.56 | D | 0.27 | U | 0.37 | U | 0.0026 | U | 0.00053 | U |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.045 | | 0.0011 | U |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.0026 | U | 0.0011 | U |
| 1,2-Dichloroethene, Total | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.0026 | U | 0.00053 | U |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.0036 | J | 0.0011 | U |
| 1,3-Dichloropropane | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,3-Dichloropropene, Total | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | 1.8 | 1.8 | 130 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.032 | | 0.0011 | U |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 0.059 | U | 0.082 | U | 0.061 | U | 0.092 | U | 0.061 | U | 0.05 | U | 0.072 | U | 5.2 | U | 4.8 | U | 5.4 | U | 7.3 | U | 0.052 | U | 0.053 | U |
| 2,2-Dichloropropane | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 0.006 | | 0.0093 | | 0.0031 | U | 0.007 | J | 0.011 | | 0.0025 | U | 0.0036 | J | 0.26 | U | 0.28 | JD | 0.27 | U | 0.37 | U | 0.032 | | 0.0011 | U |
| 2-Hexanone | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acetone | 0.05 | 0.05 | 500 | 0.032 | B | 0.097 | B | 0.027 | B | 0.089 | B | 0.096 | B | 0.041 | B | 0.045 | B | 0.52 | U | 0.48 | U | 0.54 | U | 0.73 | U | 0.056 | | 0.11 | D |
| Acrylonitrile | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Benzene | 0.06 | 0.06 | 44 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.0026 | U | 0.00053 | U |
| Bromobenzene | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bromochloromethane | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bromodichloromethane | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bromoform | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bromomethane | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Carbon disulfide | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.0026 | U | 0.0011 | U |
| Chlorobenzene | 1.1 | 1.1 | 500 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.095 | | 0.0011 | U |
| Chloroethane | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Chloroform | 0.37 | 0.37 | 350 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.0026 | U | 0.0011 | U |
| Chloromethane | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | 0.0046 | J | 0.0069 | J | 0.0031 | U | 0.15 | | 0.0031 | U | 0.0025 | U | 0.0044 | J | 0.26 | U | 0.24 | U | 0.27 | U | 110 | D | 0.013 | | 0.0011 | U |
| cis-1,3-Dichloropropylene | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dibromochloromethane | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dibromomethane | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ethyl Benzene | 1 | 1 | 390 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.0026 | U | 0.00053 | U |
| Ethyl ether | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Isopropylbenzene | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.0026 | U | 0.00053 | U |
| Methylene chloride | 0.05 | 0.05 | 500 | 0.0059 | U | 0.0082 | U | 0.0061 | U | 0.0092 | U | 0.0061 | U | 0.005 | U | 0.0072 | U | 0.52 | U | 0.48 | U | 0.54 | U | 0.73 | U | 0.0052 | U | 0.0011 | U |
| Naphthalene | 12 | 12 | 500 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| n-Butylbenzene | 12 | 12 | 500 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.0026 | U | 0.00053 | U |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.0026 | U | 0.00053 | U |
| o-Chlorotoluene | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| o-Xylene | 1.6 | 0.26 | 500 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.0026 | U | 0.00053 | U |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 0.0059 | U | 0.0082 | U | 0.0061 | U | 0.0092 | U | 0.0061 | U | 0.005 | U | 0.0072 | U | 0.52 | U | 0.48 | U | 0.54 | U | 0.73 | U | 0.0052 | U | 0.00053 | U |
| p-Chlorotoluene | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| p-Diethylbenzene | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| p-Ethyltoluene | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| p-Isopropyltoluene | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| sec-Butylbenzene | 11 | 11 | 500 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.0026 | U | 0.00053 | U |
| Styrene | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.0026 | U | 0.00053 | U |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 4.1 | D | 0.0026 | U | 0.0011 | U |
| Toluene | 0.7 | 0.7 | 500 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.0034 | J | 0.00053 | U |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.024 | | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 2.5 | D | 0.0026 | U | 0.0011 | U |
| trans-1,3-Dichloropropylene | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| trans-1,4-Dichloro-2-butene | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0064 | J | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.0031 | U | 0.021 | | 0.0011 | U |
| Trichlorofluoromethane | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vinyl acetate | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | 0.003 | U | 0.0041 | U | 0.0031 | U | 0.0046 | U | 0.0031 | U | 0.0025 | U | 0.0036 | U | 0.26 | U | 0.24 | U | 0.27 | U | 0.37 | U | 0.0026 | U | 0.0011 | U |
| Xylenes, Total | NA | 0.26 | 500 | 0.0089 | U | 0.012 | U | 0.0092 | U | 0.014 | U | 0.0092 | U | 0.0075 | U | 0.011 | U | 0.78 | U | 0.72 | U | 0.82 | U | 1.1 | U | 0.0078 | U | 0.00053 | U |

Analyte Detected
**Analyte Above UUSCO**
Analyte Above Protection of Groundwater
**Analyte Above CUSCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 1B: VOCs in Soil (2017 Samples)**
BCP ID: C241207 - 3-60 Beach 79th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *2017 Sample data in mg/Kg (ppm)* | | | Sample ID | B12 | | B13 | | B14 | | B15 | | B17 | | B19 | | B26 (9FT) | | B27 (5FT) | | B28 (13FT) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ indicated value* | | | Sample Date | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | | 11/6/2017 | | 11/6/2017 | | 11/6/2017 | |
| | | | Sample Depth | 4.5 feet bgs | | 6.5 feet bgs | | 8 feet bgs | | 4 feet bgs | | 4 feet bgs | | 4 feet bgs | | 9 feet bgs | | 5 feet bgs | | 13 feet bgs | |
| **VOCs, 8260** | **Protection of Groundwater (ppm)** | **UUSCO (ppm)** | **CUSCO (ppm)** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1,2-Tetrachloroethane | NA | NA | NA | | | | | | | | | | | | | 0.055 | U | 0.047 | U | 0.00074 | U |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 0.0012 | U | 0.0014 | U | 0.0017 | U | 0.0013 | U | 0.0012 | U | 1.4 | U | 0.055 | U | 0.047 | U | 0.00074 | U |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | | | | | | | | | | | | | 0.055 | U | 0.047 | U | 0.00074 | U |
| 1,1,2-Trichloroethane | NA | NA | NA | | | | | | | | | | | | | 0.083 | U | 0.071 | U | 0.0011 | U |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 0.0012 | U | 0.0014 | U | 0.0017 | U | 0.0013 | U | 0.0012 | U | 1.4 | U | 0.083 | U | 0.071 | U | 0.0011 | U |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 0.0012 | U | 0.0014 | U | 0.0017 | U | 0.0013 | U | 0.0012 | U | 1.4 | U | 0.055 | U | 0.047 | U | 0.00074 | U |
| 1,1-Dichloropropene | NA | NA | NA | | | | | | | | | | | | | 0.28 | U | 0.24 | U | 0.0037 | U |
| 1,2,3-Trichlorobenzene | NA | NA | NA | | | | | | | | | | | | | 0.28 | U | 0.24 | U | 0.0037 | U |
| 1,2,3-Trichloropropane | NA | NA | NA | | | | | | | | | | | | | 0.55 | U | 0.47 | U | 0.0074 | U |
| 1,2,4,5-Tetramethylbenzene | NA | NA | NA | | | | | | | | | | | | | 0.034 | J | 0.19 | U | 0.003 | U |
| 1,2,4-Trichlorobenzene | NA | NA | NA | | | | | | | | | | | | | 0.28 | U | 0.24 | U | 0.0037 | U |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 0.00058 | U | 0.00071 | U | 0.03 | D | 0.00067 | U | 0.00062 | U | 1.4 | U | 0.28 | U | 0.24 | U | 0.0037 | U |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | | | | | | | | | | | | | 0.28 | U | 0.24 | U | 0.0037 | U |
| 1,2-Dibromoethane | NA | NA | NA | | | | | | | | | | | | | 0.22 | U | 0.19 | U | 0.003 | U |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 0.0012 | U | 0.0014 | U | 0.0017 | U | 0.0013 | U | 0.0012 | U | 1.4 | U | 0.022 | J | 0.24 | U | 0.0037 | U |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 0.0012 | U | 0.0014 | U | 0.0017 | U | 0.0013 | U | 0.0012 | U | 0.7 | U | 0.055 | U | 0.047 | U | 0.00074 | U |
| 1,2-Dichloroethene, Total | NA | NA | NA | | | | | | | | | | | | | 6 | | 0.17 | | 0.00074 | U |
| 1,2-Dichloropropane | NA | NA | NA | | | | | | | | | | | | | 0.19 | U | 0.16 | U | 0.0026 | U |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 0.00058 | U | 0.00071 | U | 0.012 | D | 0.00067 | U | 0.00062 | U | 1.4 | U | 0.28 | U | 0.24 | U | 0.0037 | U |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 0.0012 | U | 0.0014 | U | 0.0017 | U | 0.0013 | U | 0.0012 | U | 1.4 | U | 0.28 | U | 0.24 | U | 0.0037 | U |
| 1,3-Dichloropropane | NA | NA | NA | | | | | | | | | | | | | 0.28 | U | 0.24 | U | 0.0037 | U |
| 1,3-Dichloropropene, Total | NA | NA | NA | | | | | | | | | | | | | 0.055 | U | 0.047 | U | 0.00074 | U |
| 1,4-Dichlorobenzene | 1.8 | 1.8 | 130 | 0.0012 | U | 0.0014 | U | 0.0017 | U | 0.0013 | U | 0.0012 | U | 1.4 | U | 0.28 | U | 0.24 | U | 0.0037 | U |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 0.058 | U | 0.071 | U | 0.084 | U | 0.067 | U | 0.062 | U | 70 | U | 2.2 | U | 1.9 | U | 0.03 | U |
| 2,2-Dichloropropane | NA | NA | NA | | | | | | | | | | | | | 0.28 | U | 0.24 | U | 0.0037 | U |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 0.0012 | U | 0.044 | D | 0.0017 | U | 0.0013 | U | 0.0012 | U | 1.4 | U | 0.55 | U | 0.47 | U | 0.0026 | J |
| 2-Hexanone | NA | NA | NA | | | | | | | | | | | | | 0.55 | U | 0.47 | U | 0.0074 | U |
| 4-Methyl-2-pentanone | NA | NA | NA | | | | | | | | | | | | | 0.55 | U | 0.47 | U | 0.0074 | U |
| Acetone | 0.05 | 0.05 | 500 | 0.0058 | U | 0.21 | D | 0.0084 | U | 0.0067 | U | 0.0062 | U | 7 | U | 0.55 | U | 0.33 | J | 0.023 | |
| Acrylonitrile | NA | NA | NA | | | | | | | | | | | | | 0.55 | U | 0.47 | U | 0.0074 | U |
| Benzene | 0.06 | 0.06 | 44 | 0.00058 | U | 0.00071 | U | 0.00084 | U | 0.00067 | U | 0.0066 | D | 0.7 | U | 0.055 | U | 0.047 | U | 0.0012 | |
| Bromobenzene | NA | NA | NA | | | | | | | | | | | | | 0.28 | U | 0.24 | U | 0.0037 | U |
| Bromochloromethane | NA | NA | NA | | | | | | | | | | | | | 0.28 | U | 0.24 | U | 0.0037 | U |
| Bromodichloromethane | NA | NA | NA | | | | | | | | | | | | | 0.055 | U | 0.047 | U | 0.00074 | U |
| Bromoform | NA | NA | NA | | | | | | | | | | | | | 0.22 | U | 0.19 | U | 0.003 | U |
| Bromomethane | NA | NA | NA | | | | | | | | | | | | | 0.11 | U | 0.095 | U | 0.0015 | U |
| Carbon disulfide | NA | NA | NA | | | | | | | | | | | | | 0.079 | J | 0.063 | J | 0.0056 | J |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 0.0012 | U | 0.0014 | U | 0.0017 | U | 0.0013 | U | 0.0012 | U | 1.4 | U | 0.055 | U | 0.047 | U | 0.00074 | U |
| Chlorobenzene | 1.1 | 1.1 | 500 | 0.0012 | U | 0.0014 | U | 0.0017 | U | 0.0013 | U | 0.0012 | U | 1.4 | U | 0.055 | U | 0.047 | U | 0.00074 | U |
| Chloroethane | NA | NA | NA | | | | | | | | | | | | | 0.11 | U | 0.095 | U | 0.0015 | U |
| Chloroform | 0.37 | 0.37 | 350 | 0.0012 | U | 0.0014 | U | 0.0017 | U | 0.0013 | U | 0.0012 | U | 1.4 | U | 0.083 | U | 0.071 | U | 0.0011 | U |
| Chloromethane | NA | NA | NA | | | | | | | | | | | | | 0.28 | U | 0.24 | U | 0.0037 | U |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | 0.0012 | U | 0.0014 | U | 0.0017 | D | 0.0013 | U | 0.0025 | D | 1.4 | U | 5.7 | | 0.17 | | 0.00074 | U |
| cis-1,3-Dichloropropylene | NA | NA | NA | | | | | | | | | | | | | 0.055 | U | 0.047 | U | 0.00074 | U |
| Dibromochloromethane | NA | NA | NA | | | | | | | | | | | | | 0.055 | U | 0.047 | U | 0.00074 | U |
| Dibromomethane | NA | NA | NA | | | | | | | | | | | | | 0.55 | U | 0.47 | U | 0.0074 | U |
| Dichlorodifluoromethane | NA | NA | NA | | | | | | | | | | | | | 0.55 | U | 0.47 | U | 0.0074 | U |
| Ethyl Benzene | 1 | 1 | 390 | 0.00058 | U | 0.00071 | U | 0.0049 | D | 0.00067 | U | 0.00062 | U | 1.4 | U | 0.055 | U | 0.047 | U | 0.00074 | U |
| Ethyl ether | NA | NA | NA | | | | | | | | | | | | | 0.28 | U | 0.24 | U | 0.0037 | U |
| Hexachlorobutadiene | NA | NA | NA | | | | | | | | | | | | | 0.28 | U | 0.24 | U | 0.0037 | U |
| Isopropylbenzene | NA | NA | NA | | | | | | | | | | | | | 0.055 | U | 0.047 | U | 0.00074 | U |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 0.00058 | U | 0.00071 | U | 0.00084 | U | 0.00067 | U | 0.00062 | U | 0.7 | U | 0.0087 | J | 0.0076 | J | 0.0015 | U |
| Methylene chloride | 0.05 | 0.05 | 500 | 0.0012 | U | 0.0014 | U | 0.0017 | U | 0.0013 | U | 0.0012 | U | 1.4 | U | 0.55 | U | 0.47 | U | 0.0074 | U |
| Naphthalene | 12 | 12 | 500 | | | | | | | | | | | | | 0.083 | J | 0.0069 | J | 0.00051 | J |
| n-Butylbenzene | 12 | 12 | 500 | 0.00058 | U | 0.00071 | U | 0.0027 | D | 0.00067 | U | 0.00062 | U | 1.4 | U | 0.055 | U | 0.047 | U | 0.00074 | U |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 0.00058 | U | 0.00071 | U | 0.0027 | D | 0.00067 | U | 0.00062 | U | 1.4 | U | 0.055 | U | 0.047 | U | 0.00074 | U |
| o-Chlorotoluene | NA | NA | NA | | | | | | | | | | | | | 0.28 | U | 0.24 | U | 0.0037 | U |
| o-Xylene | 1.6 | 0.26 | 500 | 0.00058 | U | 0.00071 | U | 0.022 | D | 0.00067 | U | 0.00062 | U | 1.4 | U | 0.11 | U | 0.095 | U | 0.00042 | J |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 0.00058 | U | 0.00071 | U | 0.042 | D | 0.00067 | U | 0.00062 | U | 1.4 | U | 0.11 | U | 0.095 | U | 0.0015 | U |
| p-Chlorotoluene | NA | NA | NA | | | | | | | | | | | | | 0.28 | U | 0.24 | U | 0.0037 | U |
| p-Diethylbenzene | NA | NA | NA | | | | | | | | | | | | | 0.22 | U | 0.19 | U | 0.003 | U |
| p-Ethyltoluene | NA | NA | NA | | | | | | | | | | | | | 0.22 | U | 0.19 | U | 0.003 | U |
| p-Isopropyltoluene | NA | NA | NA | | | | | | | | | | | | | 0.04 | J | 7.7 | | 0.00074 | U |
| sec-Butylbenzene | 11 | 11 | 500 | 0.00058 | U | 0.00071 | U | 0.00084 | U | 0.00067 | U | 0.00062 | U | 1.4 | U | 0.055 | U | 0.047 | U | 0.00074 | U |
| Styrene | NA | NA | NA | | | | | | | | | | | | | 0.11 | U | 0.095 | U | 0.0015 | U |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 0.00058 | U | 0.00071 | U | 0.00084 | U | 0.00067 | U | 0.00062 | U | 1.4 | U | 0.28 | U | 0.24 | U | 0.0037 | U |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 0.0012 | U | 0.0014 | U | 0.0017 | U | 0.0013 | U | 0.0012 | U | **160** | D | 0.14 | | 0.016 | J | 0.00074 | U |
| Toluene | 0.7 | 0.7 | 500 | 0.00058 | U | 0.00086 | D | 0.0039 | D | 0.00067 | U | 0.0013 | D | 1.4 | U | 0.033 | J | 0.071 | U | 0.0003 | J |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 0.0012 | U | 0.0014 | U | 0.0017 | U | 0.0013 | U | 0.0012 | U | 1.4 | U | 0.33 | | 0.071 | U | 0.0011 | U |
| trans-1,3-Dichloropropylene | NA | NA | NA | | | | | | | | | | | | | 0.055 | U | 0.047 | U | 0.00074 | U |
| trans-1,4-Dichloro-2-butene | NA | NA | NA | | | | | | | | | | | | | 0.28 | U | 0.24 | U | 0.0037 | U |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | 0.0012 | U | 0.0014 | U | 0.0097 | D | 0.0013 | U | 0.0061 | D | 1.9 | D | 5.6 | | 0.59 | | 0.00074 | U |
| Trichlorofluoromethane | NA | NA | NA | | | | | | | | | | | | | 0.28 | U | 0.24 | U | 0.0037 | U |
| Vinyl acetate | NA | NA | NA | | | | | | | | | | | | | 0.55 | U | 0.47 | U | 0.0074 | U |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | 0.0012 | U | 0.002 | D | 0.0017 | U | 0.0013 | U | 0.002 | D | 1.4 | U | 0.19 | | 0.095 | U | 0.0015 | U |
| Xylenes, Total | NA | 0.26 | 500 | 0.00058 | U | 0.00071 | U | 0.064 | D | 0.00067 | U | 0.00062 | U | 1.4 | U | 0.11 | U | 0.095 | U | 0.00042 | J |

Analyte Detected
**Analyte Above UUSCO**
Analyte Above Protection of Groundwater
**Analyte Above CUSCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

2017 Site Investigation – SVOCs in Soil

**Table 2B: SVOCs in Soil (2017 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | Sample ID | B1 | | B2 | | B3 Shallow | | B3 Deep | | B4 | | B5 | | B6 | | B7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ indicated value* | | | | Sample Date | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/9/2017 | |
| *Data above SCOs shown in* **Bold** | | | | Sample Depth | 7-9 feet bgs | | 8-10 feet bgs | | 1-3 feet bgs | | 7-9 feet bgs | | 2-3 feet bgs | | 8-10 feet bgs | | 7-9 feet bgs | | 8.5-10 feet bgs | |
| **SVOCs, 8270** | **Protection of Groundwater** | **UUSCO** | **CUSCO** | | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 2-Methylphenol | NA | 0.33 | 500 | | 0.104 | *U* | 0.0939 | *U* | 0.0694 | *U* | 0.0834 | *U* | 0.068 | *U* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| 3- & 4-Methylphenols | NA | 0.33 | 500 | | 0.104 | *U* | 0.0939 | *U* | 0.0694 | *U* | 0.0834 | *U* | 0.068 | *U* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Acenaphthene | 98 | 20 | 500 | | 0.104 | *U* | 0.0939 | *U* | 0.0694 | *U* | 0.0834 | *U* | 0.0977 | *JD* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Acenaphthylene | 107 | 100 | 500 | | 0.104 | *U* | 0.0939 | *U* | 0.0694 | *U* | 0.0834 | *U* | 0.068 | *U* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Anthracene | 1000 | 100 | 500 | | 0.104 | *U* | 0.0939 | *U* | 0.0694 | *U* | 0.0834 | *U* | 0.234 | *D* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Benzo(a)anthracene | 1 | 1 | 5.6 | | 0.104 | *U* | 0.0939 | *U* | 0.0694 | *U* | 0.0834 | *U* | 0.625 | *D* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Benzo(a)pyrene | 22 | 1 | 1 | | 0.104 | *U* | 0.0939 | *U* | 0.0694 | *U* | 0.0834 | *U* | 0.15 | *D* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Benzo(b)fluoranthene | 1.7 | 1 | 5.6 | | 0.104 | *U* | 0.0939 | *U* | 0.0997 | *JD* | 0.0834 | *U* | 0.257 | *D* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Benzo(g,h,i)perylene | 1000 | 100 | 500 | | 0.104 | *U* | 0.0939 | *U* | 0.0694 | *U* | 0.0834 | *U* | 0.14 | *D* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Benzo(k)fluoranthene | 1.7 | 0.8 | 56 | | 0.104 | *U* | 0.0939 | *U* | 0.0694 | *U* | 0.0834 | *U* | 0.219 | *D* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Chrysene | 1 | 1 | 56 | | 0.104 | *U* | 0.0939 | *U* | 0.194 | *D* | 0.0834 | *U* | 0.943 | *D* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Dibenzo(a,h)anthracene | 1000 | 0.33 | 0.56 | | 0.104 | *U* | 0.0939 | *U* | 0.0694 | *U* | 0.0834 | *U* | 0.068 | *U* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Dibenzofuran | NA | 7 | 350 | | 0.104 | *U* | 0.0939 | *U* | 0.0694 | *U* | 0.0834 | *U* | 0.068 | *U* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Fluoranthene | 1000 | 100 | 500 | | 0.104 | *U* | 0.0939 | *U* | 0.115 | *JD* | 0.0834 | *U* | 0.917 | *D* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Fluorene | 386 | 30 | 500 | | 0.104 | *U* | 0.0939 | *U* | 0.0694 | *U* | 0.0834 | *U* | 0.102 | *JD* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Hexachlorobenzene | NA | 0.33 | 6 | | 0.104 | *U* | 0.0939 | *U* | 0.0694 | *U* | 0.0834 | *U* | 0.068 | *U* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Indeno(1,2,3-cd)pyrene | 8.2 | 0.5 | 5.6 | | 0.104 | *U* | 0.0939 | *U* | 0.0694 | *U* | 0.0834 | *U* | 0.129 | *JD* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Naphthalene | 12 | 12 | 500 | | 0.104 | *U* | 0.0939 | *U* | 0.0694 | *U* | 0.0834 | *U* | 0.068 | *U* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Pentachlorophenol | 0.8 | 0.8 | 6.7 | | 0.104 | *U* | 0.0939 | *U* | 0.0694 | *U* | 0.0834 | *U* | 0.068 | *U* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Phenanthrene | 1000 | 100 | 500 | | 0.104 | *U* | 0.0939 | *U* | 0.157 | *D* | 0.0834 | *U* | 0.612 | *D* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Phenol | 0.33 | 0.33 | 500 | | 0.104 | *U* | 0.0939 | *U* | 0.0694 | *U* | 0.0834 | *U* | 0.068 | *U* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |
| Pyrene | 1000 | 100 | 500 | | 0.104 | *U* | 0.0939 | *U* | 0.122 | *JD* | 0.0834 | *U* | 3.33 | *D* | 0.0758 | *U* | 0.0802 | *U* | 0.0521 | *U* |

Analyte Detected
**Analyte Above UUSCO**
Analyte Above Protection of Groundwater
**Analyte Above CUSCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 2B: SVOCs in Soil (2017 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | **Sample ID** | **B8 Shallow** | | **B8 deep** | | **B9** | | **B10** | | **B11** | | **B12** | | **B13** | | **B14** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ indicated value* | | | | Sample Date | 6/9/2017 | | 6/9/2017 | | 6/9/2017 | | 6/9/2017 | | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | |
| *Data above SCOs shown in* **Bold** | | | | Sample Depth | 2-4 feet | | 10.5-11.5 feet bgs | | 10.5-12.5 feet bgs | | 8-9 feet bgs | | 2-4 feet bgs | | 4.5-6 feet bgs | | 6.5-8 feet bgs | | 10-12 feet bgs | |
| **SVOCs, 8270** | **Protection of Groundwater** | **UUSCO** | **CUSCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 2-Methylphenol | NA | 0.33 | 500 | 0.046 | *U* | 0.485 | *U* | 0.0785 | *U* | 0.0531 | *U* | 0.059 | *U* | 0.05 | *U* | 0.063 | *U* | 0.2 | *U* |
| 3- & 4-Methylphenols | NA | 0.33 | 500 | 0.046 | *U* | 0.485 | *U* | 0.0785 | *U* | 0.0531 | *U* | 0.059 | *U* | 0.05 | *U* | 0.063 | *U* | 0.2 | *U* |
| Acenaphthene | 98 | 20 | 500 | 0.0909 | *JD* | 0.485 | *U* | 0.0785 | *U* | 0.0531 | *U* | 0.42 | | 0.48 | | 1.1 | | 2.3 | |
| Acenaphthylene | 107 | 100 | 500 | 0.046 | *U* | 0.485 | *U* | 0.0785 | *U* | 0.0531 | *U* | 0.24 | *U* | 0.81 | | 0.25 | *U* | 0.78 | *U* |
| Anthracene | 1000 | 100 | 500 | 0.106 | *D* | 0.485 | *U* | 0.0785 | *U* | 0.0531 | *U* | 0.98 | | 0.83 | | 1.6 | | 4.6 | |
| Benzo(a)anthracene | 1 | 1 | 5.6 | 0.304 | *D* | 1.58 | *D* | 0.0785 | *U* | 0.201 | *D* | 2.3 | | 4.7 | | 2.3 | | **12** | |
| Benzo(a)pyrene | 22 | 1 | 1 | 0.637 | *D* | **3.63** | *D* | 0.0785 | *U* | 0.366 | *D* | **1.9** | | **5.7** | | **1.9** | | **13** | |
| Benzo(b)fluoranthene | 1.7 | 1 | 5.6 | 0.286 | *D* | 1.23 | *D* | 0.0785 | *U* | 0.186 | *D* | 2.4 | | **6.1** | | 1.8 | | **14** | |
| Benzo(g,h,i)perylene | 1000 | 100 | 500 | 0.165 | *D* | 1.03 | *D* | 0.0785 | *U* | 0.0941 | *JD* | 1.2 | | 4.5 | | 0.89 | | 11 | |
| Benzo(k)fluoranthene | 1.7 | 0.8 | 56 | 0.312 | *D* | 1.44 | *D* | 0.0785 | *U* | 0.201 | *D* | 0.74 | | 1.3 | | 0.54 | | 4.6 | |
| Chrysene | 1 | 1 | 56 | 0.359 | *D* | 1.87 | *D* | 0.0785 | *U* | 0.246 | *D* | 2.5 | | 4.7 | | 3 | | 14 | |
| Dibenzo(a,h)anthracene | 1000 | 0.33 | 0.56 | 0.0638 | *JD* | 0.485 | *U* | 0.0785 | *U* | 0.0531 | *U* | 0.33 | | **0.92** | | 0.27 | | **3** | |
| Dibenzofuran | NA | 7 | 350 | 0.046 | *U* | 0.485 | *U* | 0.0785 | *U* | 0.0531 | *U* | 0.15 | | 0.085 | | 0.11 | | 0.81 | |
| Fluoranthene | 1000 | 100 | 500 | 0.635 | *D* | 2.73 | *D* | 0.0785 | *U* | 0.394 | *D* | 4.2 | | 5.8 | | 3.6 | | 24 | |
| Fluorene | 386 | 30 | 500 | 0.0814 | *JD* | 0.485 | *U* | 0.0785 | *U* | 0.0531 | *U* | 0.39 | | 0.36 | | 0.88 | | 1.7 | |
| Hexachlorobenzene | NA | 0.33 | 6 | 0.046 | *U* | 0.485 | *U* | 0.0785 | *U* | 0.0531 | *U* | 0.24 | *U* | 0.2 | *U* | 0.25 | *U* | 0.78 | *U* |
| Indeno(1,2,3-cd)pyrene | 8.2 | 0.5 | 5.6 | 0.165 | *D* | 0.781 | *JD* | 0.0785 | *U* | 0.0873 | *JD* | 1.1 | | 3.2 | | 0.64 | | **9.1** | |
| Naphthalene | 12 | 12 | 500 | 0.0748 | *JD* | 0.485 | *U* | 0.0785 | *U* | 0.0531 | *U* | 0.09 | | 0.22 | | 0.24 | | 0.9 | |
| Pentachlorophenol | 0.8 | 0.8 | 6.7 | 0.046 | *U* | 0.485 | *U* | 0.0785 | *U* | 0.0531 | *U* | 1.2 | *U* | 0.99 | *U* | 1.3 | *U* | 3.9 | *U* |
| Phenanthrene | 1000 | 100 | 500 | 0.388 | *D* | 0.485 | *U* | 0.0785 | *U* | 0.156 | *D* | 3.7 | | 3.3 | | 6.6 | | 16 | |
| Phenol | 0.33 | 0.33 | 500 | 0.046 | *U* | 0.485 | *U* | 0.0785 | *U* | 0.0531 | *U* | 0.24 | *U* | 0.2 | *U* | 0.25 | *U* | 0.78 | *U* |
| Pyrene | 1000 | 100 | 500 | 0.488 | *D* | 2.5 | *D* | 0.0785 | *U* | 0.314 | *D* | 4.5 | | 9.5 | | 6.4 | | 26 | |

Analyte Detected
**Analyte Above UUSCO**
Analyte Above Protection of Groundwater
**Analyte Above CUSCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 2B: SVOCs in Soil (2017 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | Sample ID | B15 | | B17 | | B19 | | B20 | | HA-1 | | HA-2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ indicated value* | | | | Sample Date | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | | 6/8/2017 | | 6/9/2017 | |
| *Data above SCOs shown in* **Bold** | | | | Sample Depth | 4-6 feet bgs | | 3-5 feet bgs | | 4-6 feet bgs | | 6-8 feet bgs | | 0-2 feet bgs | | 0-2 feet bgs | |
| **SVOCs, 8270** | **Protection of Groundwater** | **UUSCO** | **CUSCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 2-Methylphenol | NA | 0.33 | 500 | 0.081 | *U* | 0.11 | *U* | 0.0091 | *U* | 0.15 | *U* | 0.0713 | *U* | 0.0457 | *U* |
| 3- & 4-Methylphenols | NA | 0.33 | 500 | 0.081 | *U* | 0.11 | *U* | 0.0091 | *U* | 0.15 | *U* | 0.0713 | *U* | 0.0457 | *U* |
| Acenaphthene | 98 | 20 | 500 | 0.32 | *U* | 0.43 | *U* | 0.036 | *U* | 3 | | 0.0713 | *U* | 0.419 | *D* |
| Acenaphthylene | 107 | 100 | 500 | 0.32 | *U* | 0.43 | *U* | 0.036 | *U* | 0.58 | *U* | 0.0713 | *U* | 0.265 | *D* |
| Anthracene | 1000 | 100 | 500 | 0.32 | *U* | 0.82 | | 0.11 | | 7.4 | | 0.0921 | *JD* | 0.793 | *D* |
| Benzo(a)anthracene | 1 | 1 | 5.6 | 0.41 | | 3 | | 0.68 | | **11** | | 0.908 | *D* | 1.95 | *D* |
| Benzo(a)pyrene | 22 | 1 | 1 | 0.32 | *U* | **2.5** | | 0.74 | | **9** | | 0.817 | *D* | **4.63** | *D* |
| Benzo(b)fluoranthene | 1.7 | 1 | 5.6 | 0.45 | | 3.2 | | 1 | | **11** | | 0.814 | *D* | 1.89 | *D* |
| Benzo(g,h,i)perylene | 1000 | 100 | 500 | 0.32 | *U* | 1.9 | | 0.59 | | 6.4 | | 0.45 | *D* | 0.573 | *D* |
| Benzo(k)fluoranthene | 1.7 | 0.8 | 56 | 0.32 | *U* | 1.1 | | 0.3 | | 2.9 | | 0.546 | *D* | 1.22 | *D* |
| Chrysene | 1 | 1 | 56 | 0.34 | | 3.2 | | 0.71 | | 10 | | 1.27 | *D* | 1.89 | *D* |
| Dibenzo(a,h)anthracene | 1000 | 0.33 | 0.56 | 0.32 | *U* | **0.67** | | 0.2 | | **2.2** | | 0.207 | *D* | 0.318 | *D* |
| Dibenzofuran | NA | 7 | 350 | 0.081 | *U* | 0.22 | | 0.02 | | 2.5 | | 0.0713 | *U* | 0.307 | *D* |
| Fluoranthene | 1000 | 100 | 500 | 0.69 | | 4.8 | | 0.97 | | 27 | | 1.27 | *D* | 5.02 | *D* |
| Fluorene | 386 | 30 | 500 | 0.32 | *U* | 0.43 | *U* | 0.036 | *U* | 3.3 | | 0.0713 | *U* | 0.551 | *D* |
| Hexachlorobenzene | NA | 0.33 | 6 | 0.32 | *U* | 0.43 | *U* | 0.036 | *U* | 0.58 | *U* | 0.0713 | *U* | 0.0457 | *U* |
| Indeno(1,2,3-cd)pyrene | 8.2 | 0.5 | 5.6 | 0.32 | *U* | 1.6 | | 0.51 | | **6** | | 0.326 | *D* | 0.608 | *D* |
| Naphthalene | 12 | 12 | 500 | 0.081 | *U* | 0.77 | | 0.029 | | 2.2 | | 0.0713 | *U* | 0.109 | *D* |
| Pentachlorophenol | 0.8 | 0.8 | 6.7 | 1.6 | *U* | 2.1 | *U* | 0.18 | *U* | 2.9 | *U* | 0.0713 | *U* | 0.0457 | *U* |
| Phenanthrene | 1000 | 100 | 500 | 0.59 | | 3.9 | | 0.39 | | 30 | | 0.933 | *D* | 4.4 | *D* |
| Phenol | 0.33 | 0.33 | 500 | 0.32 | *U* | 0.43 | *U* | 0.036 | *U* | 0.58 | *U* | 0.0713 | *U* | 0.0457 | *U* |
| Pyrene | 1000 | 100 | 500 | 0.77 | | 5.3 | | 0.97 | | 26 | | 1.36 | *D* | 2.75 | *D* |

Analyte Detected
**Analyte Above UUSCO**
Analyte Above Protection of Groundwater
**Analyte Above CUSCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

2017 Site Investigation – Metals in Soil

| *All data in mg/Kg (ppm)* | | | | **Sample ID** | **B1** | | **B2** | | **B3 Shallow** | | **B3 Deep** | | **B4** | | **B5** | | **B6** | | **B7** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ indicated value* | | | | Sample Date | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/9/2017 | |
| *Data above SCOs shown in* **Bold** | | | | Sample Depth | 7-9 feet bgs | | 8-10 feet bgs | | 1-3 feet bgs | | 7-9 feet bgs | | 2-3 feet bgs | | 8-10 feet bgs | | 7-9 feet bgs | | 8.5-10 feet bgs | |
| **Metals, 6010 and 7473** | **Protection of Groundwater** | **UUSCO** | **CUSCO** | | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Arsenic | 16 | 13 | 16 | | 12.9 | | 5.87 | | 11.5 | | 5.08 | | 4.02 | | 1.22 | *U* | 1.29 | *U* | 1.25 | *U* |
| Barium | 820 | 350 | 400 | | 22.3 | | 20.3 | | 48.6 | | 19.8 | | 90.5 | | 2.31 | | 14 | | 3.17 | |
| Beryllium | 47.0 | 7.2 | 590 | | 0.373 | | 0.336 | | 0.246 | | 0.361 | | 0.274 | | 0.122 | *U* | 0.129 | *U* | 0.125 | *U* |
| Cadmium | 7.5 | 2.5 | 9.3 | | 0.498 | *U* | 0.451 | *U* | 0.332 | *U* | 0.399 | *U* | 1.15 | | 0.365 | *U* | 0.386 | *U* | 0.374 | *U* |
| Chromium | NA | NC | NC | | 27.4 | | 24.4 | | 6.33 | | 22.8 | | 29.5 | | 1.44 | | 3.9 | | 3.19 | |
| Chromium (hexavalent) | 19 | 1 | 400 | | 0.829 | *U* | 0.752 | *U* | 0.554 | *U* | 0.665 | *U* | 0.545 | *U* | 0.608 | *U* | 0.643 | *U* | 0.624 | *U* |
| Chromium (trivalent) | NA | 30 | 1500 | | 27.4 | | 24.4 | | 6.33 | | 22.8 | | 29.5 | | 1.44 | | 3.9 | | 3.19 | |
| Copper | 1720 | 50 | 270 | | 7.34 | | 6.81 | | 19 | | 6.07 | | 46.7 | | 1.27 | | 4.64 | | 0.72 | |
| Lead | 450 | 63 | 1000 | | 6.01 | | 5.91 | | 18.6 | | 4.81 | | 200 | | 3.07 | | 2.3 | | 1.25 | |
| Manganese | 2000 | 1,600 | 10000 | | 218 | | 138 | | 20.6 | | 129 | | 217 | | 9.45 | | 21.6 | | 18.6 | |
| Mercury | 0.73 | 0.18 | 2.8 | | 0.0498 | *U* | 0.0451 | *U* | 0.0966 | | 0.0399 | *U* | 0.196 | | 0.0365 | *U* | 0.0386 | *U* | 0.0374 | *U* |
| Nickel | 130 | 30 | 310 | | 18 | | 16.8 | | 11.7 | | 14.5 | | 16.9 | | 2.89 | | 5.6 | | 1.36 | |
| Selenium | 4 | 3.9 | 1500 | | 6.57 | | 3.09 | | 5.84 | | 3.4 | | 1.49 | | 1.22 | *U* | 1.61 | | 1.25 | *U* |
| Silver | 8 | 2 | 1500 | | 0.829 | *U* | 0.752 | *U* | 0.554 | *U* | 0.665 | *U* | 0.545 | *U* | 0.608 | *U* | 0.643 | *U* | 0.624 | *U* |
| Zinc | 2480 | 109 | 10000 | | 38.4 | | 33.5 | | 19.6 | | 31 | | 220 | | 4.2 | | 23.3 | | 3.24 | |

Analyte Detected
**Analyte Above UUSCO**
Analyte Above Protection of Groundwater
**Analyte Above CUSCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 3B: Metals in Soil (2017 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | **Sample ID** | **B8 Shallow** | | **B8 deep** | | **B9** | | **B10** | | **B11** | | **B12** | | **B13** | | **B14** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ indicated value* | | | Sample Date | 6/9/2017 | | 6/9/2017 | | 6/9/2017 | | 6/9/2017 | | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | |
| *Data above SCOs shown in* **Bold** | | | Sample Depth | 2-4 feet | | 10.5-11.5 feet bgs | | 10.5-12.5 feet bgs | | 8-9 feet bgs | | 2-4 feet bgs | | 4.5-6 feet bgs | | 6.5-8 feet bgs | | 10-12 feet bgs | |
| **Metals, 6010 and 7473** | **Protection of Groundwater** | **UUSCO** | **CUSCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Arsenic | 16 | 13 | 16 | 6.07 | | 2.52 | | 3.3 | | 4.96 | | 11 | | 14 | | **27** | | **100** | |
| Barium | 820 | 350 | 400 | 104 | | 30.5 | | 42.7 | | **2,160** | | 210 | | 230 | | 330 | | 200 | |
| Beryllium | 47.0 | 7.2 | 590 | 0.203 | | 0.116 | *U* | 0.211 | | 0.127 | *U* | 0.45 | | 0.36 | | 0.25 | *U* | 0.61 | |
| Cadmium | 7.5 | 2.5 | 9.3 | 0.704 | | 0.349 | *U* | 0.564 | *U* | 0.381 | *U* | 2.6 | | 3.9 | | 2.1 | | **13** | |
| Chromium | NA | NC | NC | 18.7 | | 1.73 | | 15.6 | | 4.94 | | 73 | | 23 | | 37 | | 35 | |
| Chromium (hexavalent) | 19 | 1 | 400 | 0.552 | *U* | 0.582 | *U* | 0.939 | *U* | 0.636 | *U* | | | | | | | | |
| Chromium (trivalent) | NA | 30 | 1500 | 18.7 | | 1.73 | | 15.6 | | 4.94 | | | | | | | | | |
| Copper | 1720 | 50 | 270 | 68.2 | | 4.53 | | 10.2 | | 251 | | 240 | | 140 | | 200 | | **280** | |
| Lead | 450 | 63 | 1000 | 157 | | 4.26 | | 30.2 | | 69.4 | | 630 | | 790 | | 270 | | **1,900** | |
| Manganese | 2000 | 1,600 | 10000 | 236 | | 41.7 | | 75.3 | | 6.56 | | 850 | | 220 | | 100 | | 220 | |
| Mercury | 0.73 | 0.18 | 2.8 | 0.304 | | 0.0349 | *U* | 0.108 | | 0.104 | | 0.54 | | 0.64 | | 0.14 | | 1.8 | |
| Nickel | 130 | 30 | 310 | 17.6 | | 1.09 | | 10.4 | | 4.27 | | 94 | | 45 | | 42 | | 22 | |
| Selenium | 4 | 3.9 | 1500 | 4.15 | | 1.16 | *U* | 3.02 | | 3.1 | | 2.4 | *U* | 2.9 | | 4 | | 5.2 | |
| Silver | 8 | 2 | 1500 | 0.552 | *U* | 0.582 | *U* | 0.939 | *U* | 0.636 | *U* | 0.58 | | 0.28 | | 0.78 | | 1.2 | |
| Zinc | 2480 | 109 | 10000 | 196 | | 63.3 | | 67.4 | | 18.3 | | 960 | | 1,400 | | 240 | | 6,500 | |

Analyte Detected
**Analyte Above UUSCO**
Analyte Above Protection of Groundwater
**Analyte Above CUSCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 3B: Metals in Soil (2017 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | **Sample ID** | **B15** | | **B17** | | **B19** | | **B20** | | **HA-1** | | **HA-2** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ indicated value* | | | Sample Date | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | | 6/8/2017 | | 6/9/2017 | |
| *Data above SCOs shown in* **Bold** | | | Sample Depth | 4-6 feet bgs | | 3-5 feet bgs | | 4-6 feet bgs | | 6-8 feet bgs | | 0-2 feet bgs | | 0-2 feet bgs | |
| **Metals, 6010 and 7473** | **Protection of Groundwater** | **UUSCO** | **CUSCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Arsenic | 16 | 13 | 16 | 9.3 | | **31** | | 6.1 | | **200** | | 7 | | 3.73 | |
| Barium | 820 | 350 | 400 | 160 | | **1,000** | | 180 | | **500** | | 119 | | 113 | |
| Beryllium | 47.0 | 7.2 | 590 | 0.34 | | 0.79 | | 0.29 | | 0.71 | | 0.154 | | 0.109 | *U* |
| Cadmium | 7.5 | 2.5 | 9.3 | 0.44 | | 7.2 | | 0.43 | *U* | 0.6 | | 0.343 | *U* | 0.787 | |
| Chromium | NA | NC | NC | 43 | | 860 | | 32 | | 13 | | 4.72 | | 14.7 | |
| Chromium (hexavalent) | 19 | 1 | 400 | | | | | | | | | 0.571 | *U* | 0.546 | *U* |
| Chromium (trivalent) | NA | 30 | 1500 | | | | | | | | | 4.72 | | 14.7 | |
| Copper | 1720 | 50 | 270 | 73 | | **340** | | 46 | | 31 | | 37.8 | | 41.4 | |
| Lead | 450 | 63 | 1000 | 170 | | **2,400** | | 58 | | 95 | | 167 | | 367 | |
| Manganese | 2000 | 1,600 | 10000 | 640 | | 570 | | 170 | | 91 | | 59.4 | | 75.3 | |
| Mercury | 0.73 | 0.18 | 2.8 | 0.33 | | 0.69 | | 0.35 | | 0.38 | | 0.323 | | 0.532 | |
| Nickel | 130 | 30 | 310 | 32 | | **370** | | 19 | | 13 | | 6.36 | | 7.92 | |
| Selenium | 4 | 3.9 | 1500 | 2.2 | *U* | 3.7 | | | *U* | 9.2 | | 4.13 | | 2.18 | |
| Silver | 8 | 2 | 1500 | 0.22 | *U* | 0.98 | | 0.38 | | | *U* | 0.571 | *U* | 0.546 | *U* |
| Zinc | 2480 | 109 | 10000 | 210 | | 2,400 | | 110 | | 180 | | 60.5 | | 257 | |

Analyte Detected
**Analyte Above UUSCO**
Analyte Above Protection of Groundwater
**Analyte Above CUSCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

| *All data in mg/Kg (ppm)* | | | | **Sample ID** | | **SED1** | |
|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ indicated value* | | | | Sample Date | | 6/9/2017 | |
| *Data above SCOs shown in* **Bold** | | | | Sample Depth | | 0-6" | |
| **Metals, 6010 and 7473** | **Protection of Groundwater** | **UUSCO** | **CUSCO** | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Arsenic | 16 | 13 | 16 | 13.5 | | 6.89 | |
| Barium | 820 | 350 | 400 | 2100 | | 1240 | |
| Beryllium | 47.0 | 7.2 | 590 | 0.133 | *U* | 0.135 | *U* |
| Cadmium | 7.5 | 2.5 | 9.3 | 0.592 | | 0.405 | *U* |
| Chromium | NA | NA | NA | 23 | | 23.6 | |
| Chromium (hexavalent) | 19 | 1 | 400 | 0.663 | *U* | 0.675 | *U* |
| Chromium (trivalent) | NA | 30 | 1500 | 23 | | 23.6 | |
| Copper | 1720 | 50 | 270 | 94.2 | | 107 | |
| Lead | 450 | 63 | 1000 | 139 | | 182 | |
| Manganese | 2000 | 1,600 | 10000 | 148 | | 418 | |
| Mercury | 0.73 | 0.18 | 2.8 | 0.318 | | 0.19 | |
| Nickel | 130 | 30 | 310 | 20.3 | | 13.9 | |
| Selenium | 4 | 3.9 | 1500 | 6.35 | | 7.1 | |
| Silver | 8 | 2 | 1500 | 0.663 | *U* | 0.675 | *U* |
| Zinc | 2480 | 109 | 10000 | 175 | | 367 | |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

2017 Site Investigation – PCBs/Pesticides in Soil

| *All data in mg/Kg (ppm)* | | | Sample ID | B1 | | B2 | | B3 Shallow | | B3 Deep | | B4 | | B5 | | B6 | | B7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ indicated value* | | | Sample Date | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/9/2017 | |
| *Data above SCOs shown in* **Bold** | | | Sample Depth | 7-9 feet bgs | | 8-10 feet bgs | | 1-3 feet bgs | | 7-9 feet bgs | | 2-3 feet bgs | | 8-10 feet bgs | | 7-9 feet bgs | | 8.5-10 feet bgs | |
| **Pesticides, 8081** | **Protection of Groundwater** | **UUSCO** | **CUSCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 4,4'-DDD | 17 | 0.0033 | 92 | 0.00161 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* |
| 4,4'-DDE | 136 | 0.0033 | 62 | 0.00161 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* |
| 4,4'-DDT | 14 | 0.0033 | 47 | 0.00161 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* |
| Aldrin | 0.19 | 0.005 | 0.68 | 0.00161 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* |
| alpha-BHC | 0.02 | 0.02 | 3.4 | 0.00161 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* |
| alpha-Chlordane | 2.9 | 0.094 | 3.4 | 0.00161 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* |
| beta-BHC | 0.09 | 0.036 | 3 | 0.00161 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* |
| delta-BHC | 0.25 | 0.04 | 500 | 0.00161 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* |
| Dieldrin | 0.1 | 0.005 | 1.4 | 0.00161 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* |
| Endosulfan I | 102 | 2.4 | 200 | 0.00161 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* |
| Endosulfan II | 102 | 2.4 | 200 | 0.00161 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* |
| Endosulfan sulfate | 1000 | 2.4 | 200 | 0.00161 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* |
| Endrin | 0.06 | 0.014 | 89 | 0.00161 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* |
| gamma-BHC (Lindane) | 0.1 | 0.1 | 9.2 | 0.00161 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* |
| Heptachlor | 0.38 | 0.042 | 15 | 0.00161 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* | 0.00165 | *U* |

| | | | Sample ID | B1 | | B2 | | B3 Shallow | | B3 Deep | | B4 | | B5 | | B6 | | B7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/8/2017 | | 6/9/2017 | |
| | | | Sample Depth | 7-9 feet bgs | | 8-10 feet bgs | | 1-3 feet bgs | | 7-9 feet bgs | | 2-3 feet bgs | | 8-10 feet bgs | | 7-9 feet bgs | | 8.5-10 feet bgs | |
| **PCBs, 8082** | **Protection of Groundwater** | **UUSCO** | **CUSCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aroclor 1016 | 3.2 | 0.1 | 1.00 | 0.027 | *U* | 0.025 | *U* | 0.0184 | *U* | 0.022 | *U* | 0.0182 | *U* | 0.0202 | *U* | 0.0214 | *U* | 0.0208 | *U* |
| Aroclor 1221 | 3.2 | 0.1 | 1.00 | 0.027 | *U* | 0.025 | *U* | 0.0184 | *U* | 0.022 | *U* | 0.0182 | *U* | 0.0202 | *U* | 0.0214 | *U* | 0.0208 | *U* |
| Aroclor 1232 | 3.2 | 0.1 | 1.00 | 0.027 | *U* | 0.025 | *U* | 0.0184 | *U* | 0.022 | *U* | 0.0182 | *U* | 0.0202 | *U* | 0.0214 | *U* | 0.0208 | *U* |
| Aroclor 1242 | 3.2 | 0.1 | 1.00 | 0.027 | *U* | 0.025 | *U* | 0.0184 | *U* | 0.022 | *U* | 0.0182 | *U* | 0.0202 | *U* | 0.0214 | *U* | 0.0208 | *U* |
| Aroclor 1248 | 3.2 | 0.1 | 1.00 | 0.027 | *U* | 0.025 | *U* | 0.0184 | *U* | 0.022 | *U* | 0.0182 | *U* | 0.0202 | *U* | 0.0214 | *U* | 0.0208 | *U* |
| Aroclor 1254 | 3.2 | 0.1 | 1.00 | 0.027 | *U* | 0.025 | *U* | 0.0184 | *U* | 0.022 | *U* | 0.0182 | *U* | 0.0202 | *U* | 0.0214 | *U* | 0.0208 | *U* |
| Aroclor 1260 | 3.2 | 0.1 | 1.00 | 0.027 | *U* | 0.025 | *U* | 0.0184 | *U* | 0.022 | *U* | 0.0182 | *U* | 0.0202 | *U* | 0.0214 | *U* | 0.0208 | *U* |
| Aroclor, Total | 3.2 | 0.1 | 1.00 | 0.027 | *U* | 0.025 | *U* | 0.0184 | *U* | 0.022 | *U* | 0.0182 | *U* | 0.0202 | *U* | 0.0214 | *U* | 0.0208 | *U* |

Analyte Detected
**Analyte Above UUSCO**
Analyte Above Protection of Groundwater
**Analyte Above CUSCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

| *All data in mg/Kg (ppm)* | | | Sample ID | B8 Shallow | | B8 deep | | B9 | | B10 | | B11 | | B12 | | B13 | | B14 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ indicated value* | | | Sample Date | 6/9/2017 | | 6/9/2017 | | 6/9/2017 | | 6/9/2017 | | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | |
| *Data above SCOs shown in* **Bold** | | | Sample Depth | 2-4 feet | | 10.5-11.5 feet bgs | | 10.5-12.5 feet bgs | | 8-9 feet bgs | | 2-4 feet bgs | | 4.5-6 feet bgs | | 6.5-8 feet bgs | | 10-12 feet bgs | |
| **Pesticides, 8081** | **Protection of Groundwater** | **UUSCO** | **CUSCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 4,4'-DDD | 17 | 0.0033 | 92 | 0.00162 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.0029 | *U* | 0.003 | *U* | 0.0032 | *U* | 0.0039 | *U* |
| 4,4'-DDE | 136 | 0.0033 | 62 | 0.00162 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.0029 | *U* | 0.003 | *U* | 0.0032 | *U* | 0.0039 | *U* |
| 4,4'-DDT | 14 | 0.0033 | 47 | 0.00162 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.0029 | *U* | 0.003 | *U* | 0.0032 | *U* | 0.0039 | *U* |
| Aldrin | 0.19 | 0.005 | 0.68 | 0.00162 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.0059 | *U* | 0.006 | *U* | 0.0063 | *U* | 0.0078 | *U* |
| alpha-BHC | 0.02 | 0.02 | 3.4 | 0.00162 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.0012 | *U* | 0.0012 | *U* | 0.0013 | *U* | 0.0016 | *U* |
| alpha-Chlordane | 2.9 | 0.094 | 3.4 | 0.00162 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.0059 | *U* | 0.006 | *U* | 0.0063 | *U* | 0.0078 | *U* |
| beta-BHC | 0.09 | 0.036 | 3 | 0.00162 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.0012 | *U* | 0.0012 | *U* | 0.0013 | *U* | 0.0016 | *U* |
| delta-BHC | 0.25 | 0.04 | 500 | 0.00162 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.0059 | *U* | 0.006 | *U* | 0.0063 | *U* | 0.0078 | *U* |
| Dieldrin | 0.1 | 0.005 | 1.4 | 0.00162 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.0012 | *U* | 0.0012 | *U* | 0.0013 | *U* | 0.0016 | *U* |
| Endosulfan I | 102 | 2.4 | 200 | 0.00162 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.0059 | *U* | 0.006 | *U* | 0.0063 | *U* | 0.0078 | *U* |
| Endosulfan II | 102 | 2.4 | 200 | 0.00162 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.0059 | *U* | 0.006 | *U* | 0.0063 | *U* | 0.0078 | *U* |
| Endosulfan sulfate | 1000 | 2.4 | 200 | 0.00162 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.0059 | *U* | 0.006 | *U* | 0.0063 | *U* | 0.0078 | *U* |
| Endrin | 0.06 | 0.014 | 89 | 0.00162 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.0059 | *U* | 0.006 | *U* | 0.0063 | *U* | 0.0078 | *U* |
| gamma-BHC (Lindane) | 0.1 | 0.1 | 9.2 | 0.00162 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.0012 | *U* | 0.0012 | *U* | 0.0013 | *U* | 0.0016 | *U* |
| Heptachlor | 0.38 | 0.042 | 15 | 0.00162 | *U* | 0.00165 | *U* | 0.00164 | *U* | 0.00165 | *U* | 0.0059 | *U* | 0.006 | *U* | 0.0063 | *U* | 0.0078 | *U* |

| | | | Sample ID | B8 Shallow | | B8 deep | | B9 | | B10 | | B11 | | B12 | | B13 | | B14 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 6/9/2017 | | 6/9/2017 | | 6/9/2017 | | 6/9/2017 | | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | |
| | | | Sample Depth | 2-4 feet | | 10.5-11.5 feet bgs | | 10.5-12.5 feet bgs | | 8-9 feet bgs | | 2-4 feet bgs | | 4.5-6 feet bgs | | 6.5-8 feet bgs | | 10-12 feet bgs | |
| **PCBs, 8082** | **Protection of Groundwater** | **UUSCO** | **CUSCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aroclor 1016 | 3.2 | 0.1 | 1.00 | 0.018 | *U* | 0.0194 | *U* | 0.0311 | *U* | 0.0212 | *U* | 0.029 | *U* | 0.03 | *U* | 0.032 | *U* | 0.039 | *U* |
| Aroclor 1221 | 3.2 | 0.1 | 1.00 | 0.018 | *U* | 0.0194 | *U* | 0.0311 | *U* | 0.0212 | *U* | 0.029 | *U* | 0.03 | *U* | 0.032 | *U* | 0.039 | *U* |
| Aroclor 1232 | 3.2 | 0.1 | 1.00 | 0.018 | *U* | 0.0194 | *U* | 0.0311 | *U* | 0.0212 | *U* | 0.029 | *U* | 0.03 | *U* | 0.032 | *U* | 0.039 | *U* |
| Aroclor 1242 | 3.2 | 0.1 | 1.00 | 0.018 | *U* | 0.0194 | *U* | 0.0311 | *U* | 0.0212 | *U* | 0.029 | *U* | 0.03 | *U* | **0.36** | | 0.039 | *U* |
| Aroclor 1248 | 3.2 | 0.1 | 1.00 | 0.018 | *U* | 0.239 | | 0.0311 | *U* | 0.0212 | *U* | 0.029 | *U* | 0.03 | *U* | 0.032 | *U* | 0.039 | *U* |
| Aroclor 1254 | 3.2 | 0.1 | 1.00 | 0.018 | *U* | 0.0194 | *U* | 0.0311 | *U* | 0.0212 | *U* | 0.029 | *U* | 0.03 | *U* | 0.032 | *U* | 0.039 | *U* |
| Aroclor 1260 | 3.2 | 0.1 | 1.00 | 0.018 | *U* | 0.661 | | 0.0311 | *U* | 0.0212 | *U* | **0.12** | | 0.03 | *U* | **2.4** | | 0.039 | *U* |
| Aroclor, Total | 3.2 | 0.1 | 1.00 | 0.018 | *U* | 0.9 | | 0.0311 | *U* | 0.0212 | *U* | **0.12** | | 0.03 | *U* | **2.8** | | 0.039 | *U* |

Analyte Detected
**Analyte Above UUSCO**
Analyte Above Protection of Groundwater
**Analyte Above CUSCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 4C: PCBs Pesticides in Soil (2017 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | Sample ID | B15 | | B17 | | B19 | | B20 | | HA-1 | | HA-2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ indicated value* | | | Sample Date | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | | 6/8/2017 | | 6/9/2017 | |
| *Data above SCOs shown in* **Bold** | | | Sample Depth | 4-6 feet bgs | | 3-5 feet bgs | | 4-6 feet bgs | | 6-8 feet bgs | | 0-2 feet bgs | | 0-2 feet bgs | |
| **Pesticides, 8081** | **Protection of Groundwater** | **UUSCO** | **CUSCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 4,4'-DDD | 17 | 0.0033 | 92 | 0.013 | *U* | 0.064 | *U* | 0.0027 | *U* | 0.0029 | *U* | 0.00165 | *U* | 0.00164 | *U* |
| 4,4'-DDE | 136 | 0.0033 | 62 | 0.013 | *U* | 0.064 | *U* | 0.0027 | *U* | 0.0029 | *U* | 0.00165 | *U* | 0.00164 | *U* |
| 4,4'-DDT | 14 | 0.0033 | 47 | 0.013 | *U* | 0.064 | *U* | 0.0027 | *U* | 0.0029 | *U* | 0.00165 | *U* | 0.00164 | *U* |
| Aldrin | 0.19 | 0.005 | 0.68 | 0.027 | *U* | **3.1** | | 0.0054 | *U* | 0.0058 | *U* | 0.00165 | *U* | 0.00164 | *U* |
| alpha-BHC | 0.02 | 0.02 | 3.4 | 0.0054 | *U* | 0.026 | *U* | 0.0011 | *U* | 0.0012 | *U* | 0.00165 | *U* | 0.00164 | *U* |
| alpha-Chlordane | 2.9 | 0.094 | 3.4 | 0.027 | *U* | 0.13 | *U* | 0.0054 | *U* | 0.0058 | *U* | 0.00165 | *U* | 0.00164 | *U* |
| beta-BHC | 0.09 | 0.036 | 3 | 0.0054 | *U* | 0.026 | *U* | 0.0011 | *U* | 0.0012 | *U* | 0.00165 | *U* | 0.00164 | *U* |
| delta-BHC | 0.25 | 0.04 | 500 | 0.027 | *U* | 0.13 | *U* | 0.0054 | *U* | 0.0058 | *U* | 0.00165 | *U* | 0.00164 | *U* |
| Dieldrin | 0.1 | 0.005 | 1.4 | 0.0054 | *U* | **2.5** | | 0.0011 | *U* | 0.0012 | *U* | 0.00165 | *U* | 0.00164 | *U* |
| Endosulfan I | 102 | 2.4 | 200 | 0.027 | *U* | 0.13 | *U* | 0.0054 | *U* | 0.0058 | *U* | 0.00165 | *U* | 0.00164 | *U* |
| Endosulfan II | 102 | 2.4 | 200 | 0.027 | *U* | 0.13 | *U* | 0.0054 | *U* | 0.0058 | *U* | 0.00165 | *U* | 0.00164 | *U* |
| Endosulfan sulfate | 1000 | 2.4 | 200 | 0.027 | *U* | 0.13 | *U* | 0.0054 | *U* | 0.0058 | *U* | 0.00165 | *U* | 0.00164 | *U* |
| Endrin | 0.06 | 0.014 | 89 | 0.027 | *U* | 0.13 | *U* | 0.0054 | *U* | 0.0058 | *U* | 0.00165 | *U* | 0.00164 | *U* |
| gamma-BHC (Lindane) | 0.1 | 0.1 | 9.2 | 0.0054 | *U* | 0.026 | *U* | 0.0011 | *U* | 0.0012 | *U* | 0.00165 | *U* | 0.00164 | *U* |
| Heptachlor | 0.38 | 0.042 | 15 | 0.027 | *U* | 0.13 | *U* | 0.0054 | *U* | 0.0058 | *U* | 0.00165 | *U* | 0.00164 | *U* |

| | | | Sample ID | B15 | | B17 | | B19 | | B20 | | HA-1 | | HA-2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | | 7/5/2017 | | 6/8/2017 | | 6/9/2017 | |
| | | | Sample Depth | 4-6 feet bgs | | 3-5 feet bgs | | 4-6 feet bgs | | 6-8 feet bgs | | 0-2 feet bgs | | 0-2 feet bgs | |
| **PCBs, 8082** | **Protection of Groundwater** | **UUSCO** | **CUSCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aroclor 1016 | 3.2 | 0.1 | 1.00 | 0.027 | *U* | 0.16 | *U* | 0.027 | *U* | 0.029 | *U* | 0.019 | *U* | 0.0181 | *U* |
| Aroclor 1221 | 3.2 | 0.1 | 1.00 | 0.027 | *U* | 0.16 | *U* | 0.027 | *U* | 0.029 | *U* | 0.019 | *U* | 0.0181 | *U* |
| Aroclor 1232 | 3.2 | 0.1 | 1.00 | 0.027 | *U* | 0.16 | *U* | 0.027 | *U* | 0.029 | *U* | 0.019 | *U* | 0.0181 | *U* |
| Aroclor 1242 | 3.2 | 0.1 | 1.00 | 0.027 | *U* | 0.16 | *U* | 0.027 | *U* | 0.029 | *U* | 0.019 | *U* | 0.0181 | *U* |
| Aroclor 1248 | 3.2 | 0.1 | 1.00 | 0.027 | *U* | 0.16 | *U* | 0.027 | *U* | 0.029 | *U* | 0.019 | *U* | 0.0181 | *U* |
| Aroclor 1254 | 3.2 | 0.1 | 1.00 | 0.027 | *U* | 0.16 | *U* | 0.027 | *U* | 0.029 | *U* | 0.019 | *U* | 0.0181 | *U* |
| Aroclor 1260 | 3.2 | 0.1 | 1.00 | 0.027 | *U* | **2.3** | | 0.027 | *U* | 0.029 | *U* | 0.019 | *U* | 0.0181 | *U* |
| Aroclor, Total | 3.2 | 0.1 | 1.00 | 0.027 | *U* | **2.3** | | 0.027 | *U* | 0.029 | *U* | 0.019 | *U* | 0.0181 | *U* |

Analyte Detected
**Analyte Above UUSCO**
Analyte Above Protection of Groundwater
**Analyte Above CUSCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

2019-2020 Site Investigation – VOCs in Soil

**Table 1A: VOCs in Soil (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 79th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All 2019 Sample data in mg/Kg (ppm)* | | | | Sample ID | B19N (4-5) | | B19N (7-8) | | B19E (4-5) | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2019-01-25 | | 2019-01-25 | | 2019-01-25 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | |
| **VOCs, 8260** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| 1,1,2-Trichloroethane | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| 1,2,3-Trichlorobenzene | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| 1,2,4-Trichlorobenzene | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 0.1 | *U* | 0.1 | *U* | 0.0013 | *U* |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| 1,2-Dibromoethane | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 0.051 | *U* | 0.051 | *U* | 0.0027 | *U* |
| 1,2-Dichloropropane | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 0.1 | *U* | 0.1 | *U* | 0.0013 | *U* |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| 1,3-Dichloropropane | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 5.1 | *U* | 5.1 | *U* | 0.13 | *U* |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| 2-Hexanone | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| 4-Methyl-2-pentanone | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Acetone | 0.05 | 0.05 | 500 | 0.51 | *U* | 0.51 | *U* | 0.013 | *U* |
| Benzene | 0.06 | 0.06 | 44 | 0.051 | *U* | 0.051 | *U* | 0.0013 | *U* |
| Bromochloromethane | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Bromodichloromethane | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Bromoform | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Bromomethane | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Carbon disulfide | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Chlorobenzene | 1.1 | 1.1 | 500 | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Chloroethane | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Chloroform | 0.37 | 0.37 | 350 | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Chloromethane | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| cis-1,3-Dichloropropylene | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Cyclohexane | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Dibromochloromethane | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Dichlorodifluoromethane | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Ethyl Benzene | 1 | 1 | 390 | 0.1 | *U* | 0.1 | *U* | 0.0013 | *U* |
| Isopropylbenzene | NA | 2.3 | NA | 0.1 | *U* | 0.1 | *U* | 0.0013 | *U* |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 0.1 | *U* | 0.1 | *U* | 0.0013 | *U* |
| Methyl acetate | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Methylcyclohexane | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Methylene chloride | 0.05 | 0.05 | 500 | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 0.051 | *U* | 0.051 | *U* | 0.0013 | *U* |
| n-Butylbenzene | 12 | 12 | 500 | 0.1 | *U* | 0.1 | *U* | 0.0013 | *U* |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 0.1 | *U* | 0.1 | *U* | 0.0013 | *U* |
| o-Xylene | 1.6 | 0.26 | 500 | 0.1 | *U* | 0.1 | *U* | 0.0013 | *U* |
| sec-Butylbenzene | 11 | 11 | 500 | 0.1 | *U* | 0.1 | *U* | 0.0013 | *U* |
| Styrene | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 0.1 | *U* | 0.1 | *U* | 0.0013 | *U* |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 7.4 | | 2.6 | | 0.0027 | *U* |
| Toluene | 0.7 | 0.7 | 500 | 0.1 | *U* | 0.1 | *U* | 0.0013 | *U* |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| trans-1,3-Dichloropropylene | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | 0.14 | | 0.1 | *U* | 0.056 | |
| Trichlorofluoromethane | NA | NA | NA | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | 0.1 | *U* | 0.1 | *U* | 0.0027 | *U* |
| Xylenes, Total | 1.6 | 0.26 | 500 | 0.1 | *U* | 0.1 | *U* | 0.0013 | *U* |
| Total TICs | NA | NA | NA | ND | | ND | | 0.004 | *J* |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

| *All 2019 Sample data in mg/Kg (ppm)* | | | | Sample ID | B19E (5-6) | | B19S (4) | | B19S (7) | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2019-01-25 | | 2019-02-11 | | 2019-02-11 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | |
| **VOCs, 8260** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| 1,1,2-Trichloroethane | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| 1,2,3-Trichlorobenzene | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| 1,2,4-Trichlorobenzene | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | | 0.096 | *U* | 0.11 | *U* | 0.0011 | *U* |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| 1,2-Dibromoethane | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.00088 | *U* |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | | 0.048 | *U* | 0.055 | *U* | 0.0022 | *U* |
| 1,2-Dichloropropane | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | | 0.096 | *U* | 0.11 | *U* | 0.0011 | *U* |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| 1,3-Dichloropropane | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | | 4.8 | *U* | 5.5 | *U* | 0.11 | *U* |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| 2-Hexanone | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| 4-Methyl-2-pentanone | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| Acetone | 0.05 | 0.05 | 500 | | 0.48 | *U* | 0.55 | *U* | 0.011 | *U* |
| Benzene | 0.06 | 0.06 | 44 | | 0.048 | *U* | 0.055 | *U* | 0.0011 | *U* |
| Bromochloromethane | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| Bromodichloromethane | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| Bromoform | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| Bromomethane | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| Carbon disulfide | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0043 | |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| Chlorobenzene | 1.1 | 1.1 | 500 | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| Chloroethane | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| Chloroform | 0.37 | 0.37 | 350 | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| Chloromethane | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| cis-1,3-Dichloropropylene | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| Cyclohexane | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| Dibromochloromethane | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| Dichlorodifluoromethane | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| Ethyl Benzene | 1 | 1 | 390 | | 0.096 | *U* | 0.11 | *U* | 0.0011 | *U* |
| Isopropylbenzene | NA | 2.3 | NA | | 0.096 | *U* | 0.11 | *U* | 0.0011 | *U* |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | | 0.096 | *U* | 0.11 | *U* | 0.0011 | *U* |
| Methyl acetate | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| Methylcyclohexane | NA | NA | NA | | 0.096 | *U* | 0.13 | | 0.0022 | *U* |
| Methylene chloride | 0.05 | 0.05 | 500 | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | | 0.048 | *U* | 0.055 | *U* | 0.0011 | *U* |
| n-Butylbenzene | 12 | 12 | 500 | | 0.096 | *U* | 0.11 | *U* | 0.0011 | *U* |
| n-Propylbenzene | 3.9 | 3.9 | 500 | | 0.096 | *U* | 0.11 | *U* | 0.0011 | *U* |
| o-Xylene | 1.6 | 0.26 | 500 | | 0.096 | *U* | 0.11 | *U* | 0.0011 | *U* |
| sec-Butylbenzene | 11 | 11 | 500 | | 0.096 | *U* | 0.11 | *U* | 0.0011 | *U* |
| Styrene | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | | 0.096 | *U* | 0.11 | *U* | 0.0011 | *U* |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | | 0.24 | | 18 | | 0.0022 | *U* |
| Toluene | 0.7 | 0.7 | 500 | | 0.096 | *U* | 0.17 | | 0.0011 | *U* |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| trans-1,3-Dichloropropylene | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | | 34 | | 2.5 | | 0.0022 | *U* |
| Trichlorofluoromethane | NA | NA | NA | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | | 0.096 | *U* | 0.11 | *U* | 0.0022 | *U* |
| Xylenes, Total | 1.6 | 0.26 | 500 | | 0.096 | *U* | 0.11 | *U* | 0.0011 | *U* |
| Total TICs | NA | NA | NA | | ND | | ND | | ND | |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

| *All 2019 Sample data in mg/Kg (ppm)* | | | | Sample ID | B19W (3-4) | | B19W (5-6) | | B29 (6.5-7.5) Grab | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2019-01-25 | | 2019-01-25 | | 2019-01-25 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | |
| **VOCs, 8260** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| 1,1,2-Trichloroethane | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| 1,2,3-Trichlorobenzene | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| 1,2,4-Trichlorobenzene | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 0.27 | | 0.62 | | 0.0011 | *U* |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| 1,2-Dibromoethane | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 0.054 | *U* | 0.042 | *U* | 0.0011 | *U* |
| 1,2-Dichloropropane | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 0.11 | *U* | 0.14 | | 0.0011 | *U* |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| 1,3-Dichloropropane | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 5.4 | *U* | 4.2 | *U* | 0.11 | *U* |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 0.11 | *U* | 0.085 | *U* | 0.016 | |
| 2-Hexanone | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| 4-Methyl-2-pentanone | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| Acetone | 0.05 | 0.05 | 500 | 0.54 | *U* | 0.42 | *U* | 0.058 | |
| Benzene | 0.06 | 0.06 | 44 | 0.054 | *U* | 0.042 | *U* | 0.0011 | *U* |
| Bromochloromethane | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| Bromodichloromethane | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| Bromoform | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| Bromomethane | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| Carbon disulfide | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0042 | |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| Chlorobenzene | 1.1 | 1.1 | 500 | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| Chloroethane | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| Chloroform | 0.37 | 0.37 | 350 | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| Chloromethane | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | 0.41 | | 1.4 | | 0.0021 | *U* |
| cis-1,3-Dichloropropylene | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| Cyclohexane | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| Dibromochloromethane | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| Dichlorodifluoromethane | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| Ethyl Benzene | 1 | 1 | 390 | 0.11 | *U* | 0.085 | *U* | 0.0011 | *U* |
| Isopropylbenzene | NA | 2.3 | NA | 0.11 | *U* | 0.085 | *U* | 0.0011 | *U* |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 0.11 | *U* | 0.085 | *U* | 0.0011 | *U* |
| Methyl acetate | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| Methylcyclohexane | NA | NA | NA | 0.11 | *U* | 0.14 | | 0.0021 | *U* |
| Methylene chloride | 0.05 | 0.05 | 500 | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 0.054 | *U* | 0.042 | *U* | 0.0011 | *U* |
| n-Butylbenzene | 12 | 12 | 500 | 0.11 | *U* | 0.44 | | 0.0011 | *U* |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 0.11 | *U* | 0.085 | *U* | 0.0011 | *U* |
| o-Xylene | 1.6 | 0.26 | 500 | 0.11 | *U* | 0.11 | | 0.0011 | *U* |
| sec-Butylbenzene | 11 | 11 | 500 | 0.11 | *U* | 0.085 | *U* | 0.0011 | *U* |
| Styrene | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 0.11 | *U* | 0.085 | *U* | 0.0011 | *U* |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 4.8 | | 27 | | 0.0021 | *U* |
| Toluene | 0.7 | 0.7 | 500 | 0.11 | *U* | 0.085 | *U* | 0.0011 | *U* |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 0.11 | *U* | 0.12 | | 0.0021 | *U* |
| trans-1,3-Dichloropropylene | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | 0.79 | | 1.7 | | 0.0022 | |
| Trichlorofluoromethane | NA | NA | NA | 0.11 | *U* | 0.085 | *U* | 0.0021 | *U* |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | 0.43 | | 0.085 | *U* | 0.0021 | *U* |
| Xylenes, Total | 1.6 | 0.26 | 500 | 0.11 | *U* | 0.11 | | 0.0011 | *U* |
| Total TICs | NA | NA | NA | 5.5 | *J* | 3.8 | *J* | 2.1 | *J* |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 1A: VOCs in Soil (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 79th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All 2019 Sample data in mg/Kg (ppm)* | | | | Sample ID | B30 (0-6") Grab | | B30 (6-8) Grab | | B30N18 (9) | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2019-01-25 | | 2019-01-25 | | 2020-01-28 | |
| | | | | Dilution Factor | 1 | | 1 | | 768 | |
| **VOCs, 8260** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| 1,1,2-Trichloroethane | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| 1,2,3-Trichlorobenzene | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| 1,2,4-Trichlorobenzene | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 0.0014 | *U* | 3.9 | *U* | 0.94 | *U* |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| 1,2-Dibromoethane | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 0.0014 | *U* | 2 | *U* | 0.98 | |
| 1,2-Dichloropropane | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 0.0014 | *U* | 3.9 | *U* | 0.94 | *U* |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| 1,3-Dichloropropane | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 0.14 | *U* | 200 | *U* | 47 | *U* |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| 2-Hexanone | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| 4-Methyl-2-pentanone | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Acetone | 0.05 | 0.05 | 500 | 0.014 | *U* | 20 | *U* | 4.7 | *U* |
| Benzene | 0.06 | 0.06 | 44 | 0.0014 | *U* | 2 | *U* | 0.47 | *U* |
| Bromochloromethane | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Bromodichloromethane | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Bromoform | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Bromomethane | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Carbon disulfide | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Chlorobenzene | 1.1 | 1.1 | 500 | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Chloroethane | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Chloroform | 0.37 | 0.37 | 350 | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Chloromethane | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | 0.0028 | *U* | **1,900** | | 0.94 | *U* |
| cis-1,3-Dichloropropylene | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Cyclohexane | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Dibromochloromethane | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Dichlorodifluoromethane | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Ethyl Benzene | 1 | 1 | 390 | 0.0014 | *U* | 3.9 | *U* | 0.94 | *U* |
| Isopropylbenzene | NA | 2.3 | NA | 0.0014 | *U* | 3.9 | *U* | 0.94 | *U* |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 0.0014 | *U* | 3.9 | *U* | 0.94 | *U* |
| Methyl acetate | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Methylcyclohexane | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Methylene chloride | 0.05 | 0.05 | 500 | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 0.0014 | *U* | 2 | *U* | 0.47 | *U* |
| n-Butylbenzene | 12 | 12 | 500 | 0.0014 | *U* | 3.9 | *U* | 0.94 | *U* |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 0.0014 | *U* | 3.9 | *U* | 0.94 | *U* |
| o-Xylene | 1.6 | 0.26 | 500 | 0.0014 | *U* | 3.9 | *U* | 0.94 | *U* |
| sec-Butylbenzene | 11 | 11 | 500 | 0.0014 | *U* | 3.9 | *U* | 0.94 | *U* |
| Styrene | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 0.0014 | *U* | 3.9 | *U* | 0.94 | *U* |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 0.0028 | *U* | 5.8 | | 8.6 | |
| Toluene | 0.7 | 0.7 | 500 | 0.0014 | *U* | 3.9 | *U* | 0.94 | *U* |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 0.0028 | *U* | 7.3 | | 5.7 | |
| trans-1,3-Dichloropropylene | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | 0.0028 | *U* | **1,300** | | 140 | |
| Trichlorofluoromethane | NA | NA | NA | 0.0028 | *U* | 3.9 | *U* | 0.94 | *U* |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | 0.0028 | *U* | 5.4 | | 3.7 | |
| Xylenes, Total | 1.6 | 0.26 | 500 | 0.0014 | *U* | 3.9 | *U* | 0.94 | *U* |
| Total TICs | NA | NA | NA | 0.005 | | ND | | ND | |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

| *All 2019 Sample data in mg/Kg (ppm)* | | | | Sample ID | B30N18 (14) | | B30E7 (9) | | B30E7 (14) | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2020-01-28 | | 2020-01-28 | | 2020-01-28 | |
| | | | | Dilution Factor | 0.873 | | 1050 | | 79.9 | |
| **VOCs, 8260** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 0.002 | U | 1.4 | U | 0.095 | U |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| 1,1,2-Trichloroethane | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 0.002 | U | 1.4 | U | 0.095 | U |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 0.002 | U | 1.4 | U | 0.095 | U |
| 1,2,3-Trichlorobenzene | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| 1,2,4-Trichlorobenzene | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 0.001 | U | 1.4 | U | 0.095 | U |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| 1,2-Dibromoethane | NA | NA | NA | 0.00079 | U | 1.4 | U | 0.095 | U |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 0.002 | U | 1.4 | U | 0.095 | U |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 0.002 | U | 0.72 | U | 0.048 | U |
| 1,2-Dichloropropane | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 0.001 | U | 1.4 | U | 0.095 | U |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 0.002 | U | 1.4 | U | 0.095 | U |
| 1,3-Dichloropropane | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 0.1 | U | 72 | U | 4.8 | U |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 0.002 | U | 1.4 | U | 0.095 | U |
| 2-Hexanone | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| 4-Methyl-2-pentanone | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| Acetone | 0.05 | 0.05 | 500 | 0.01 | U | 7.2 | U | 0.48 | U |
| Benzene | 0.06 | 0.06 | 44 | 0.001 | U | 0.72 | U | 0.048 | U |
| Bromochloromethane | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| Bromodichloromethane | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| Bromoform | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| Bromomethane | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| Carbon disulfide | NA | NA | NA | 0.012 | | 1.4 | U | 0.095 | U |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 0.002 | U | 1.4 | U | 0.095 | U |
| Chlorobenzene | 1.1 | 1.1 | 500 | 0.002 | U | 1.4 | U | 0.095 | U |
| Chloroethane | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| Chloroform | 0.37 | 0.37 | 350 | 0.002 | U | 1.4 | U | 0.095 | U |
| Chloromethane | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | 0.002 | U | 160 | | 3.3 | |
| cis-1,3-Dichloropropylene | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| Cyclohexane | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| Dibromochloromethane | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| Dichlorodifluoromethane | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| Ethyl Benzene | 1 | 1 | 390 | 0.001 | U | 1.4 | U | 0.095 | U |
| Isopropylbenzene | NA | 2.3 | NA | 0.001 | U | 1.4 | U | 0.095 | U |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 0.001 | U | 1.4 | U | 0.095 | U |
| Methyl acetate | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| Methylcyclohexane | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| Methylene chloride | 0.05 | 0.05 | 500 | 0.0034 | | 1.4 | U | 0.095 | U |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 0.001 | U | 0.72 | U | 0.048 | U |
| n-Butylbenzene | 12 | 12 | 500 | 0.001 | U | 1.4 | U | 0.095 | U |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 0.001 | U | 1.4 | U | 0.095 | U |
| o-Xylene | 1.6 | 0.26 | 500 | 0.001 | U | 1.4 | U | 0.095 | U |
| sec-Butylbenzene | 11 | 11 | 500 | 0.001 | U | 1.4 | U | 0.095 | U |
| Styrene | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 0.001 | U | 1.4 | U | 0.095 | U |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 0.002 | U | 3.5 | | 0.095 | U |
| Toluene | 0.7 | 0.7 | 500 | 0.001 | U | 1.4 | U | 0.095 | U |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 0.002 | U | 2.7 | | 0.095 | U |
| trans-1,3-Dichloropropylene | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | 0.002 | U | 72 | | 0.095 | U |
| Trichlorofluoromethane | NA | NA | NA | 0.002 | U | 1.4 | U | 0.095 | U |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | 0.002 | U | **32** | | 1.3 | |
| Xylenes, Total | 1.6 | 0.26 | 500 | 0.001 | U | 1.4 | U | 0.095 | U |
| Total TICs | NA | NA | NA | ND | | ND | | ND | |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

| *All 2019 Sample data in mg/Kg (ppm)* | | | | Sample ID | B30S10 (9) | | B30S10 (10) | | B30S10 (13) | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2020-01-28 | | 2020-01-28 | | 2020-01-28 | |
| | | | | Dilution Factor | 1950 | | 9520 | | 82 | |
| **VOCs, 8260** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| 1,1,2-Trichloroethane | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| 1,2,3-Trichlorobenzene | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| 1,2,4-Trichlorobenzene | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| 1,2-Dibromoethane | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 2 | *U* | 7.4 | *U* | 0.049 | *U* |
| 1,2-Dichloropropane | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| 1,3-Dichloropropane | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 200 | *U* | 740 | *U* | 4.9 | *U* |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| 2-Hexanone | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| 4-Methyl-2-pentanone | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Acetone | 0.05 | 0.05 | 500 | 20 | *U* | 74 | *U* | 0.49 | *U* |
| Benzene | 0.06 | 0.06 | 44 | 2 | *U* | 7.4 | *U* | 0.049 | *U* |
| Bromochloromethane | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Bromodichloromethane | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Bromoform | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Bromomethane | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Carbon disulfide | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Chlorobenzene | 1.1 | 1.1 | 500 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Chloroethane | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Chloroform | 0.37 | 0.37 | 350 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Chloromethane | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | 39 | | 320 | | 8.8 | |
| cis-1,3-Dichloropropylene | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Cyclohexane | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Dibromochloromethane | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Dichlorodifluoromethane | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Ethyl Benzene | 1 | 1 | 390 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Isopropylbenzene | NA | 2.3 | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Methyl acetate | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Methylcyclohexane | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Methylene chloride | 0.05 | 0.05 | 500 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 2 | *U* | 7.4 | *U* | 0.049 | *U* |
| n-Butylbenzene | 12 | 12 | 500 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| o-Xylene | 1.6 | 0.26 | 500 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| sec-Butylbenzene | 11 | 11 | 500 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Styrene | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 28 | | 59 | | 0.099 | *U* |
| Toluene | 0.7 | 0.7 | 500 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| trans-1,3-Dichloropropylene | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | **730** | | **4,800** | | 0.099 | *U* |
| Trichlorofluoromethane | NA | NA | NA | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | 4 | *U* | 15 | *U* | 2.9 | |
| Xylenes, Total | 1.6 | 0.26 | 500 | 4 | *U* | 15 | *U* | 0.099 | *U* |
| Total TICs | NA | NA | NA | ND | | ND | | ND | |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

| *All 2019 Sample data in mg/Kg (ppm)* | | | | Sample ID | B30W18 (7.5) | | B30W18 (11.5) | | B31 (1) | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2020-01-28 | | 2020-01-28 | | 2019-02-11 | |
| | | | | Dilution Factor | 2090 | | 78.7 | | 1 | |
| **VOCs, 8260** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| 1,1,2-Trichloroethane | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| 1,2,3-Trichlorobenzene | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| 1,2,4-Trichlorobenzene | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 2.8 | *U* | 0.096 | *U* | 0.00097 | *U* |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| 1,2-Dibromoethane | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.00076 | *U* |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 1.4 | *U* | 0.048 | *U* | 0.0019 | *U* |
| 1,2-Dichloropropane | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 2.8 | *U* | 0.096 | *U* | 0.00097 | *U* |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| 1,3-Dichloropropane | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 140 | *U* | 4.8 | *U* | 0.097 | *U* |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| 2-Hexanone | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| 4-Methyl-2-pentanone | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Acetone | 0.05 | 0.05 | 500 | 14 | *U* | 0.48 | *U* | 0.038 | |
| Benzene | 0.06 | 0.06 | 44 | 1.4 | *U* | 0.048 | *U* | 0.00097 | *U* |
| Bromochloromethane | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Bromodichloromethane | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Bromoform | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Bromomethane | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Carbon disulfide | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Chlorobenzene | 1.1 | 1.1 | 500 | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Chloroethane | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Chloroform | 0.37 | 0.37 | 350 | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Chloromethane | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | **610** | | 4.7 | | 0.0019 | *U* |
| cis-1,3-Dichloropropylene | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Cyclohexane | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Dibromochloromethane | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Dichlorodifluoromethane | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Ethyl Benzene | 1 | 1 | 390 | 2.8 | *U* | 0.096 | *U* | 0.0028 | |
| Isopropylbenzene | NA | 2.3 | NA | 2.8 | *U* | 0.096 | *U* | 0.00097 | *U* |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 2.8 | *U* | 0.096 | *U* | 0.014 | |
| Methyl acetate | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Methylcyclohexane | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Methylene chloride | 0.05 | 0.05 | 500 | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 1.4 | *U* | 0.048 | *U* | 0.00097 | *U* |
| n-Butylbenzene | 12 | 12 | 500 | 2.8 | *U* | 0.096 | *U* | 0.00097 | *U* |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 2.8 | *U* | 0.096 | *U* | 0.00097 | *U* |
| o-Xylene | 1.6 | 0.26 | 500 | 2.8 | *U* | 0.096 | *U* | 0.0059 | |
| sec-Butylbenzene | 11 | 11 | 500 | 2.8 | *U* | 0.096 | *U* | 0.00097 | *U* |
| Styrene | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 2.8 | *U* | 0.096 | *U* | 0.00097 | *U* |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Toluene | 0.7 | 0.7 | 500 | 2.8 | *U* | 0.096 | *U* | 0.00097 | *U* |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 22 | | 0.096 | *U* | 0.0019 | *U* |
| trans-1,3-Dichloropropylene | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | **280** | | 0.096 | *U* | 0.0019 | *U* |
| Trichlorofluoromethane | NA | NA | NA | 2.8 | *U* | 0.096 | *U* | 0.0019 | *U* |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | **15** | | 5.3 | | 0.0019 | *U* |
| Xylenes, Total | 1.6 | 0.26 | 500 | 2.8 | *U* | 0.096 | *U* | 0.02 | |
| Total TICs | NA | NA | NA | ND | | ND | | 0.009 | *J* |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

| *All 2019 Sample data in mg/Kg (ppm)* | | | | Sample ID | B31 (12) | | B32 (11.5) | | B33 (1) | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2019-02-11 | | 2019-02-11 | | 2019-02-11 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | |
| **VOCs, 8260** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| 1,1,2-Trichloroethane | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| 1,2,3-Trichlorobenzene | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| 1,2,4-Trichlorobenzene | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 0.0011 | *U* | 0.0016 | *U* | 0.00092 | *U* |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| 1,2-Dibromoethane | NA | NA | NA | 0.00085 | *U* | 0.0013 | *U* | 0.00072 | *U* |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| 1,2-Dichloropropane | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 0.0011 | *U* | 0.0016 | *U* | 0.00092 | *U* |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| 1,3-Dichloropropane | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 0.11 | *U* | 0.16 | *U* | 0.092 | *U* |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| 2-Hexanone | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| 4-Methyl-2-pentanone | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Acetone | 0.05 | 0.05 | 500 | 0.026 | | 0.068 | | 0.0092 | *U* |
| Benzene | 0.06 | 0.06 | 44 | 0.0011 | *U* | 0.0016 | *U* | 0.00092 | *U* |
| Bromochloromethane | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Bromodichloromethane | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Bromoform | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Bromomethane | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Carbon disulfide | NA | NA | NA | 0.0022 | *U* | 0.041 | | 0.0018 | *U* |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Chlorobenzene | 1.1 | 1.1 | 500 | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Chloroethane | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Chloroform | 0.37 | 0.37 | 350 | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Chloromethane | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | 0.0022 | *U* | 0.069 | | 0.0018 | *U* |
| cis-1,3-Dichloropropylene | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Cyclohexane | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Dibromochloromethane | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Dichlorodifluoromethane | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Ethyl Benzene | 1 | 1 | 390 | 0.0011 | *U* | 0.0016 | *U* | 0.00092 | *U* |
| Isopropylbenzene | NA | 2.3 | NA | 0.0011 | *U* | 0.0016 | *U* | 0.00092 | *U* |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 0.0011 | *U* | 0.0016 | *U* | 0.00092 | *U* |
| Methyl acetate | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Methylcyclohexane | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Methylene chloride | 0.05 | 0.05 | 500 | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 0.0011 | *U* | 0.0016 | *U* | 0.00092 | *U* |
| n-Butylbenzene | 12 | 12 | 500 | 0.0015 | | 0.0016 | *U* | 0.00092 | *U* |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 0.0011 | *U* | 0.0016 | *U* | 0.00092 | *U* |
| o-Xylene | 1.6 | 0.26 | 500 | 0.0011 | *U* | 0.0016 | *U* | 0.00092 | *U* |
| sec-Butylbenzene | 11 | 11 | 500 | 0.0011 | *U* | 0.0016 | *U* | 0.00092 | *U* |
| Styrene | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 0.0011 | *U* | 0.0016 | *U* | 0.00092 | *U* |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Toluene | 0.7 | 0.7 | 500 | 0.0011 | *U* | 0.0022 | | 0.00092 | *U* |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 0.0022 | *U* | 0.0049 | | 0.0018 | *U* |
| trans-1,3-Dichloropropylene | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Trichlorofluoromethane | NA | NA | NA | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | 0.0022 | *U* | 0.0032 | *U* | 0.0018 | *U* |
| Xylenes, Total | 1.6 | 0.26 | 500 | 0.0011 | *U* | 0.0016 | *U* | 0.00092 | *U* |
| Total TICs | NA | NA | NA | 0.47 | *J* | 0.13 | *J* | ND | |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

| *All 2019 Sample data in mg/Kg (ppm)* | | | | Sample ID | B33 (9) | | B34 (9) | | B34 (14) | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2019-02-11 | | 2020-01-29 | | 2020-01-29 | |
| | | | | Dilution Factor | 1 | | 0.956 | | 0.784 | |
| **VOCs, 8260** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| 1,1,2-Trichloroethane | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| 1,2,3-Trichlorobenzene | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| 1,2,4-Trichlorobenzene | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 0.0014 | *U* | 0.0014 | *U* | 0.00096 | *U* |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| 1,2-Dibromoethane | NA | NA | NA | 0.0011 | *U* | 0.0011 | *U* | 0.00075 | *U* |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| 1,2-Dichloropropane | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 0.0014 | *U* | 0.0019 | | 0.00096 | *U* |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| 1,3-Dichloropropane | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 0.14 | *U* | 0.14 | *U* | 0.096 | *U* |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 0.0027 | *U* | 0.085 | | 0.0037 | |
| 2-Hexanone | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| 4-Methyl-2-pentanone | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| Acetone | 0.05 | 0.05 | 500 | 0.08 | | 0.33 | | 0.018 | |
| Benzene | 0.06 | 0.06 | 44 | 0.0014 | *U* | 0.0014 | *U* | 0.00096 | *U* |
| Bromochloromethane | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| Bromodichloromethane | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| Bromoform | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| Bromomethane | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| Carbon disulfide | NA | NA | NA | 0.017 | | 0.0051 | | 0.0085 | |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| Chlorobenzene | 1.1 | 1.1 | 500 | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| Chloroethane | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| Chloroform | 0.37 | 0.37 | 350 | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| Chloromethane | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | 0.016 | | 0.0038 | | 0.0019 | *U* |
| cis-1,3-Dichloropropylene | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| Cyclohexane | NA | NA | NA | 0.0027 | *U* | 0.0037 | | 0.0019 | *U* |
| Dibromochloromethane | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| Dichlorodifluoromethane | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| Ethyl Benzene | 1 | 1 | 390 | 0.0014 | *U* | 0.0018 | | 0.00096 | *U* |
| Isopropylbenzene | NA | 2.3 | NA | 0.0014 | *U* | 0.0031 | | 0.00096 | *U* |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 0.0014 | *U* | 0.0046 | | 0.00096 | *U* |
| Methyl acetate | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| Methylcyclohexane | NA | NA | NA | 0.0027 | *U* | 0.0078 | | 0.0019 | *U* |
| Methylene chloride | 0.05 | 0.05 | 500 | 0.0027 | *U* | 0.0027 | *U* | 0.0045 | |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 0.0014 | *U* | 0.0014 | *U* | 0.00096 | *U* |
| n-Butylbenzene | 12 | 12 | 500 | 0.0014 | *U* | 0.0014 | *U* | 0.00096 | *U* |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 0.0014 | *U* | 0.0014 | *U* | 0.00096 | *U* |
| o-Xylene | 1.6 | 0.26 | 500 | 0.0014 | *U* | 0.003 | | 0.00096 | *U* |
| sec-Butylbenzene | 11 | 11 | 500 | 0.0014 | *U* | 0.0014 | *U* | 0.00096 | *U* |
| Styrene | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 0.0014 | *U* | 0.0014 | *U* | 0.00096 | *U* |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| Toluene | 0.7 | 0.7 | 500 | 0.0014 | *U* | 0.0014 | *U* | 0.00096 | *U* |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| trans-1,3-Dichloropropylene | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | 0.0046 | | 0.0027 | *U* | 0.0019 | *U* |
| Trichlorofluoromethane | NA | NA | NA | 0.0027 | *U* | 0.0027 | *U* | 0.0019 | *U* |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | 0.028 | | 0.0027 | *U* | 0.0019 | *U* |
| Xylenes, Total | 1.6 | 0.26 | 500 | 0.0014 | *U* | 0.0076 | | 0.00096 | *U* |
| Total TICs | NA | NA | NA | ND | | 0.89 | *J* | ND | |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 1A: VOCs in Soil (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 79th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All 2019 Sample data in mg/Kg (ppm)* | | | | Sample ID | B35 (9) | | B35 (13) | | B36 (8) | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2020-01-29 | | 2020-01-29 | | 2020-01-29 | |
| | | | | Dilution Factor | 231 | | 0.789 | | 114 | |
| **VOCs, 8260** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 0.34 | U | 0.0019 | U | 0.2 | U |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| 1,1,2-Trichloroethane | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 0.34 | U | 0.0019 | U | 0.2 | U |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 0.34 | U | 0.0019 | U | 0.2 | U |
| 1,2,3-Trichlorobenzene | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| 1,2,4-Trichlorobenzene | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 0.34 | U | 0.0094 | U | 0.2 | U |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| 1,2-Dibromoethane | NA | NA | NA | 0.34 | U | 0.00073 | U | 0.2 | U |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 0.34 | U | 0.0019 | U | 0.2 | U |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 0.17 | U | 0.0019 | U | 0.1 | U |
| 1,2-Dichloropropane | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 0.34 | U | 0.0094 | U | 0.2 | U |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 0.34 | U | 0.0019 | U | 0.2 | U |
| 1,3-Dichloropropane | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 17 | U | 0.094 | U | 10 | U |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 0.34 | U | 0.0019 | U | 0.2 | U |
| 2-Hexanone | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| 4-Methyl-2-pentanone | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| Acetone | 0.05 | 0.05 | 500 | 1.7 | U | 0.0094 | U | 1 | U |
| Benzene | 0.06 | 0.06 | 44 | 0.17 | U | 0.00094 | U | 0.1 | U |
| Bromochloromethane | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| Bromodichloromethane | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| Bromoform | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| Bromomethane | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| Carbon disulfide | NA | NA | NA | 0.34 | U | 0.0037 | | 0.2 | U |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 0.34 | U | 0.0019 | U | 0.2 | U |
| Chlorobenzene | 1.1 | 1.1 | 500 | 0.34 | U | 0.0019 | U | 0.2 | U |
| Chloroethane | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| Chloroform | 0.37 | 0.37 | 350 | 0.34 | U | 0.0019 | U | 0.2 | U |
| Chloromethane | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | 110 | | 0.0019 | U | 0.49 | |
| cis-1,3-Dichloropropylene | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| Cyclohexane | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| Dibromochloromethane | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| Dichlorodifluoromethane | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| Ethyl Benzene | 1 | 1 | 390 | 0.62 | | 0.00094 | U | 0.2 | U |
| Isopropylbenzene | NA | 2.3 | NA | 0.34 | U | 0.00094 | U | 0.2 | U |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 1.3 | | 0.00094 | U | 0.2 | U |
| Methyl acetate | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| Methylcyclohexane | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.61 | |
| Methylene chloride | 0.05 | 0.05 | 500 | 0.34 | U | 0.0019 | U | 0.2 | U |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 0.17 | U | 0.00094 | U | 0.1 | U |
| n-Butylbenzene | 12 | 12 | 500 | 0.34 | U | 0.0094 | U | 0.2 | U |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 0.34 | U | 0.0094 | U | 0.2 | U |
| o-Xylene | 1.6 | 0.26 | 500 | 0.39 | | 0.00094 | U | 0.2 | U |
| sec-Butylbenzene | 11 | 11 | 500 | 0.34 | U | 0.0094 | U | 0.2 | U |
| Styrene | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 0.34 | U | 0.0094 | U | 0.2 | U |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 0.34 | U | 0.0019 | U | 0.2 | U |
| Toluene | 0.7 | 0.7 | 500 | 0.52 | | 0.00094 | U | 0.2 | U |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 28 | | 0.0019 | U | 0.2 | U |
| trans-1,3-Dichloropropylene | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | 59 | | 0.0019 | U | 0.2 | U |
| Trichlorofluoromethane | NA | NA | NA | 0.34 | U | 0.0019 | U | 0.2 | U |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | 3.8 | | 0.0019 | U | 0.2 | U |
| Xylenes, Total | 1.6 | 0.26 | 500 | 1.7 | | 0.00094 | U | 0.2 | U |
| Total TICs | NA | NA | NA | 47 | J | 0.003 | J | 98 | J |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

| *All 2019 Sample data in mg/Kg (ppm)* | | | | Sample ID | B36 (11.5) | | DUP 20200129 Grab | | SV-2 (1) | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2020-01-29 | | 2020-01-29 | | 2019-02-11 | |
| | | | | Dilution Factor | 87 | | 91.7 | | 1 | |
| **VOCs, 8260** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| 1,1,2-Trichloroethane | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| 1,2,3-Trichlorobenzene | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| 1,2,4-Trichlorobenzene | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 0.11 | *U* | 0.11 | *U* | 0.0012 | *U* |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| 1,2-Dibromoethane | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.00097 | *U* |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 0.057 | *U* | 0.055 | *U* | 0.0025 | *U* |
| 1,2-Dichloropropane | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 0.11 | *U* | 0.11 | *U* | 0.0012 | *U* |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| 1,3-Dichloropropane | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 5.7 | *U* | 5.5 | *U* | 0.12 | *U* |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| 2-Hexanone | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| 4-Methyl-2-pentanone | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Acetone | 0.05 | 0.05 | 500 | 0.57 | *U* | 0.55 | *U* | 0.012 | *U* |
| Benzene | 0.06 | 0.06 | 44 | 0.057 | *U* | 0.055 | *U* | 0.0012 | *U* |
| Bromochloromethane | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Bromodichloromethane | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Bromoform | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Bromomethane | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Carbon disulfide | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Chlorobenzene | 1.1 | 1.1 | 500 | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Chloroethane | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Chloroform | 0.37 | 0.37 | 350 | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Chloromethane | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | 0.11 | *U* | 0.11 | *U* | 0.013 | |
| cis-1,3-Dichloropropylene | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Cyclohexane | NA | NA | NA | 0.31 | | 0.21 | | 0.0025 | *U* |
| Dibromochloromethane | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Dichlorodifluoromethane | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Ethyl Benzene | 1 | 1 | 390 | 0.11 | *U* | 0.11 | *U* | 0.0012 | *U* |
| Isopropylbenzene | NA | 2.3 | NA | 0.47 | | 0.31 | | 0.0012 | *U* |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 0.11 | *U* | 0.11 | *U* | 0.0012 | *U* |
| Methyl acetate | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Methylcyclohexane | NA | NA | NA | 2.5 | | 1.7 | | 0.0025 | *U* |
| Methylene chloride | 0.05 | 0.05 | 500 | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 0.057 | *U* | 0.055 | *U* | 0.0012 | *U* |
| n-Butylbenzene | 12 | 12 | 500 | 3.1 | | 2.3 | | 0.0012 | *U* |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 0.88 | | 0.57 | | 0.0012 | *U* |
| o-Xylene | 1.6 | 0.26 | 500 | 0.11 | *U* | 0.11 | *U* | 0.0012 | *U* |
| sec-Butylbenzene | 11 | 11 | 500 | 1.4 | | 0.95 | | 0.0012 | *U* |
| Styrene | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 1.11 | *U* | 0.11 | *U* | 0.0012 | *U* |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Toluene | 0.7 | 0.7 | 500 | 0.11 | *U* | 0.11 | *U* | 0.0012 | *U* |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| trans-1,3-Dichloropropylene | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | 0.11 | *U* | 0.11 | *U* | 0.056 | |
| Trichlorofluoromethane | NA | NA | NA | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | 0.11 | *U* | 0.11 | *U* | 0.0025 | *U* |
| Xylenes, Total | 1.6 | 0.26 | 500 | 0.11 | *U* | 0.11 | *U* | 0.0012 | *U* |
| Total TICs | NA | NA | NA | 160 | *J* | 110 | *J* | 0.012 | *J* |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 1A: VOCs in Soil (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 79th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All 2019 Sample data in mg/Kg (ppm)* | | | | Sample ID | SV-2 (9) | | SV-5 (5) | | SV-5 (7.5) | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2019-02-11 | | 2019-02-11 | | 2019-02-11 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | |
| **VOCs, 8260** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| 1,1,2-Trichloroethane | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| 1,2,3-Trichlorobenzene | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| 1,2,4-Trichlorobenzene | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 0.014 | | 0.091 | *U* | 0.0017 | *U* |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| 1,2-Dibromoethane | NA | NA | NA | 0.0013 | *U* | 0.091 | *U* | 0.0014 | *U* |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 0.0033 | *U* | 0.045 | *U* | 0.0035 | *U* |
| 1,2-Dichloropropane | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 0.0044 | | 0.091 | *U* | 0.0017 | *U* |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| 1,3-Dichloropropane | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 0.17 | *U* | 4.5 | *U* | 0.17 | *U* |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 0.0033 | *U* | 0.091 | *U* | 0.011 | |
| 2-Hexanone | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| 4-Methyl-2-pentanone | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Acetone | 0.05 | 0.05 | 500 | 0.087 | | 0.45 | *U* | 0.093 | |
| Benzene | 0.06 | 0.06 | 44 | 0.0044 | | 0.045 | *U* | 0.0017 | *U* |
| Bromochloromethane | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Bromodichloromethane | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Bromoform | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Bromomethane | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Carbon disulfide | NA | NA | NA | 0.057 | | 0.091 | *U* | 0.046 | |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Chlorobenzene | 1.1 | 1.1 | 500 | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Chloroethane | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Chloroform | 0.37 | 0.37 | 350 | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Chloromethane | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | 0.032 | | 0.091 | *U* | 0.13 | |
| cis-1,3-Dichloropropylene | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Cyclohexane | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Dibromochloromethane | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Dichlorodifluoromethane | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Ethyl Benzene | 1 | 1 | 390 | 0.0041 | | 10 | | 0.0017 | *U* |
| Isopropylbenzene | NA | 2.3 | NA | 0.0017 | *U* | 0.091 | *U* | 0.0017 | *U* |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 0.0088 | | 5.2 | | 0.0017 | *U* |
| Methyl acetate | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Methylcyclohexane | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Methylene chloride | 0.05 | 0.05 | 500 | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 0.0017 | *U* | 0.045 | *U* | 0.0017 | *U* |
| n-Butylbenzene | 12 | 12 | 500 | 0.0017 | *U* | 0.091 | *U* | 0.0017 | *U* |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 0.0017 | *U* | 0.091 | *U* | 0.0017 | *U* |
| o-Xylene | 1.6 | 0.26 | 500 | 0.011 | | 0.11 | | 0.0017 | *U* |
| sec-Butylbenzene | 11 | 11 | 500 | 0.0017 | *U* | 0.091 | *U* | 0.0017 | *U* |
| Styrene | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 0.0017 | *U* | 0.091 | *U* | 0.0017 | *U* |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Toluene | 0.7 | 0.7 | 500 | 0.004 | | 0.2 | | 0.0059 | |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 0.0039 | | 0.091 | *U* | 0.0093 | |
| trans-1,3-Dichloropropylene | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | 0.0033 | *U* | 0.17 | | 0.047 | |
| Trichlorofluoromethane | NA | NA | NA | 0.0033 | *U* | 0.091 | *U* | 0.0035 | *U* |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | 0.0033 | *U* | 0.091 | *U* | 0.28 | |
| Xylenes, Total | 1.6 | 0.26 | 500 | 0.02 | | 5.3 | | 0.0017 | *U* |
| Total TICs | NA | NA | NA | 0.92 | *J* | ND | | ND | |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

2019-2020 Site Investigation – SVOCs in Soil

**Table 2A: SVOCs in Soil (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | Sample ID | B19S (0-5) | | B29 (6.5-7.5) COMP | | B30 (0-0.5') COMP | | B30 (6-8) COMP | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2019-02-11 | | 2019-01-25 | | 2019-01-25 | | 2019-01-25 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | | 1 | |
| **SVOCs, 8270** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1'-Biphenyl | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| 1,2,4,5-Tetrachlorobenzene | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| 1,4-Dioxane | NA | 0.1 | 130 | | **NA** | | **NA** | | **NA** | | **NA** | |
| 2,3,4,6-Tetrachlorophenol | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| 2,4,5-Trichlorophenol | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| 2,4,6-Trichlorophenol | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| 2,4-Dichlorophenol | NA | NA | NA | | 0.047 | U | 0.011 | U | 0.027 | U | 0.033 | U |
| 2,4-Dimethylphenol | NA | NA | NA | | 0.047 | U | 0.011 | U | 0.027 | U | 0.033 | U |
| 2,4-Dinitrophenol | NA | NA | NA | | 0.95 | U | 0.21 | U | 0.54 | U | 0.67 | U |
| 2,4-Dinitrotoluene | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| 2,6-Dinitrotoluene | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| 2-Chloronaphthalene | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| 2-Chlorophenol | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| 2-Methylnaphthalene | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| 2-Methylphenol | NA | 0.33 | 500 | | 0.047 | U | 0.011 | U | 0.027 | U | 0.033 | U |
| 2-Nitroaniline | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| 2-Nitrophenol | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| 3- & 4-Methylphenols | NA | 0.33 | 500 | | 0.047 | U | 0.011 | U | 0.027 | U | 0.033 | U |
| 3,3'-Dichlorobenzidine | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| 3-Nitroaniline | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| 4,6-Dinitro-2-methylphenol | NA | NA | NA | | 0.95 | U | 0.21 | U | 0.54 | U | 0.67 | U |
| 4-Bromophenyl phenyl ether | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| 4-Chloro-3-methylphenol | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| 4-Chloroaniline | NA | NA | NA | | 0.047 | U | 0.011 | U | 0.027 | U | 0.033 | U |
| 4-Chlorophenyl phenyl ether | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| 4-Nitroaniline | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| 4-Nitrophenol | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Acenaphthene | 98 | 20 | 500 | | 0.19 | U | 0.043 | U | 0.11 | U | 0.14 | |
| Acenaphthylene | 107 | 100 | 500 | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Acetophenone | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Anthracene | 1000 | 100 | 500 | | 0.4 | | 0.043 | U | 0.11 | U | 0.4 | |
| Atrazine | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Benzaldehyde | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Benzo(a)anthracene | 1 | 1 | 5.6 | | 2.4 | | 0.07 | | 0.19 | | 1.5 | |
| Benzo(a)pyrene | 22 | 1 | 1 | | **2.5** | | 0.063 | | 0.22 | | 1 | |
| Benzo(b)fluoranthene | 1.7 | 1 | 5.6 | | 3.6 | | 0.086 | | 0.33 | | 1.5 | |
| Benzo(g,h,i)perylene | 1000 | 100 | 500 | | 1.6 | | 0.043 | U | 0.13 | | 0.43 | |
| Benzo(k)fluoranthene | 1.7 | 0.8 | 56 | | 1.1 | | 0.043 | U | 0.11 | U | 0.53 | |
| Bis(2-chloroethoxy)methane | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Bis(2-chloroethyl)ether | NA | NA | NA | | 0.047 | U | 0.011 | U | 0.027 | U | 0.033 | U |
| Bis(2-chloroisopropyl)ether | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Bis(2-ethylhexyl)phthalate | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Butyl benzyl phthalate | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Caprolactam | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Carbazole | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Chrysene | 1 | 1 | 56 | | 2.3 | | 0.074 | | 0.17 | | 1.9 | |
| Dibenzo(a,h)anthracene | 1000 | 0.33 | 0.56 | | 0.47 | | 0.043 | U | 0.11 | U | 0.15 | |
| Dibenzofuran | NA | 7 | 350 | | 0.063 | | 0.011 | U | 0.027 | U | 0.12 | |
| Diethyl phthalate | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Dimethyl phthalate | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Di-n-butyl phthalate | NA | NA | NA | | 0.047 | U | 0.011 | U | 0.027 | U | 0.033 | U |
| Di-n-octyl phthalate | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Fluoranthene | 1000 | 100 | 500 | | 3.8 | | 0.17 | | 0.31 | | 2.7 | |
| Fluorene | 386 | 30 | 500 | | 0.19 | U | 0.043 | U | 0.11 | U | 0.15 | |
| Hexachlorobenzene | NA | 0.33 | 6 | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Hexachlorobutadiene | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Hexachlorocyclopentadiene | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Hexachloroethane | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Indeno(1,2,3-cd)pyrene | 8.2 | 0.5 | 5.6 | | 1.5 | | 0.043 | U | 0.12 | | 0.43 | |
| Isophorone | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Naphthalene | 12 | 12 | 500 | | 0.071 | | 0.015 | | 0.027 | U | 0.14 | |
| Nitrobenzene | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| N-nitroso-di-n-propylamine | NA | NA | NA | | 0.047 | U | 0.011 | U | 0.027 | U | 0.033 | U |
| N-nitrosodiphenylamine | NA | NA | NA | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Pentachlorophenol | 0.8 | 0.8 | 6.7 | | 0.95 | U | 0.21 | U | 0.54 | U | 0.67 | U |
| Phenanthrene | 1000 | 100 | 500 | | 1.6 | | 0.077 | | 0.13 | | 0.94 | |
| Phenol | 0.33 | 0.33 | 500 | | 0.19 | U | 0.043 | U | 0.11 | U | 0.13 | U |
| Pyrene | 1000 | 100 | 500 | | 3.4 | | 0.2 | | 0.35 | | 2.5 | |
| Total TICs | NA | NA | NA | | 11 | J | 28 | J | 18 | J | 50 | J |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 2A: SVOCs in Soil (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | Sample ID | B30N18 (8-10) | | B30N18 (13-15) | | B30E7 (8-10) | | B30E7 (13-15) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2020-01-28 | | 2020-01-28 | | 2020-01-28 | | 2020-01-28 | |
| | | | | Dilution Factor | 1 | | 1 | | 5 | | 1 | |
| **SVOCs, 8270** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1'-Biphenyl | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| 1,2,4,5-Tetrachlorobenzene | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| 1,4-Dioxane | NA | 0.1 | 130 | | 0.0096 | U | 0.0096 | U | 0.13 | U | 0.0098 | U |
| 2,3,4,6-Tetrachlorophenol | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| 2,4,5-Trichlorophenol | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| 2,4,6-Trichlorophenol | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| 2,4-Dichlorophenol | NA | NA | NA | | 0.0096 | U | 0.0096 | U | 0.13 | U | 0.0098 | U |
| 2,4-Dimethylphenol | NA | NA | NA | | 0.0096 | U | 0.0096 | U | 0.13 | U | 0.0098 | U |
| 2,4-Dinitrophenol | NA | NA | NA | | 0.19 | U | 0.19 | U | 2.6 | U | 0.2 | U |
| 2,4-Dinitrotoluene | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| 2,6-Dinitrotoluene | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| 2-Chloronaphthalene | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| 2-Chlorophenol | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| 2-Methylnaphthalene | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| 2-Methylphenol | NA | 0.33 | 500 | | 0.0096 | U | 0.0096 | U | 0.13 | U | 0.0098 | U |
| 2-Nitroaniline | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| 2-Nitrophenol | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| 3- & 4-Methylphenols | NA | 0.33 | 500 | | 0.0096 | U | 0.0096 | U | 0.13 | U | 0.0098 | U |
| 3,3'-Dichlorobenzidine | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| 3-Nitroaniline | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| 4,6-Dinitro-2-methylphenol | NA | NA | NA | | 0.19 | U | 0.19 | U | 2.6 | U | 0.2 | U |
| 4-Bromophenyl phenyl ether | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| 4-Chloro-3-methylphenol | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| 4-Chloroaniline | NA | NA | NA | | 0.0096 | U | 0.0096 | U | 0.13 | U | 0.0098 | U |
| 4-Chlorophenyl phenyl ether | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| 4-Nitroaniline | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| 4-Nitrophenol | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Acenaphthene | 98 | 20 | 500 | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Acenaphthylene | 107 | 100 | 500 | | 0.072 | | 0.038 | U | 0.52 | U | 0.039 | U |
| Acetophenone | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Anthracene | 1000 | 100 | 500 | | 0.044 | | 0.038 | U | 0.52 | U | 0.039 | U |
| Atrazine | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Benzaldehyde | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Benzo(a)anthracene | 1 | 1 | 5.6 | | 0.27 | | 0.038 | U | 0.52 | U | 0.039 | U |
| Benzo(a)pyrene | 22 | 1 | 1 | | 0.54 | | 0.038 | U | 0.52 | U | 0.039 | U |
| Benzo(b)fluoranthene | 1.7 | 1 | 5.6 | | 0.76 | | 0.038 | U | 0.52 | U | 0.039 | U |
| Benzo(g,h,i)perylene | 1000 | 100 | 500 | | 0.36 | | 0.038 | U | 0.52 | U | 0.039 | U |
| Benzo(k)fluoranthene | 1.7 | 0.8 | 56 | | 0.19 | | 0.038 | U | 0.52 | U | 0.039 | U |
| Bis(2-chloroethoxy)methane | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Bis(2-chloroethyl)ether | NA | NA | NA | | 0.0096 | U | 0.0096 | U | 0.13 | U | 0.0098 | U |
| Bis(2-chloroisopropyl)ether | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Bis(2-ethylhexyl)phthalate | NA | NA | NA | | 0.12 | | 0.038 | U | 1.5 | | 0.039 | U |
| Butyl benzyl phthalate | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Caprolactam | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Carbazole | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Chrysene | 1 | 1 | 56 | | 0.32 | | 0.038 | U | 0.52 | U | 0.039 | U |
| Dibenzo(a,h)anthracene | 1000 | 0.33 | 0.56 | | 0.089 | | 0.038 | U | 0.52 | U | 0.039 | U |
| Dibenzofuran | NA | 7 | 350 | | 0.012 | | 0.0096 | U | 0.13 | U | 0.0098 | U |
| Diethyl phthalate | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Dimethyl phthalate | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Di-n-butyl phthalate | NA | NA | NA | | 0.0096 | U | 0.0096 | U | 0.31 | | 0.0098 | U |
| Di-n-octyl phthalate | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Fluoranthene | 1000 | 100 | 500 | | 0.54 | | 0.038 | U | 0.52 | U | 0.039 | U |
| Fluorene | 386 | 30 | 500 | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Hexachlorobenzene | NA | 0.33 | 6 | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Hexachlorobutadiene | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Hexachlorocyclopentadiene | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Hexachloroethane | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Indeno(1,2,3-cd)pyrene | 8.2 | 0.5 | 5.6 | | 0.33 | | 0.038 | U | 0.52 | U | 0.039 | U |
| Isophorone | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Naphthalene | 12 | 12 | 500 | | 0.036 | | 0.0096 | U | 0.13 | U | 0.0098 | U |
| Nitrobenzene | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| N-nitroso-di-n-propylamine | NA | NA | NA | | 0.0096 | U | 0.0096 | U | 0.13 | U | 0.0098 | U |
| N-nitrosodiphenylamine | NA | NA | NA | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Pentachlorophenol | 0.8 | 0.8 | 6.7 | | 0.19 | U | 0.19 | U | 2.6 | U | 0.2 | U |
| Phenanthrene | 1000 | 100 | 500 | | 0.17 | | 0.038 | U | 0.52 | U | 0.039 | U |
| Phenol | 0.33 | 0.33 | 500 | | 0.038 | U | 0.038 | U | 0.52 | U | 0.039 | U |
| Pyrene | 1000 | 100 | 500 | | 0.59 | | 0.038 | U | 0.52 | U | 0.039 | U |
| Total TICs | NA | NA | NA | | 7.2 | J | 3.7 | J | 390 | J | 3.5 | J |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 2A: SVOCs in Soil (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | Sample ID | B30S10 (8-10) | | B30S10 (13-15) | | B30W18 (6-8) | | B30W18 (11-13) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | Sample Date | 2020-01-28 | | 2020-01-28 | | 2020-01-28 | | 2020-01-28 | |
| | | | Dilution Factor | 5 | | 1 | | 5 | | 1 | |
| **SVOCs, 8270** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1'-Biphenyl | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| 1,2,4,5-Tetrachlorobenzene | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| 1,4-Dioxane | NA | 0.1 | 130 | 0.06 | U | 0.0095 | U | 0.058 | U | 0.011 | U |
| 2,3,4,6-Tetrachlorophenol | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| 2,4,5-Trichlorophenol | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| 2,4,6-Trichlorophenol | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| 2,4-Dichlorophenol | NA | NA | NA | 0.06 | U | 0.0095 | U | 0.058 | U | 0.011 | U |
| 2,4-Dimethylphenol | NA | NA | NA | 0.06 | U | 0.0095 | U | 0.058 | U | 0.011 | U |
| 2,4-Dinitrophenol | NA | NA | NA | 1.2 | U | 0.19 | U | 1.2 | U | 0.23 | U |
| 2,4-Dinitrotoluene | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| 2,6-Dinitrotoluene | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| 2-Chloronaphthalene | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| 2-Chlorophenol | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| 2-Methylnaphthalene | NA | NA | NA | 0.89 | | 0.038 | U | 1.7 | | 0.046 | U |
| 2-Methylphenol | NA | 0.33 | 500 | 0.06 | U | 0.0095 | U | 0.058 | U | 0.011 | U |
| 2-Nitroaniline | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| 2-Nitrophenol | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| 3- & 4-Methylphenols | NA | 0.33 | 500 | 0.06 | U | 0.0095 | U | 0.058 | U | 0.011 | U |
| 3,3'-Dichlorobenzidine | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| 3-Nitroaniline | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| 4,6-Dinitro-2-methylphenol | NA | NA | NA | 1.2 | U | 0.19 | U | 1.2 | U | 0.23 | U |
| 4-Bromophenyl phenyl ether | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| 4-Chloro-3-methylphenol | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| 4-Chloroaniline | NA | NA | NA | 0.06 | U | 0.0095 | U | 0.058 | U | 0.011 | U |
| 4-Chlorophenyl phenyl ether | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| 4-Nitroaniline | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| 4-Nitrophenol | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Acenaphthene | 98 | 20 | 500 | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Acenaphthylene | 107 | 100 | 500 | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Acetophenone | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Anthracene | 1000 | 100 | 500 | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Atrazine | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Benzaldehyde | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Benzo(a)anthracene | 1 | 1 | 5.6 | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Benzo(a)pyrene | 22 | 1 | 1 | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Benzo(b)fluoranthene | 1.7 | 1 | 5.6 | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Benzo(g,h,i)perylene | 1000 | 100 | 500 | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Benzo(k)fluoranthene | 1.7 | 0.8 | 56 | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Bis(2-chloroethoxy)methane | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Bis(2-chloroethyl)ether | NA | NA | NA | 0.06 | U | 0.0095 | U | 0.058 | U | 0.011 | U |
| Bis(2-chloroisopropyl)ether | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Bis(2-ethylhexyl)phthalate | NA | NA | NA | 0.24 | U | 0.042 | | 0.23 | U | 0.046 | U |
| Butyl benzyl phthalate | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Caprolactam | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Carbazole | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Chrysene | 1 | 1 | 56 | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Dibenzo(a,h)anthracene | 1000 | 0.33 | 0.56 | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Dibenzofuran | NA | 7 | 350 | 0.076 | | 0.0095 | U | 0.11 | | 0.011 | U |
| Diethyl phthalate | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Dimethyl phthalate | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Di-n-butyl phthalate | NA | NA | NA | 0.06 | U | 0.0095 | U | 0.058 | U | 0.011 | U |
| Di-n-octyl phthalate | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Fluoranthene | 1000 | 100 | 500 | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Fluorene | 386 | 30 | 500 | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Hexachlorobenzene | NA | 0.33 | 6 | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Hexachlorobutadiene | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Hexachlorocyclopentadiene | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Hexachloroethane | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Indeno(1,2,3-cd)pyrene | 8.2 | 0.5 | 5.6 | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Isophorone | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Naphthalene | 12 | 12 | 500 | 0.3 | | 0.0095 | U | 0.53 | | 0.011 | U |
| Nitrobenzene | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| N-nitroso-di-n-propylamine | NA | NA | NA | 0.06 | U | 0.0095 | U | 0.058 | U | 0.011 | U |
| N-nitrosodiphenylamine | NA | NA | NA | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Pentachlorophenol | 0.8 | 0.8 | 6.7 | 1.2 | U | 0.19 | U | 1.2 | U | 0.23 | U |
| Phenanthrene | 1000 | 100 | 500 | 0.45 | | 0.038 | U | 0.23 | U | 0.046 | U |
| Phenol | 0.33 | 0.33 | 500 | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Pyrene | 1000 | 100 | 500 | 0.24 | U | 0.038 | U | 0.23 | U | 0.046 | U |
| Total TICs | NA | NA | NA | 36 | J | 4 | J | 18 | J | 4.8 | J |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 2A: SVOCs in Soil (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | Sample ID | B31 (0-5) | | B31 (10-12) | | B32 (5-10) | | B32 (10-15) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2019-02-11 | | 2019-02-11 | | 2019-02-11 | | 2019-02-11 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | | 1 | |
| **SVOCs, 8270** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1'-Biphenyl | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| 1,2,4,5-Tetrachlorobenzene | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| 1,4-Dioxane | NA | 0.1 | 130 | **NA** | | **NA** | | **NA** | | **NA** | |
| 2,3,4,6-Tetrachlorophenol | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| 2,4,5-Trichlorophenol | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| 2,4,6-Trichlorophenol | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| 2,4-Dichlorophenol | NA | NA | NA | 0.091 | U | 0.031 | U | 0.027 | U | 0.012 | U |
| 2,4-Dimethylphenol | NA | NA | NA | 0.091 | U | 0.031 | U | 0.027 | U | 0.012 | U |
| 2,4-Dinitrophenol | NA | NA | NA | 1.8 | U | 0.62 | U | 0.55 | U | 0.23 | U |
| 2,4-Dinitrotoluene | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| 2,6-Dinitrotoluene | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| 2-Chloronaphthalene | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| 2-Chlorophenol | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| 2-Methylnaphthalene | NA | NA | NA | 0.82 | | 0.12 | U | 0.11 | U | 0.046 | U |
| 2-Methylphenol | NA | 0.33 | 500 | 0.091 | U | 0.031 | U | 0.027 | U | 0.012 | U |
| 2-Nitroaniline | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| 2-Nitrophenol | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| 3- & 4-Methylphenols | NA | 0.33 | 500 | 0.091 | U | 0.031 | U | 0.027 | U | 0.012 | U |
| 3,3'-Dichlorobenzidine | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| 3-Nitroaniline | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| 4,6-Dinitro-2-methylphenol | NA | NA | NA | 1.8 | U | 0.62 | U | 0.55 | U | 0.23 | U |
| 4-Bromophenyl phenyl ether | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| 4-Chloro-3-methylphenol | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| 4-Chloroaniline | NA | NA | NA | 0.091 | U | 0.031 | U | 0.027 | U | 0.012 | U |
| 4-Chlorophenyl phenyl ether | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| 4-Nitroaniline | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| 4-Nitrophenol | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Acenaphthene | 98 | 20 | 500 | 0.36 | U | 0.57 | | 0.11 | U | 0.046 | U |
| Acenaphthylene | 107 | 100 | 500 | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Acetophenone | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Anthracene | 1000 | 100 | 500 | 0.36 | U | 0.12 | U | 0.15 | | 0.046 | U |
| Atrazine | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Benzaldehyde | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Benzo(a)anthracene | 1 | 1 | 5.6 | 0.36 | U | 0.12 | U | 0.34 | | 0.046 | U |
| Benzo(a)pyrene | 22 | 1 | 1 | 0.36 | U | 0.12 | U | 0.31 | | 0.046 | U |
| Benzo(b)fluoranthene | 1.7 | 1 | 5.6 | 0.5 | | 0.12 | U | 0.41 | | 0.046 | U |
| Benzo(g,h,i)perylene | 1000 | 100 | 500 | 0.36 | U | 0.12 | U | 0.19 | | 0.046 | U |
| Benzo(k)fluoranthene | 1.7 | 0.8 | 56 | 0.36 | U | 0.12 | U | 0.14 | | 0.046 | U |
| Bis(2-chloroethoxy)methane | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Bis(2-chloroethyl)ether | NA | NA | NA | 0.091 | U | 0.031 | U | 0.027 | U | 0.012 | U |
| Bis(2-chloroisopropyl)ether | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Bis(2-ethylhexyl)phthalate | NA | NA | NA | 0.36 | U | 0.12 | U | 0.12 | | 0.046 | U |
| Butyl benzyl phthalate | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Caprolactam | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Carbazole | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Chrysene | 1 | 1 | 56 | 0.36 | U | 0.12 | U | 0.35 | | 0.046 | U |
| Dibenzo(a,h)anthracene | 1000 | 0.33 | 0.56 | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Dibenzofuran | NA | 7 | 350 | 0.091 | U | 0.32 | | 0.054 | | 0.012 | U |
| Diethyl phthalate | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Dimethyl phthalate | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Di-n-butyl phthalate | NA | NA | NA | 0.091 | U | 0.031 | U | 0.034 | | 0.012 | U |
| Di-n-octyl phthalate | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Fluoranthene | 1000 | 100 | 500 | 0.45 | | 0.12 | U | 0.64 | | 0.046 | U |
| Fluorene | 386 | 30 | 500 | 0.36 | U | 0.53 | | 0.11 | U | 0.046 | U |
| Hexachlorobenzene | NA | 0.33 | 6 | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Hexachlorobutadiene | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Hexachlorocyclopentadiene | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Hexachloroethane | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Indeno(1,2,3-cd)pyrene | 8.2 | 0.5 | 5.6 | 0.36 | U | 0.12 | U | 0.15 | | 0.046 | U |
| Isophorone | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Naphthalene | 12 | 12 | 500 | 0.21 | | 0.031 | U | 0.031 | | 0.012 | U |
| Nitrobenzene | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| N-nitroso-di-n-propylamine | NA | NA | NA | 0.091 | U | 0.031 | U | 0.027 | U | 0.012 | U |
| N-nitrosodiphenylamine | NA | NA | NA | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Pentachlorophenol | 0.8 | 0.8 | 6.7 | 1.8 | U | 0.62 | U | 0.55 | U | 0.23 | U |
| Phenanthrene | 1000 | 100 | 500 | 0.41 | | 0.62 | | 0.63 | | 0.046 | U |
| Phenol | 0.33 | 0.33 | 500 | 0.36 | U | 0.12 | U | 0.11 | U | 0.046 | U |
| Pyrene | 1000 | 100 | 500 | 0.48 | | 0.25 | | 0.68 | | 0.046 | U |
| Total TICs | NA | NA | NA | 34 | J | 130 | J | 21 | J | 15 | J |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 2A: SVOCs in Soil (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | Sample ID | B33 (0-5) | | B33 (6-10) | | B34 (8-10) | | B34 (13-15) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2019-02-11 | | 2019-02-11 | | 2020-01-29 | | 2020-01-29 | |
| | | | | Dilution Factor | 1 | | 1 | | 10 | | 1 | |
| **SVOCs, 8270** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1'-Biphenyl | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| 1,2,4,5-Tetrachlorobenzene | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| 1,4-Dioxane | NA | 0.1 | 130 | **NA** | | **NA** | | 0.37 | U | 0.01 | U |
| 2,3,4,6-Tetrachlorophenol | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| 2,4,5-Trichlorophenol | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| 2,4,6-Trichlorophenol | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| 2,4-Dichlorophenol | NA | NA | NA | 0.097 | U | 0.017 | U | 0.37 | U | 0.01 | U |
| 2,4-Dimethylphenol | NA | NA | NA | 0.097 | U | 0.017 | U | 0.37 | U | 0.01 | U |
| 2,4-Dinitrophenol | NA | NA | NA | 1.9 | U | 0.34 | U | 7.4 | U | 0.2 | U |
| 2,4-Dinitrotoluene | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| 2,6-Dinitrotoluene | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| 2-Chloronaphthalene | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| 2-Chlorophenol | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| 2-Methylnaphthalene | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| 2-Methylphenol | NA | 0.33 | 500 | 0.097 | U | 0.017 | U | 0.37 | U | 0.01 | U |
| 2-Nitroaniline | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| 2-Nitrophenol | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| 3- & 4-Methylphenols | NA | 0.33 | 500 | 0.097 | U | 0.017 | U | 0.37 | U | 0.01 | U |
| 3,3'-Dichlorobenzidine | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| 3-Nitroaniline | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| 4,6-Dinitro-2-methylphenol | NA | NA | NA | 1.9 | U | 0.34 | U | 7.4 | U | 0.2 | U |
| 4-Bromophenyl phenyl ether | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| 4-Chloro-3-methylphenol | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| 4-Chloroaniline | NA | NA | NA | 0.097 | U | 0.017 | U | 0.37 | U | 0.01 | U |
| 4-Chlorophenyl phenyl ether | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| 4-Nitroaniline | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| 4-Nitrophenol | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Acenaphthene | 98 | 20 | 500 | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Acenaphthylene | 107 | 100 | 500 | 0.6 | | 0.068 | U | 1.5 | U | 0.04 | U |
| Acetophenone | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Anthracene | 1000 | 100 | 500 | 0.64 | | 0.068 | U | 3.1 | | 0.04 | U |
| Atrazine | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Benzaldehyde | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Benzo(a)anthracene | 1 | 1 | 5.6 | 2.8 | | 0.083 | | **10** | | 0.04 | U |
| Benzo(a)pyrene | 22 | 1 | 1 | **2.2** | | 0.068 | U | **9.2** | | 0.04 | U |
| Benzo(b)fluoranthene | 1.7 | 1 | 5.6 | 3 | | 0.068 | U | **11** | | 0.04 | U |
| Benzo(g,h,i)perylene | 1000 | 100 | 500 | 1.1 | | 0.068 | U | 7 | | 0.04 | U |
| Benzo(k)fluoranthene | 1.7 | 0.8 | 56 | 1 | | 0.068 | U | 3.2 | | 0.04 | U |
| Bis(2-chloroethoxy)methane | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Bis(2-chloroethyl)ether | NA | NA | NA | 0.097 | U | 0.017 | U | 0.37 | U | 0.01 | U |
| Bis(2-chloroisopropyl)ether | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Bis(2-ethylhexyl)phthalate | NA | NA | NA | 0.41 | | 0.068 | U | 1.5 | U | 0.04 | U |
| Butyl benzyl phthalate | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Caprolactam | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Carbazole | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Chrysene | 1 | 1 | 56 | 2.5 | | 0.068 | U | 11 | | 0.04 | U |
| Dibenzo(a,h)anthracene | 1000 | 0.33 | 0.56 | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Dibenzofuran | NA | 7 | 350 | 0.097 | U | 0.017 | U | 0.6 | | 0.01 | U |
| Diethyl phthalate | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Dimethyl phthalate | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Di-n-butyl phthalate | NA | NA | NA | 0.097 | U | 0.028 | | 0.37 | U | 0.01 | U |
| Di-n-octyl phthalate | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Fluoranthene | 1000 | 100 | 500 | 4.3 | | 0.076 | | 21 | | 0.04 | U |
| Fluorene | 386 | 30 | 500 | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Hexachlorobenzene | NA | 0.33 | 6 | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Hexachlorobutadiene | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Hexachlorocyclopentadiene | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Hexachloroethane | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Indeno(1,2,3-cd)pyrene | 8.2 | 0.5 | 5.6 | 1 | | 0.068 | U | 5.1 | | 0.04 | U |
| Isophorone | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Naphthalene | 12 | 12 | 500 | 0.097 | U | 0.017 | U | 0.45 | | 0.01 | U |
| Nitrobenzene | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| N-nitroso-di-n-propylamine | NA | NA | NA | 0.097 | U | 0.017 | U | 0.37 | U | 0.01 | U |
| N-nitrosodiphenylamine | NA | NA | NA | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Pentachlorophenol | 0.8 | 0.8 | 6.7 | 1.9 | U | 0.34 | U | 7.4 | U | 0.2 | U |
| Phenanthrene | 1000 | 100 | 500 | 1.8 | | 0.068 | U | 14 | | 0.04 | U |
| Phenol | 0.33 | 0.33 | 500 | 0.39 | U | 0.068 | U | 1.5 | U | 0.04 | U |
| Pyrene | 1000 | 100 | 500 | 3.8 | | 0.11 | | 21 | | 0.04 | U |
| Total TICs | NA | NA | NA | 22 | J | 25 | J | 370 | J | 6 | J |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 2A: SVOCs in Soil (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | Sample ID | B35 (8-10) | | B35 (13-15) | | B36 (7-9) | | B36 (11-13) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2020-01-29 | | 2020-01-29 | | 2020-01-29 | | 2020-01-29 | |
| | | | | Dilution Factor | 3 | | 1 | | 3 | | 1 | |
| **SVOCs, 8270** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1'-Biphenyl | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.34 | | 0.052 | U |
| 1,2,4,5-Tetrachlorobenzene | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| 1,4-Dioxane | NA | 0.1 | 130 | | 0.077 | U | 0.01 | U | 0.072 | U | 0.013 | U |
| 2,3,4,6-Tetrachlorophenol | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| 2,4,5-Trichlorophenol | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| 2,4,6-Trichlorophenol | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| 2,4-Dichlorophenol | NA | NA | NA | | 0.077 | U | 0.01 | U | 0.072 | U | 0.013 | U |
| 2,4-Dimethylphenol | NA | NA | NA | | 0.077 | U | 0.01 | U | 0.072 | U | 0.013 | U |
| 2,4-Dinitrophenol | NA | NA | NA | | 1.5 | U | 0.2 | U | 1.4 | U | 0.26 | U |
| 2,4-Dinitrotoluene | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| 2,6-Dinitrotoluene | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| 2-Chloronaphthalene | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| 2-Chlorophenol | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| 2-Methylnaphthalene | NA | NA | NA | | 0.67 | | 0.04 | U | 2.5 | | 0.052 | U |
| 2-Methylphenol | NA | 0.33 | 500 | | 0.077 | U | 0.01 | U | 0.072 | U | 0.013 | U |
| 2-Nitroaniline | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| 2-Nitrophenol | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| 3- & 4-Methylphenols | NA | 0.33 | 500 | | 0.077 | U | 0.01 | U | 0.072 | U | 0.013 | U |
| 3,3'-Dichlorobenzidine | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| 3-Nitroaniline | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| 4,6-Dinitro-2-methylphenol | NA | NA | NA | | 1.5 | U | 0.2 | U | 1.4 | U | 0.26 | U |
| 4-Bromophenyl phenyl ether | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| 4-Chloro-3-methylphenol | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| 4-Chloroaniline | NA | NA | NA | | 0.077 | U | 0.01 | U | 0.072 | U | 0.013 | U |
| 4-Chlorophenyl phenyl ether | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| 4-Nitroaniline | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| 4-Nitrophenol | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Acenaphthene | 98 | 20 | 500 | | 0.31 | U | 0.04 | U | 1.6 | | 0.3 | |
| Acenaphthylene | 107 | 100 | 500 | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Acetophenone | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Anthracene | 1000 | 100 | 500 | | 0.31 | U | 0.04 | U | 0.8 | | 0.1 | |
| Atrazine | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Benzaldehyde | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Benzo(a)anthracene | 1 | 1 | 5.6 | | 0.32 | | 0.04 | U | 0.33 | | 0.052 | U |
| Benzo(a)pyrene | 22 | 1 | 1 | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Benzo(b)fluoranthene | 1.7 | 1 | 5.6 | | 0.37 | | 0.04 | U | 0.36 | | 0.052 | U |
| Benzo(g,h,i)perylene | 1000 | 100 | 500 | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Benzo(k)fluoranthene | 1.7 | 0.8 | 56 | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Bis(2-chloroethoxy)methane | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Bis(2-chloroethyl)ether | NA | NA | NA | | 0.077 | U | 0.01 | U | 0.072 | U | 0.013 | U |
| Bis(2-chloroisopropyl)ether | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Bis(2-ethylhexyl)phthalate | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Butyl benzyl phthalate | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Caprolactam | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Carbazole | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Chrysene | 1 | 1 | 56 | | 0.55 | | 0.04 | U | 0.81 | | 0.052 | U |
| Dibenzo(a,h)anthracene | 1000 | 0.33 | 0.56 | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Dibenzofuran | NA | 7 | 350 | | 0.13 | | 0.01 | U | 0.57 | | 0.14 | |
| Diethyl phthalate | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Dimethyl phthalate | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Di-n-butyl phthalate | NA | NA | NA | | 0.077 | U | 0.01 | U | 0.072 | U | 0.013 | U |
| Di-n-octyl phthalate | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Fluoranthene | 1000 | 100 | 500 | | 0.71 | | 0.04 | U | 0.5 | | 0.052 | U |
| Fluorene | 386 | 30 | 500 | | 0.31 | U | 0.04 | U | 1.4 | | 0.2 | |
| Hexachlorobenzene | NA | 0.33 | 6 | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Hexachlorobutadiene | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Hexachlorocyclopentadiene | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Hexachloroethane | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Indeno(1,2,3-cd)pyrene | 8.2 | 0.5 | 5.6 | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Isophorone | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Naphthalene | 12 | 12 | 500 | | 0.6 | | 0.01 | U | 1.5 | | 0.013 | U |
| Nitrobenzene | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| N-nitroso-di-n-propylamine | NA | NA | NA | | 0.077 | U | 0.01 | U | 0.072 | U | 0.013 | U |
| N-nitrosodiphenylamine | NA | NA | NA | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Pentachlorophenol | 0.8 | 0.8 | 6.7 | | 1.5 | U | 0.2 | U | 1.4 | U | 0.26 | U |
| Phenanthrene | 1000 | 100 | 500 | | 0.58 | | 0.04 | U | 0.44 | | 0.052 | U |
| Phenol | 0.33 | 0.33 | 500 | | 0.31 | U | 0.04 | U | 0.29 | U | 0.052 | U |
| Pyrene | 1000 | 100 | 500 | | 0.75 | | 0.04 | U | 0.97 | | 0.067 | |
| Total TICs | NA | NA | NA | | 180 | J | 6.3 | J | 620 | J | 26 | J |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 2A: SVOCs in Soil (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | Sample ID | DUP 20200129 | | SV-2 (0-5) | | SV-2 (7-9) | | SV-5 (0-5) | | SV-5 (6-12) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2020-01-29 | | 2019-02-11 | | 2019-02-11 | | 2019-02-11 | | 2019-02-11 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | | 1 | | 1 | |
| **SVOCs, 8270** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1'-Biphenyl | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| 1,2,4,5-Tetrachlorobenzene | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| 1,4-Dioxane | NA | 0.1 | 130 | 0.01 | U | **NA** | | **NA** | | **NA** | | **NA** | |
| 2,3,4,6-Tetrachlorophenol | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| 2,4,5-Trichlorophenol | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| 2,4,6-Trichlorophenol | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| 2,4-Dichlorophenol | NA | NA | NA | 0.01 | U | 0.0097 | U | 0.013 | U | 0.046 | U | 0.01 | U |
| 2,4-Dimethylphenol | NA | NA | NA | 0.01 | U | 0.0097 | U | 0.013 | U | 0.046 | U | 0.01 | U |
| 2,4-Dinitrophenol | NA | NA | NA | 0.2 | U | 0.19 | U | 0.26 | U | 0.93 | U | 0.2 | U |
| 2,4-Dinitrotoluene | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| 2,6-Dinitrotoluene | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| 2-Chloronaphthalene | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| 2-Chlorophenol | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| 2-Methylnaphthalene | NA | NA | NA | 0.04 | U | 0.044 | | 0.053 | U | 0.19 | U | 0.041 | U |
| 2-Methylphenol | NA | 0.33 | 500 | 0.01 | U | 0.0097 | U | 0.013 | U | 0.046 | U | 0.01 | U |
| 2-Nitroaniline | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| 2-Nitrophenol | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| 3- & 4-Methylphenols | NA | 0.33 | 500 | 0.01 | U | 0.0097 | U | 0.013 | U | 0.046 | U | 0.01 | U |
| 3,3'-Dichlorobenzidine | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| 3-Nitroaniline | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| 4,6-Dinitro-2-methylphenol | NA | NA | NA | 0.2 | U | 0.19 | U | 0.26 | U | 0.93 | U | 0.2 | U |
| 4-Bromophenyl phenyl ether | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| 4-Chloro-3-methylphenol | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| 4-Chloroaniline | NA | NA | NA | 0.01 | U | 0.0097 | U | 0.013 | U | 0.046 | U | 0.01 | U |
| 4-Chlorophenyl phenyl ether | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| 4-Nitroaniline | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| 4-Nitrophenol | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| Acenaphthene | 98 | 20 | 500 | 0.088 | | 0.043 | | 0.14 | | 0.23 | | 0.041 | U |
| Acenaphthylene | 107 | 100 | 500 | 0.04 | U | 0.039 | | 0.053 | U | 0.19 | U | 0.041 | U |
| Acetophenone | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| Anthracene | 1000 | 100 | 500 | 0.04 | U | 0.15 | | 0.053 | U | 0.31 | | 0.041 | U |
| Atrazine | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| Benzaldehyde | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| Benzo(a)anthracene | 1 | 1 | 5.6 | 0.04 | U | 0.67 | | 0.053 | U | 0.71 | | 0.041 | U |
| Benzo(a)pyrene | 22 | 1 | 1 | 0.04 | U | 0.63 | | 0.053 | U | 0.61 | | 0.041 | U |
| Benzo(b)fluoranthene | 1.7 | 1 | 5.6 | 0.04 | U | 0.9 | | 0.053 | U | 0.82 | | 0.041 | U |
| Benzo(g,h,i)perylene | 1000 | 100 | 500 | 0.04 | U | 0.46 | | 0.053 | U | 0.35 | | 0.041 | U |
| Benzo(k)fluoranthene | 1.7 | 0.8 | 56 | 0.04 | U | 0.29 | | 0.053 | U | 0.24 | | 0.041 | U |
| Bis(2-chloroethoxy)methane | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| Bis(2-chloroethyl)ether | NA | NA | NA | 0.01 | U | 0.0097 | U | 0.013 | U | 0.046 | U | 0.01 | U |
| Bis(2-chloroisopropyl)ether | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| Bis(2-ethylhexyl)phthalate | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.33 | | 0.041 | U |
| Butyl benzyl phthalate | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| Caprolactam | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| Carbazole | NA | NA | NA | 0.04 | U | 0.047 | | 0.068 | | 0.19 | U | 0.041 | U |
| Chrysene | 1 | 1 | 56 | 0.04 | U | 0.77 | | 0.053 | U | 0.74 | | 0.041 | U |
| Dibenzo(a,h)anthracene | 1000 | 0.33 | 0.56 | 0.04 | U | 0.13 | | 0.053 | U | 0.19 | U | 0.041 | U |
| Dibenzofuran | NA | 7 | 350 | 0.037 | | 0.033 | | 0.064 | | 0.14 | | 0.01 | U |
| Diethyl phthalate | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| Dimethyl phthalate | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| Di-n-butyl phthalate | NA | NA | NA | 0.01 | U | 0.052 | | 0.013 | U | 0.046 | U | 0.01 | U |
| Di-n-octyl phthalate | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| Fluoranthene | 1000 | 100 | 500 | 0.04 | U | 1.2 | | 0.053 | U | 1.4 | | 0.041 | U |
| Fluorene | 386 | 30 | 500 | 0.086 | | 0.045 | | 0.053 | U | 0.21 | | 0.041 | U |
| Hexachlorobenzene | NA | 0.33 | 6 | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| Hexachlorobutadiene | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| Hexachlorocyclopentadiene | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| Hexachloroethane | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| Indeno(1,2,3-cd)pyrene | 8.2 | 0.5 | 5.6 | 0.04 | U | 0.39 | | 0.053 | U | 0.3 | | 0.041 | U |
| Isophorone | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| Naphthalene | 12 | 12 | 500 | 0.013 | U | 0.042 | | 0.68 | | 0.35 | | 0.01 | U |
| Nitrobenzene | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| N-nitroso-di-n-propylamine | NA | NA | NA | 0.01 | U | 0.0097 | U | 0.013 | U | 0.046 | U | 0.01 | U |
| N-nitrosodiphenylamine | NA | NA | NA | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| Pentachlorophenol | 0.8 | 0.8 | 6.7 | 0.2 | U | 0.19 | U | 0.26 | U | 0.93 | U | 0.2 | U |
| Phenanthrene | 1000 | 100 | 500 | 0.04 | U | 0.72 | | 0.053 | U | 1.4 | | 0.041 | U |
| Phenol | 0.33 | 0.33 | 500 | 0.04 | U | 0.039 | U | 0.053 | U | 0.19 | U | 0.041 | U |
| Pyrene | 1000 | 100 | 500 | 0.04 | U | 1.2 | | 0.053 | U | 1.5 | | 0.041 | U |
| Total TICs | NA | NA | NA | 520 | J | 10 | J | 12 | J | 20 | J | 10 | J |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

2019-2020 Site Investigation – Metals in Soil

# Table 3A: Metals in Soil (2019-2020 Samples)

BCP ID: C241207 - 3-60 Beach 7th Street

Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | Sample ID | B19S (0-5) | | B29 (6.5-7.5) COMP | | B30 (0-6) COMP | | B30 (6-8) COMP | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | Sample Date | 2019-02-11 | | 2019-01-25 | | 2019-01-25 | | 2019-01-25 | |
| | | | Dilution Factor | 1 | | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aluminum | NA | NA | NA | 3,400 | | 1,400 | | 8,500 | | 5,800 | |
| Antimony | NA | NA | NA | 0.91 | *U* | 1 | *U* | 0.87 | *U* | 1.1 | *U* |
| Arsenic | 16 | 13 | 16 | 7.1 | | 3.6 | | 3.7 | | **48** | |
| Barium | 820 | 350 | 400 | 350 | | 23 | | 280 | | **500** | |
| Beryllium | 47.0 | 7.2 | 590 | 0.25 | | 0.26 | *U* | 0.22 | *U* | 0.8 | |
| Cadmium | 7.5 | 2.5 | 9.3 | 0.45 | *U* | 0.51 | *U* | 0.51 | | **13** | |
| Calcium | NA | NA | NA | 3,900 | | 1,300 | *U* | 25,000 | | 2,600 | |
| Chromium | NA | 30 | 1,500 | 11 | | 6.4 | *U* | 31 | | 20 | |
| Cobalt | NA | NA | NA | 3.3 | | 3.2 | *U* | 7.1 | | 10 | |
| Copper | 1,720 | 50 | 270 | 59 | | 8.8 | | 200 | | **7,400** | |
| Iron | NA | NA | NA | 16,000 | | 4,600 | | 28,000 | | 33,000 | |
| Lead | 450 | 63 | 1,000 | 130 | | 73 | | 580 | | 210 | |
| Magnesium | NA | NA | NA | 1,900 | | 1,000 | | 5,800 | | 670 | *U* |
| Manganese | 2,000 | 1,600 | 10,000 | 100 | | 30 | | 310 | | 86 | |
| Mercury | 0.73 | 0.18 | 2.8 | 0.16 | | 0.14 | | 0.41 | | 0.11 | *U* |
| Nickel | 130 | 30 | 310 | 9.9 | | 6.4 | *U* | 27 | | 28 | |
| Potassium | NA | NA | NA | 700 | | 640 | *U* | 1,300 | | 820 | |
| Selenium | 4.0 | 3.9 | 1,500 | 2.3 | *U* | 2.6 | *U* | 2.2 | *U* | 10 | |
| Silver | 8 | 2 | 1,500 | 0.23 | *U* | 0.26 | *U* | 0.38 | | 2.6 | |
| Sodium | NA | NA | NA | 280 | *U* | 320 | *U* | 300 | | 330 | *U* |
| Thallium | NA | NA | NA | 0.45 | *U* | 0.51 | *U* | 0.43 | *U* | 1.2 | |
| Vanadium | NA | NA | NA | 17 | | 13 | *U* | 30 | | 33 | |
| Zinc | 2,480 | 109 | 10,000 | 130 | | 92 | | 1,400 | | 1,200 | |

Analyte Detected

Analyte Above UU SCO

**Analyte Above CU SCO**

Analyte Above Protection of Groundwater

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

# Table 3A: Metals in Soil (2019-2020 Samples)

BCP ID: C241207 - 3-60 Beach 7th Street

Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | Sample ID | B30N18 (8-10) | | B30N18 (13-15) | | B30E7 (8-10) | | B30E7 (13-15) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | Sample Date | 2020-01-28 | | 2020-01-28 | | 2020-01-28 | | 2020-01-28 | |
| | | | Dilution Factor | 1 | | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aluminum | NA | NA | NA | 4,500 | | 230 | *U* | 1,400 | | 240 | *U* |
| Antimony | NA | NA | NA | 0.92 | *U* | 0.92 | *U* | 1.2 | *U* | 0.94 | *U* |
| Arsenic | 16 | 13 | 16 | **38** | | 1.3 | | 15 | | 1 | |
| Barium | 820 | 350 | 400 | **910** | | 11 | *U* | **1,000** | | 12 | *U* |
| Beryllium | 47.0 | 7.2 | 590 | 0.48 | | 0.23 | *U* | 0.31 | *U* | 0.24 | *U* |
| Cadmium | 7.5 | 2.5 | 9.3 | 2.1 | | 0.46 | *U* | 0.76 | | 0.47 | *U* |
| Calcium | NA | NA | NA | 13,000 | | 1,100 | *U* | 1,600 | *U* | 1,200 | *U* |
| Chromium | NA | 30 | 1,500 | 29 | | 5.7 | *U* | 7.8 | *U* | 5.9 | *U* |
| Cobalt | NA | NA | NA | 11 | | 2.9 | *U* | 3.9 | *U* | 2.9 | *U* |
| Copper | 1,720 | 50 | 270 | 88 | | 5.7 | *U* | 45 | | 5.9 | *U* |
| Iron | NA | NA | NA | 150,000 | | 1,200 | | 8,200 | | 1,200 | |
| Lead | 450 | 63 | 1,000 | 150 | | 5.7 | *U* | 160 | | 5.9 | *U* |
| Magnesium | NA | NA | NA | 2,100 | | 570 | *U* | 780 | *U* | 590 | *U* |
| Manganese | 2,000 | 1,600 | 10,000 | 600 | | 11 | *U* | 16 | *U* | 12 | *U* |
| Mercury | 0.73 | 0.18 | 2.8 | 0.15 | | 0.096 | *U* | 0.13 | *U* | 0.098 | *U* |
| Nickel | 130 | 30 | 310 | 20 | | 5.7 | *U* | 7.8 | *U* | 5.9 | *U* |
| Potassium | NA | NA | NA | 590 | | 570 | *U* | 780 | *U* | 590 | *U* |
| Selenium | 4.0 | 3.9 | 1,500 | 2.3 | *U* | 2.3 | *U* | 3.1 | *U* | 2.4 | *U* |
| Silver | 8 | 2 | 1,500 | 0.23 | *U* | 0.23 | *U* | 0.31 | *U* | 0.24 | *U* |
| Sodium | NA | NA | NA | 290 | *U* | 290 | *U* | 390 | *U* | 290 | *U* |
| Thallium | NA | NA | NA | 0.46 | *U* | 0.46 | *U* | 0.62 | *U* | 0.47 | *U* |
| Vanadium | NA | NA | NA | 48 | | 11 | *U* | 61 | | 12 | *U* |
| Zinc | 2,480 | 109 | 10,000 | 360 | | 11 | *U* | 100 | | 12 | *U* |

Analyte Detected

Analyte Above UU SCO

**Analyte Above CU SCO**

Analyte Above Protection of Groundwater

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

# Table 3A: Metals in Soil (2019-2020 Samples)

BCP ID: C241207 - 3-60 Beach 7th Street

Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | Sample ID | B30S10 (8-10) | | B30S10 (13-15) | | B30W18 (6-8) | | B30W18 (11-13) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | Sample Date | 2020-01-28 | | 2020-01-28 | | 2020-01-28 | | 2020-01-28 | |
| | | | Dilution Factor | 1 | | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aluminum | NA | NA | NA | 2,700 | | 230 | *U* | 1,100 | | 270 | *U* |
| Antimony | NA | NA | NA | 1.2 | *U* | 0.91 | *U* | 1.1 | *U* | 1.1 | *U* |
| Arsenic | 16 | 13 | 16 | 5.7 | | 0.42 | | 6 | | 1.8 | |
| Barium | 820 | 350 | 400 | **990** | | 11 | *U* | **680** | | 14 | *U* |
| Beryllium | 47.0 | 7.2 | 590 | 0.32 | | 0.23 | *U* | 0.41 | | 0.27 | *U* |
| Cadmium | 7.5 | 2.5 | 9.3 | 0.58 | *U* | 0.45 | *U* | 0.56 | *U* | 0.55 | *U* |
| Calcium | NA | NA | NA | 1,900 | | 1,100 | *U* | 2,300 | | 1,400 | *U* |
| Chromium | NA | 30 | 1,500 | 7.2 | *U* | 5.7 | *U* | 6.9 | *U* | 6.8 | *U* |
| Cobalt | NA | NA | NA | 5.8 | | 2.8 | *U* | 3.5 | *U* | 3.4 | *U* |
| Copper | 1,720 | 50 | 270 | 43 | | 5.7 | *U* | 28 | | 6.8 | *U* |
| Iron | NA | NA | NA | 24,000 | | 400 | | 18,000 | | 1,400 | |
| Lead | 450 | 63 | 1,000 | 17 | | 5.7 | *U* | 77 | | 6.8 | *U* |
| Magnesium | NA | NA | NA | 720 | *U* | 570 | *U* | 690 | *U* | 680 | *U* |
| Manganese | 2,000 | 1,600 | 10,000 | 19 | | 11 | *U* | 15 | | 14 | *U* |
| Mercury | 0.73 | 0.18 | 2.8 | 0.12 | *U* | 0.095 | *U* | 0.12 | *U* | 0.11 | *U* |
| Nickel | 130 | 30 | 310 | 14 | | 5.7 | *U* | 6.9 | *U* | 6.8 | *U* |
| Potassium | NA | NA | NA | 720 | *U* | 570 | *U* | 690 | *U* | 680 | *U* |
| Selenium | 4.0 | 3.9 | 1,500 | 2.9 | *U* | 2.3 | *U* | 2.8 | *U* | 2.7 | *U* |
| Silver | 8 | 2 | 1,500 | 0.29 | *U* | 0.23 | *U* | 0.28 | *U* | 0.27 | *U* |
| Sodium | NA | NA | NA | 360 | *U* | 280 | *U* | 350 | *U* | 340 | *U* |
| Thallium | NA | NA | NA | 0.58 | *U* | 0.45 | *U* | 0.56 | *U* | 0.55 | *U* |
| Vanadium | NA | NA | NA | 14 | *U* | 11 | *U* | 14 | *U* | 14 | *U* |
| Zinc | 2,480 | 109 | 10,000 | 63 | | 11 | *U* | 51 | | 14 | *U* |

Analyte Detected

Analyte Above UU SCO

**Analyte Above CU SCO**

Analyte Above Protection of Groundwater

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

# Table 3A: Metals in Soil (2019-2020 Samples)

BCP ID: C241207 - 3-60 Beach 7th Street

Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | Sample ID | B31 (0-5) | | B31 (10-12) | | B32 (5-10) | | B32 (10-15) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | Sample Date | 2019-02-11 | | 2019-02-11 | | 2019-02-11 | | 2019-02-11 | |
| | | | Dilution Factor | 1 | | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aluminum | NA | NA | NA | 3,500 | | 1,100 | | 3,800 | | 1,500 | |
| Antimony | NA | NA | NA | 0.87 | *U* | 1 | *U* | 0.88 | *U* | 1.1 | *U* |
| Arsenic | 16 | 13 | 16 | 1.7 | | 2 | | 3.4 | | 14 | |
| Barium | 820 | 350 | 400 | 360 | | 22 | | 240 | | 14 | *U* |
| Beryllium | 47.0 | 7.2 | 590 | 0.22 | *U* | 0.25 | *U* | 0.22 | *U* | 0.28 | *U* |
| Cadmium | 7.5 | 2.5 | 9.3 | 0.43 | *U* | 0.5 | *U* | 0.49 | | 0.56 | *U* |
| Calcium | NA | NA | NA | 25,000 | | 2,100 | | 17,000 | | 1,400 | *U* |
| Chromium | NA | 30 | 1,500 | 12 | | 6.2 | *U* | 17 | | 6.9 | *U* |
| Cobalt | NA | NA | NA | 2.7 | *U* | 3.1 | *U* | 2.8 | | 3.5 | *U* |
| Copper | 1,720 | 50 | 270 | 20 | | 7.2 | | 48 | | 6.9 | *U* |
| Iron | NA | NA | NA | 15,000 | | 4,300 | | 19,000 | | 6,800 | |
| Lead | 450 | 63 | 1,000 | 40 | | 25 | | 98 | | 6.9 | *U* |
| Magnesium | NA | NA | NA | 2,700 | | 620 | *U* | 3,500 | | 720 | |
| Manganese | 2,000 | 1,600 | 10,000 | 140 | | 32 | | 210 | | 36 | |
| Mercury | 0.73 | 0.18 | 2.8 | 0.091 | *U* | 0.1 | *U* | 0.092 | *U* | 0.39 | |
| Nickel | 130 | 30 | 310 | 8.8 | | 6.9 | | 15 | | 6.9 | *U* |
| Potassium | NA | NA | NA | 540 | *U* | 620 | *U* | 550 | *U* | 690 | *U* |
| Selenium | 4.0 | 3.9 | 1,500 | 2.2 | *U* | 2.5 | *U* | 2.2 | *U* | 2.8 | *U* |
| Silver | 8 | 2 | 1,500 | 0.22 | *U* | 0.25 | *U* | 0.28 | | 0.28 | *U* |
| Sodium | NA | NA | NA | 270 | *U* | 310 | *U* | 270 | *U* | 350 | *U* |
| Thallium | NA | NA | NA | 0.43 | *U* | 0.5 | *U* | 0.44 | *U* | 0.56 | *U* |
| Vanadium | NA | NA | NA | 13 | | 12 | *U* | 14 | | 14 | *U* |
| Zinc | 2,480 | 109 | 10,000 | 57 | | 39 | | 140 | | 14 | *U* |

Analyte Detected

Analyte Above UU SCO

**Analyte Above CU SCO**

Analyte Above Protection of Groundwater

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

# Table 3A: Metals in Soil (2019-2020 Samples)

BCP ID: C241207 - 3-60 Beach 7th Street

Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | Sample ID | B33 (0-5) | | B33 (6-10) | | B34 (8-10) | | B34 (13-15) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | Sample Date | 2019-02-11 | | 2019-02-11 | | 2020-01-29 | | 2020-01-29 | |
| | | | Dilution Factor | 1 | | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aluminum | NA | NA | NA | 3,800 | | 4,700 | | 5,600 | | 2,500 | |
| Antimony | NA | NA | NA | 1.4 | | 1.6 | *U* | 1.2 | *U* | 0.96 | *U* |
| Arsenic | 16 | 13 | 16 | 9.6 | | 8.4 | | **61** | | 2.5 | |
| Barium | 820 | 350 | 400 | **530** | | 170 | | 190 | | 12 | *U* |
| Beryllium | 47.0 | 7.2 | 590 | 0.42 | | 0.41 | *U* | 0.62 | | 0.24 | *U* |
| Cadmium | 7.5 | 2.5 | 9.3 | 3.1 | | 1.1 | | 5.2 | | 0.48 | *U* |
| Calcium | NA | NA | NA | 37,000 | | 5,100 | | 21,000 | | 1,200 | *U* |
| Chromium | NA | 30 | 1,500 | 34 | | 18 | | 24 | | 8.2 | |
| Cobalt | NA | NA | NA | 5.1 | | 7.6 | | 4.6 | | 3 | *U* |
| Copper | 1,720 | 50 | 270 | 69 | | 84 | | 120 | | 6 | *U* |
| Iron | NA | NA | NA | 35,000 | | 21,000 | | 32,000 | | 6,500 | |
| Lead | 450 | 63 | 1,000 | **1,100** | | 430 | | 370 | | 6 | *U* |
| Magnesium | NA | NA | NA | 14,000 | | 1,300 | | 1,400 | | 1,300 | |
| Manganese | 2,000 | 1,600 | 10,000 | 220 | | 130 | | 75 | | 64 | |
| Mercury | 0.73 | 0.18 | 2.8 | 0.13 | | 0.38 | | 0.41 | | 0.1 | *U* |
| Nickel | 130 | 30 | 310 | 60 | | 23 | | 17 | | 6 | *U* |
| Potassium | NA | NA | NA | 580 | *U* | 1,000 | *U* | 740 | *U* | 620 | |
| Selenium | 4.0 | 3.9 | 1,500 | 2.3 | *U* | 4.1 | *U* | 3.3 | | 2.4 | *U* |
| Silver | 8 | 2 | 1,500 | 0.23 | *U* | 0.41 | *U* | 0.29 | *U* | 0.24 | *U* |
| Sodium | NA | NA | NA | 290 | *U* | 510 | *U* | 370 | *U* | 300 | *U* |
| Thallium | NA | NA | NA | 0.47 | *U* | 0.82 | *U* | 1.6 | | 0.48 | *U* |
| Vanadium | NA | NA | NA | 14 | | 28 | | 32 | | 12 | *U* |
| Zinc | 2,480 | 109 | 10,000 | 340 | | 410 | | 1,300 | | 12 | |

Analyte Detected

Analyte Above UU SCO

**Analyte Above CU SCO**

Analyte Above Protection of Groundwater

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

# Table 3A: Metals in Soil (2019-2020 Samples)

BCP ID: C241207 - 3-60 Beach 7th Street

Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | Sample ID | B35 (8-10) | | B35 (13-15) | | B36 (7-9) | | B36 (11-13) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | Sample Date | 2020-01-29 | | 2020-01-29 | | 2020-01-29 | | 2020-01-29 | |
| | | | Dilution Factor | 1 | | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aluminum | NA | NA | NA | 1,400 | | 240 | *U* | 4,500 | | 990 | |
| Antimony | NA | NA | NA | 1.2 | *U* | 0.96 | *U* | 1.2 | *U* | 1.2 | *U* |
| Arsenic | 16 | 13 | 16 | 15 | | 0.99 | | **54** | | 4.2 | |
| Barium | 820 | 350 | 400 | 90 | | 12 | *U* | 63 | | 16 | *U* |
| Beryllium | 47.0 | 7.2 | 590 | 0.31 | *U* | 0.24 | *U* | 0.86 | | 0.31 | *U* |
| Cadmium | 7.5 | 2.5 | 9.3 | 0.62 | *U* | 0.48 | *U* | 1.8 | | 0.62 | *U* |
| Calcium | NA | NA | NA | 1,500 | *U* | 1,200 | *U* | 2,800 | | 1,600 | *U* |
| Chromium | NA | 30 | 1,500 | 7.7 | *U* | 6 | *U* | 13 | | 7.8 | *U* |
| Cobalt | NA | NA | NA | 3.8 | *U* | 3 | *U* | 8.7 | | 3.9 | *U* |
| Copper | 1,720 | 50 | 270 | 29 | | 6 | *U* | 110 | | 7.8 | *U* |
| Iron | NA | NA | NA | 7,700 | | 640 | | 36,000 | | 4,800 | |
| Lead | 450 | 63 | 1,000 | 92 | | 6 | *U* | 170 | | 7.8 | *U* |
| Magnesium | NA | NA | NA | 770 | *U* | 600 | *U* | 2,300 | | 780 | *U* |
| Manganese | 2,000 | 1,600 | 10,000 | 24 | | 12 | *U* | 200 | | 24 | |
| Mercury | 0.73 | 0.18 | 2.8 | 0.13 | *U* | 0.1 | *U* | 0.12 | *U* | 0.13 | *U* |
| Nickel | 130 | 30 | 310 | 7.7 | *U* | 6 | *U* | 19 | | 7.8 | *U* |
| Potassium | NA | NA | NA | 770 | *U* | 600 | *U* | 720 | *U* | 780 | *U* |
| Selenium | 4.0 | 3.9 | 1,500 | 3.1 | *U* | 2.4 | *U* | 9.3 | | 3.1 | *U* |
| Silver | 8 | 2 | 1,500 | 0.31 | *U* | 0.24 | *U* | 0.29 | *U* | 0.31 | *U* |
| Sodium | NA | NA | NA | 380 | *U* | 300 | *U* | 360 | *U* | 390 | *U* |
| Thallium | NA | NA | NA | 0.73 | | 0.48 | *U* | 1.3 | | 0.62 | *U* |
| Vanadium | NA | NA | NA | 15 | *U* | 12 | *U* | 23 | | 16 | *U* |
| Zinc | 2,480 | 109 | 10,000 | 170 | | 12 | *U* | 790 | | 34 | |

Analyte Detected

Analyte Above UU SCO

**Analyte Above CU SCO**

Analyte Above Protection of Groundwater

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

# Table 3A: Metals in Soil (2019-2020 Samples)

BCP ID: C241207 - 3-60 Beach 7th Street

Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | Sample ID | DUP 20200129 | | SV-2 (0-5) | | SV-2 (7-9) | | SV-5 (0-5) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | Sample Date | 2020-01-29 | | 2019-02-11 | | 2019-02-11 | | 2019-02-11 | |
| | | | Dilution Factor | 1 | | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aluminum | NA | NA | NA | 470 | | 2,400 | | 4,700 | | 4,300 | |
| Antimony | NA | NA | NA | 0.96 | *U* | 0.93 | *U* | 1.3 | *U* | 0.89 | *U* |
| Arsenic | 16 | 13 | 16 | 3.4 | | 5 | | 7.5 | | 2.6 | |
| Barium | 820 | 350 | 400 | 12 | *U* | 94 | | 16 | *U* | 67 | |
| Beryllium | 47.0 | 7.2 | 590 | 0.24 | *U* | 0.27 | | 0.46 | | 0.22 | *U* |
| Cadmium | 7.5 | 2.5 | 9.3 | 0.48 | *U* | 0.64 | | 0.63 | *U* | 0.44 | *U* |
| Calcium | NA | NA | NA | 1,200 | *U* | 3,300 | | 1,600 | *U* | 22,000 | |
| Chromium | NA | 30 | 1,500 | 6 | *U* | 7.9 | | 13 | | 17 | |
| Cobalt | NA | NA | NA | 3 | *U* | 2.9 | *U* | 4 | *U* | 2.9 | |
| Copper | 1,720 | 50 | 270 | 6 | *U* | 45 | | 7.9 | *U* | 31 | |
| Iron | NA | NA | NA | 2,700 | | 10,000 | | 14,000 | | 12,000 | |
| Lead | 450 | 63 | 1,000 | 6 | *U* | 270 | | 7.9 | *U* | 73 | |
| Magnesium | NA | NA | NA | 600 | *U* | 1,100 | | 2,400 | | 5,000 | |
| Manganese | 2,000 | 1,600 | 10,000 | 13 | | 90 | | 88 | | 180 | |
| Mercury | 0.73 | 0.18 | 2.8 | 0.1 | *U* | 0.24 | | 0.13 | *U* | 0.093 | *U* |
| Nickel | 130 | 30 | 310 | 6 | *U* | 7.6 | | 7.9 | *U* | 12 | |
| Potassium | NA | NA | NA | 600 | *U* | 580 | *U* | 1,200 | | 1,000 | |
| Selenium | 4.0 | 3.9 | 1,500 | 2.4 | *U* | 2.3 | *U* | 3.2 | *U* | 2.2 | *U* |
| Silver | 8 | 2 | 1,500 | 0.24 | *U* | 0.23 | *U* | 0.32 | *U* | 0.22 | *U* |
| Sodium | NA | NA | NA | 300 | *U* | 290 | *U* | 1,700 | | 280 | *U* |
| Thallium | NA | NA | NA | 0.48 | *U* | 0.47 | *U* | 0.63 | *U* | 0.44 | *U* |
| Vanadium | NA | NA | NA | 12 | *U* | 13 | | 22 | | 16 | |
| Zinc | 2,480 | 109 | 10,000 | 28 | | 230 | | 26 | | 93 | |

Analyte Detected

Analyte Above UU SCO

**Analyte Above CU SCO**

Analyte Above Protection of Groundwater

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

# Table 3A: Metals in Soil (2019-2020 Samples)

BCP ID: C241207 - 3-60 Beach 7th Street

Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | **Sample ID** | **SV-5 (6-12)** | |
|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | Sample Date | 2019-02-11 | |
| | | | Dilution Factor | 1 | |
| **Metals, 6010 and 7473** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* |
| Aluminum | NA | NA | NA | 280 | |
| Antimony | NA | NA | NA | 0.98 | *U* |
| Arsenic | 16 | 13 | 16 | 3.2 | |
| Barium | 820 | 350 | 400 | 15 | |
| Beryllium | 47.0 | 7.2 | 590 | 0.24 | *U* |
| Cadmium | 7.5 | 2.5 | 9.3 | 0.49 | *U* |
| Calcium | NA | NA | NA | 1,200 | *U* |
| Chromium | NA | 30 | 1,500 | 6.1 | *U* |
| Cobalt | NA | NA | NA | 3 | *U* |
| Copper | 1,720 | 50 | 270 | 6.1 | *U* |
| Iron | NA | NA | NA | 1,100 | |
| Lead | 450 | 63 | 1,000 | 6.1 | *U* |
| Magnesium | NA | NA | NA | 610 | *U* |
| Manganese | 2,000 | 1,600 | 10,000 | 12 | *U* |
| Mercury | 0.73 | 0.18 | 2.8 | 0.1 | *U* |
| Nickel | 130 | 30 | 310 | 6.1 | *U* |
| Potassium | NA | NA | NA | 610 | *U* |
| Selenium | 4.0 | 3.9 | 1,500 | 2.4 | *U* |
| Silver | 8 | 2 | 1,500 | 0.24 | *U* |
| Sodium | NA | NA | NA | 300 | *U* |
| Thallium | NA | NA | NA | 0.49 | *U* |
| Vanadium | NA | NA | NA | 12 | *U* |
| Zinc | 2,480 | 109 | 10,000 | 12 | *U* |

Analyte Detected

Analyte Above UU SCO

**Analyte Above CU SCO**

Analyte Above Protection of Groundwater

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

2019-2020 Site Investigation – PCBs in Soil

**Table 4A: PCBs in Soil (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | Sample ID | | B8 E (9-10) | | B11 N (9-10) | | B13 N (7) | | B13 N (7) Dup | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | | 2019-01-25 | | 2019-01-25 | | 2019-02-11 | | 2019-02-11 | |
| | | | | Dilution Factor | | 1 | | 1 | | 1 | | 1 | |
| **PCBs, 8082** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aroclor 1016 | 3.2 | 0.1 | 1.0 | 0.032 | *U* | 0.029 | *U* | 0.041 | *U* | 0.045 | *U* | | |
| Aroclor 1221 | 3.2 | 0.1 | 1.0 | 0.032 | *U* | 0.029 | *U* | 0.041 | *U* | 0.045 | *U* | | |
| Aroclor 1232 | 3.2 | 0.1 | 1.0 | 0.032 | *U* | 0.029 | *U* | 0.041 | *U* | 0.045 | *U* | | |
| Aroclor 1242 | 3.2 | 0.1 | 1.0 | 0.68 | | 0.029 | *U* | 0.041 | *U* | 0.045 | *U* | | |
| Aroclor 1248 | 3.2 | 0.1 | 1.0 | 0.032 | *U* | 0.029 | *U* | 0.041 | *U* | 0.045 | *U* | | |
| Aroclor 1254 | 3.2 | 0.1 | 1.0 | 0.032 | *U* | 0.029 | *U* | 0.041 | *U* | 0.045 | *U* | | |
| Aroclor 1260 | 3.2 | 0.1 | 1.0 | **2.2** | | 0.029 | *U* | 0.041 | *U* | 0.045 | *U* | | |
| Aroclor-1262 | 3.2 | 0.1 | 1.0 | 0.032 | *U* | 0.029 | *U* | 0.041 | *U* | 0.045 | *U* | | |
| Aroclor-1268 | 3.2 | 0.1 | 1.0 | 0.032 | *U* | 0.029 | *U* | 0.041 | *U* | 0.045 | *U* | | |
| Aroclor, Total | 3.2 | 0.1 | 1.0 | **2.9** | | 0.029 | *U* | 0.041 | *U* | 0.045 | *U* | | |

| | | | | Sample ID | | B17 E (7) | | B17 S (6) | | B17 W | | B19S (0-5) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Sample Date | | 2019-02-11 | | 2019-02-11 | | 2019-02-11 | | 2019-02-11 | |
| | | | | Dilution Factor | | 1 | | 1 | | 1 | | 1 | |
| **PCBs, 8082** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aroclor 1016 | 3.2 | 0.1 | 1.0 | 0.034 | *U* | 0.029 | *U* | 0.035 | *U* | 0.028 | *U* | | |
| Aroclor 1221 | 3.2 | 0.1 | 1.0 | 0.034 | *U* | 0.029 | *U* | 0.035 | *U* | 0.028 | *U* | | |
| Aroclor 1232 | 3.2 | 0.1 | 1.0 | 0.034 | *U* | 0.029 | *U* | 0.035 | *U* | 0.028 | *U* | | |
| Aroclor 1242 | 3.2 | 0.1 | 1.0 | 0.034 | *U* | 0.029 | *U* | 0.035 | *U* | 0.028 | *U* | | |
| Aroclor 1248 | 3.2 | 0.1 | 1.0 | 0.034 | *U* | 0.029 | *U* | 0.035 | *U* | 0.028 | *U* | | |
| Aroclor 1254 | 3.2 | 0.1 | 1.0 | 0.034 | *U* | 0.029 | *U* | 0.035 | *U* | 0.028 | *U* | | |
| Aroclor 1260 | 3.2 | 0.1 | 1.0 | 0.034 | *U* | 0.12 | | 0.035 | *U* | 0.028 | *U* | | |
| Aroclor-1262 | 3.2 | 0.1 | 1.0 | 0.034 | *U* | 0.029 | *U* | 0.035 | *U* | 0.028 | *U* | | |
| Aroclor-1268 | 3.2 | 0.1 | 1.0 | 0.034 | *U* | 0.029 | *U* | 0.035 | *U* | 0.028 | *U* | | |
| Aroclor, Total | 3.2 | 0.1 | 1.0 | 0.034 | *U* | 0.12 | | 0.035 | *U* | 0.028 | *U* | | |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 4A: PCBs in Soil (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | Sample ID | B13 S (5-6) | | B30 (0-6") COMP | | B30 (6-8) COMP | | B30N18 (8-10) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2019-01-25 | | 2019-01-25 | | 2019-01-25 | | 2020-01-28 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | | 1 | |
| **PCBs, 8082** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aroclor 1016 | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.027 | *U* | 0.033 | *U* | 0.029 | *U* |
| Aroclor 1221 | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.027 | *U* | 0.033 | *U* | 0.029 | *U* |
| Aroclor 1232 | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.027 | *U* | 0.033 | *U* | 0.029 | *U* |
| Aroclor 1242 | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.027 | *U* | 0.033 | *U* | 0.029 | *U* |
| Aroclor 1248 | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.027 | *U* | 0.033 | *U* | 0.029 | *U* |
| Aroclor 1254 | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.074 | | 0.033 | *U* | 0.029 | *U* |
| Aroclor 1260 | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.027 | *U* | 0.033 | *U* | 0.029 | *U* |
| Aroclor-1262 | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.027 | *U* | 0.033 | *U* | 0.029 | *U* |
| Aroclor-1268 | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.027 | *U* | 0.033 | *U* | 0.029 | *U* |
| Aroclor, Total | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.074 | | 0.033 | *U* | 0.029 | *U* |

| | | | | Sample ID | B29 (6.5-7.5') COMP | | B30E7 (13-15) | | B30S10 (8-10) | | B30S10 (13-15) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Sample Date | 2019-01-25 | | 2020-01-28 | | 2020-01-28 | | 2020-01-28 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | | 1 | |
| **PCBs, 8082** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aroclor 1016 | 3.2 | 0.1 | 1.0 | 0.032 | *U* | 0.029 | *U* | 0.036 | *U* | 0.028 | *U* |
| Aroclor 1221 | 3.2 | 0.1 | 1.0 | 0.032 | *U* | 0.029 | *U* | 0.036 | *U* | 0.028 | *U* |
| Aroclor 1232 | 3.2 | 0.1 | 1.0 | 0.032 | *U* | 0.029 | *U* | 0.036 | *U* | 0.028 | *U* |
| Aroclor 1242 | 3.2 | 0.1 | 1.0 | 0.032 | *U* | 0.029 | *U* | 0.036 | *U* | 0.028 | *U* |
| Aroclor 1248 | 3.2 | 0.1 | 1.0 | 0.032 | *U* | 0.029 | *U* | 0.036 | *U* | 0.028 | *U* |
| Aroclor 1254 | 3.2 | 0.1 | 1.0 | 0.032 | *U* | 0.029 | *U* | 0.036 | *U* | 0.028 | *U* |
| Aroclor 1260 | 3.2 | 0.1 | 1.0 | 0.032 | *U* | 0.029 | *U* | 0.15 | | 0.028 | *U* |
| Aroclor-1262 | 3.2 | 0.1 | 1.0 | 0.032 | *U* | 0.029 | *U* | 0.036 | *U* | 0.028 | *U* |
| Aroclor-1268 | 3.2 | 0.1 | 1.0 | 0.032 | *U* | 0.029 | *U* | 0.036 | *U* | 0.028 | *U* |
| Aroclor, Total | 3.2 | 0.1 | 1.0 | 0.032 | *U* | 0.029 | *U* | 0.15 | | 0.028 | *U* |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 4A: PCBs in Soil (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | Sample ID | B30N18 (13-15) | | B30E7 (8-10) | | B31 (0-5) | | B31 (10-12) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2020-01-28 | | 2020-01-28 | | 2019-02-11 | | 2019-02-11 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | | 1 | |
| **PCBs, 8082** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aroclor 1016 | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.039 | *U* | 0.027 | *U* | 0.031 | *U* |
| Aroclor 1221 | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.039 | *U* | 0.027 | *U* | 0.031 | *U* |
| Aroclor 1232 | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.039 | *U* | 0.027 | *U* | 0.031 | *U* |
| Aroclor 1242 | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.039 | *U* | 0.027 | *U* | 0.031 | *U* |
| Aroclor 1248 | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.039 | *U* | 0.027 | *U* | 0.031 | *U* |
| Aroclor 1254 | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.039 | *U* | 0.14 | | 0.031 | *U* |
| Aroclor 1260 | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.039 | *U* | 0.027 | *U* | 0.031 | *U* |
| Aroclor-1262 | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.039 | *U* | 0.027 | *U* | 0.031 | *U* |
| Aroclor-1268 | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.039 | *U* | 0.027 | *U* | 0.031 | *U* |
| Aroclor, Total | 3.2 | 0.1 | 1.0 | 0.029 | *U* | 0.039 | *U* | 0.14 | | 0.031 | *U* |

| | | | | Sample ID | B30W18 (6-8) | | B30W18 (11-13) | | B33 (6-10) | | B34 (8-10) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Sample Date | 2020-01-28 | | 2020-01-28 | | 2019-02-11 | | 2020-01-29 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | | 1 | |
| **PCBs, 8082** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aroclor 1016 | 3.2 | 0.1 | 1.0 | 0.035 | *U* | 0.034 | *U* | 0.051 | *U* | 0.037 | *U* |
| Aroclor 1221 | 3.2 | 0.1 | 1.0 | 0.035 | *U* | 0.034 | *U* | 0.051 | *U* | 0.037 | *U* |
| Aroclor 1232 | 3.2 | 0.1 | 1.0 | 0.035 | *U* | 0.034 | *U* | 0.051 | *U* | 0.037 | *U* |
| Aroclor 1242 | 3.2 | 0.1 | 1.0 | 0.035 | *U* | 0.034 | *U* | 0.051 | *U* | 0.037 | *U* |
| Aroclor 1248 | 3.2 | 0.1 | 1.0 | 0.035 | *U* | 0.034 | *U* | 0.051 | *U* | 0.037 | *U* |
| Aroclor 1254 | 3.2 | 0.1 | 1.0 | 0.035 | *U* | 0.034 | *U* | 0.051 | *U* | 0.037 | *U* |
| Aroclor 1260 | 3.2 | 0.1 | 1.0 | 0.035 | *U* | 0.034 | *U* | 0.051 | *U* | 0.037 | *U* |
| Aroclor-1262 | 3.2 | 0.1 | 1.0 | 0.035 | *U* | 0.034 | *U* | 0.051 | *U* | 0.037 | *U* |
| Aroclor-1268 | 3.2 | 0.1 | 1.0 | 0.035 | *U* | 0.034 | *U* | 0.051 | *U* | 0.037 | *U* |
| Aroclor, Total | 3.2 | 0.1 | 1.0 | 0.035 | *U* | 0.034 | *U* | 0.051 | *U* | 0.037 | *U* |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 4A: PCBs in Soil (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | Sample ID | B32 (5-10) | | B32 (10-15) | | B33 (0-5) | | B36 (7-9) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2019-02-11 | | 2019-02-11 | | 2019-02-11 | | 2020-01-29 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | | 1 | |
| **PCBs, 8082** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aroclor 1016 | 3.2 | 0.1 | 1.0 | 0.027 | *U* | 0.035 | *U* | 0.029 | *U* | 0.036 | *U* |
| Aroclor 1221 | 3.2 | 0.1 | 1.0 | 0.027 | *U* | 0.035 | *U* | 0.029 | *U* | 0.036 | *U* |
| Aroclor 1232 | 3.2 | 0.1 | 1.0 | 0.027 | *U* | 0.035 | *U* | 0.029 | *U* | 0.036 | *U* |
| Aroclor 1242 | 3.2 | 0.1 | 1.0 | 0.027 | *U* | 0.035 | *U* | 0.029 | *U* | 0.036 | *U* |
| Aroclor 1248 | 3.2 | 0.1 | 1.0 | 0.027 | *U* | 0.035 | *U* | 0.029 | *U* | 0.036 | *U* |
| Aroclor 1254 | 3.2 | 0.1 | 1.0 | 0.027 | *U* | 0.035 | *U* | 0.029 | *U* | 0.036 | *U* |
| Aroclor 1260 | 3.2 | 0.1 | 1.0 | 0.075 | | 0.035 | *U* | 0.13 | | 0.036 | *U* |
| Aroclor-1262 | 3.2 | 0.1 | 1.0 | 0.027 | *U* | 0.035 | *U* | 0.029 | *U* | 0.036 | *U* |
| Aroclor-1268 | 3.2 | 0.1 | 1.0 | 0.027 | *U* | 0.035 | *U* | 0.029 | *U* | 0.036 | *U* |
| Aroclor, Total | 3.2 | 0.1 | 1.0 | 0.075 | | 0.035 | *U* | 0.13 | | 0.036 | *U* |

| | | | | Sample ID | B34 (13-15) | | B35 (8-10) | | B35 (13-15) | | SV-5 (0-5) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Sample Date | 2020-01-29 | | 2020-01-29 | | 2020-01-29 | | 2019-02-11 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | | 1 | |
| **PCBs, 8082** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aroclor 1016 | 3.2 | 0.1 | 1.0 | 0.03 | *U* | 0.038 | *U* | 0.03 | *U* | 0.028 | *U* |
| Aroclor 1221 | 3.2 | 0.1 | 1.0 | 0.03 | *U* | 0.038 | *U* | 0.03 | *U* | 0.028 | *U* |
| Aroclor 1232 | 3.2 | 0.1 | 1.0 | 0.03 | *U* | 0.038 | *U* | 0.03 | *U* | 0.028 | *U* |
| Aroclor 1242 | 3.2 | 0.1 | 1.0 | 0.03 | *U* | 0.038 | *U* | 0.03 | *U* | 0.028 | *U* |
| Aroclor 1248 | 3.2 | 0.1 | 1.0 | 0.03 | *U* | 0.038 | *U* | 0.03 | *U* | 0.028 | *U* |
| Aroclor 1254 | 3.2 | 0.1 | 1.0 | 0.03 | *U* | 0.038 | *U* | 0.03 | *U* | 0.056 | |
| Aroclor 1260 | 3.2 | 0.1 | 1.0 | 0.03 | *U* | 0.038 | *U* | 0.03 | *U* | 0.028 | *U* |
| Aroclor-1262 | 3.2 | 0.1 | 1.0 | 0.03 | *U* | 0.038 | *U* | 0.03 | *U* | 0.028 | *U* |
| Aroclor-1268 | 3.2 | 0.1 | 1.0 | 0.03 | *U* | 0.038 | *U* | 0.03 | *U* | 0.028 | *U* |
| Aroclor, Total | 3.2 | 0.1 | 1.0 | 0.03 | *U* | 0.038 | *U* | 0.03 | *U* | 0.056 | |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 4A: PCBs in Soil (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | Sample ID | | B36 (11-13) | | DUP 20200129 | | SV-2 (0-5) | | SV-2 (7-9) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | | 2020-01-29 | | 2020-01-29 | | 2019-02-11 | | 2019-02-11 | |
| | | | | Dilution Factor | | 1 | | 1 | | 1 | | 1 | |
| **PCBs, 8082** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aroclor 1016 | 3.2 | 0.1 | 1.0 | 0.039 | *U* | 0.03 | *U* | 0.029 | *U* | 0.04 | *U* | | |
| Aroclor 1221 | 3.2 | 0.1 | 1.0 | 0.039 | *U* | 0.03 | *U* | 0.029 | *U* | 0.04 | *U* | | |
| Aroclor 1232 | 3.2 | 0.1 | 1.0 | 0.039 | *U* | 0.03 | *U* | 0.029 | *U* | 0.04 | *U* | | |
| Aroclor 1242 | 3.2 | 0.1 | 1.0 | 0.039 | *U* | 0.03 | *U* | 0.029 | *U* | 0.04 | *U* | | |
| Aroclor 1248 | 3.2 | 0.1 | 1.0 | 0.039 | *U* | 0.03 | *U* | 0.029 | *U* | 0.04 | *U* | | |
| Aroclor 1254 | 3.2 | 0.1 | 1.0 | 0.039 | *U* | 0.03 | *U* | 0.029 | *U* | 0.04 | *U* | | |
| Aroclor 1260 | 3.2 | 0.1 | 1.0 | 0.039 | *U* | 0.03 | *U* | 0.029 | *U* | 0.04 | *U* | | |
| Aroclor-1262 | 3.2 | 0.1 | 1.0 | 0.039 | *U* | 0.03 | *U* | 0.029 | *U* | 0.04 | *U* | | |
| Aroclor-1268 | 3.2 | 0.1 | 1.0 | 0.039 | *U* | 0.03 | *U* | 0.029 | *U* | 0.04 | *U* | | |
| Aroclor, Total | 3.2 | 0.1 | 1.0 | 0.039 | *U* | 0.03 | *U* | 0.029 | *U* | 0.04 | *U* | | |

| | | | | Sample ID | | SV-5 (6-12) | |
|---|---|---|---|---|---|---|---|
| | | | | Sample Date | | 2019-02-11 | |
| | | | | Dilution Factor | | 1 | |
| **PCBs, 8082** | **Protection of Groundwater** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | | |
| Aroclor 1016 | 3.2 | 0.1 | 1.0 | 0.03 | *U* | | |
| Aroclor 1221 | 3.2 | 0.1 | 1.0 | 0.03 | *U* | | |
| Aroclor 1232 | 3.2 | 0.1 | 1.0 | 0.03 | *U* | | |
| Aroclor 1242 | 3.2 | 0.1 | 1.0 | 0.03 | *U* | | |
| Aroclor 1248 | 3.2 | 0.1 | 1.0 | 0.03 | *U* | | |
| Aroclor 1254 | 3.2 | 0.1 | 1.0 | 0.03 | *U* | | |
| Aroclor 1260 | 3.2 | 0.1 | 1.0 | 0.03 | *U* | | |
| Aroclor-1262 | 3.2 | 0.1 | 1.0 | 0.03 | *U* | | |
| Aroclor-1268 | 3.2 | 0.1 | 1.0 | 0.03 | *U* | | |
| Aroclor, Total | 3.2 | 0.1 | 1.0 | 0.03 | *U* | | |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

# 2019-2020 Site Investigation – Pesticides in Soil

**Table 4B: Pesticides and Herbicides in Soil (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | **Sample ID** | **B8 E (9-10)** | | **B11 N (9-10)** | | **B13 S (5-6)** | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2019-01-25 | | 2019-01-25 | | 2019-01-25 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | |
| **Pesticides, 8081** | **Protection of Groundwater** | **UU SCO** | **RCUSCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 4,4'-DDD | 17 | 0.0033 | 92 | 0.0032 | *U* | 0.0029 | *U* | 0.0029 | *U* |
| 4,4'-DDE | 136 | 0.0033 | 62 | 0.0032 | *U* | 0.0029 | *U* | 0.0029 | *U* |
| 4,4'-DDT | 14 | 0.0033 | 47 | 0.0032 | *U* | 0.0029 | *U* | 0.0029 | *U* |
| Aldrin | 0.19 | 0.005 | 0.68 | 0.0063 | *U* | 0.0059 | *U* | 0.0058 | *U* |
| alpha-BHC | 0.02 | 0.02 | 3.4 | 0.0013 | *U* | 0.0012 | *U* | 0.0012 | *U* |
| alpha-Chlordane | 2.9 | 0.094 | 24 | 0.0063 | *U* | 0.0059 | *U* | 0.0058 | *U* |
| beta-BHC | 0.09 | 0.036 | 3 | 0.0013 | *U* | 0.0012 | *U* | 0.0012 | *U* |
| Chlordane (cis) | 2.9 | 0.094 | 24 | 0.0063 | *U* | 0.0059 | *U* | 0.0058 | *U* |
| Chlordane (total) | NA | NA | NA | 0.0063 | *U* | 0.0059 | *U* | 0.0058 | *U* |
| delta-BHC | 0.25 | 0.04 | 500 | 0.0063 | *U* | 0.0059 | *U* | 0.0058 | *U* |
| Dieldrin | 0.1 | 0.005 | 1.4 | 0.0013 | *U* | 0.0012 | *U* | 0.0012 | *U* |
| Endosulfan I | 102 | 2.4 | 200 | 0.0063 | *U* | 0.0059 | *U* | 0.0058 | *U* |
| Endosulfan II | 102 | 2.4 | 200 | 0.0063 | *U* | 0.0059 | *U* | 0.0058 | *U* |
| Endosulfan sulfate | 1000 | 2.4 | 200 | 0.0063 | *U* | 0.0059 | *U* | 0.0058 | *U* |
| Endrin | 0.06 | 0.014 | 89 | 0.0063 | *U* | 0.0059 | *U* | 0.0058 | *U* |
| Endrin aldehyde | NA | NA | NA | 0.0063 | *U* | 0.0059 | *U* | 0.0058 | *U* |
| Endrin ketone | NA | NA | NA | 0.0063 | *U* | 0.0059 | *U* | 0.0058 | *U* |
| gamma-BHC (Lindane) | 0.1 | 0.1 | 9.2 | 0.0013 | *U* | 0.0012 | *U* | 0.0012 | *U* |
| Heptachlor | 0.38 | 0.042 | 15 | 0.0063 | *U* | 0.0059 | *U* | 0.0058 | *U* |
| Heptachlor Epoxide | NA | NA | NA | 0.0063 | *U* | 0.0059 | *U* | 0.0058 | *U* |
| Methoxychlor | NA | NA | NA | 0.0063 | *U* | 0.0059 | *U* | 0.0058 | *U* |
| Toxaphene | NA | NA | NA | 0.032 | *U* | 0.029 | *U* | 0.029 | *U* |
| **Herbicides, 8151** | | | | | | | | | |
| 2,4,5-T | NA | NA | NA | NA | *U* | NA | *U* | NA | *U* |
| 2,4-D | NA | NA | NA | NA | *U* | NA | *U* | NA | *U* |
| Dicamba | NA | NA | NA | NA | *U* | NA | *U* | NA | *U* |
| Silvex | 3.8 | 3.8 | 500 | NA | *U* | NA | *U* | NA | *U* |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

## Table 4B: Pesticides and Herbicides in Soil (2019-2020 Samples)

BCP ID: C241207 - 3-60 Beach 7th Street

Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | Sample ID | B17 E (7) | | B17 S (6) | | B17 W | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2019-02-11 | | 2019-02-11 | | 2019-02-11 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | |
| **Pesticides, 8081** | **Protection of Groundwater** | **UU SCO** | **RCUSCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 4,4'-DDD | 17 | 0.0033 | 92 | 0.0034 | *U* | 0.0029 | *U* | 0.0035 | *U* |
| 4,4'-DDE | 136 | 0.0033 | 62 | 0.0034 | *U* | 0.0029 | *U* | 0.0035 | *U* |
| 4,4'-DDT | 14 | 0.0033 | 47 | 0.0034 | *U* | 0.0029 | *U* | 0.0035 | *U* |
| Aldrin | 0.19 | 0.005 | 0.68 | 0.0068 | *U* | 0.0059 | *U* | 0.0069 | *U* |
| alpha-BHC | 0.02 | 0.02 | 3.4 | 0.0014 | *U* | 0.0012 | *U* | 0.0014 | *U* |
| alpha-Chlordane | 2.9 | 0.094 | 24 | 0.0068 | *U* | 0.0059 | *U* | 0.0069 | *U* |
| beta-BHC | 0.09 | 0.036 | 3 | 0.0014 | *U* | 0.0012 | *U* | 0.0014 | *U* |
| Chlordane (cis) | 2.9 | 0.094 | 24 | 0.0068 | *U* | 0.0059 | *U* | 0.0069 | *U* |
| Chlordane (total) | NA | NA | NA | 0.0068 | *U* | 0.0059 | *U* | 0.0069 | *U* |
| delta-BHC | 0.25 | 0.04 | 500 | 0.0068 | *U* | 0.0059 | *U* | 0.0069 | *U* |
| Dieldrin | 0.1 | 0.005 | 1.4 | 0.0014 | *U* | 0.0012 | *U* | 0.0014 | *U* |
| Endosulfan I | 102 | 2.4 | 200 | 0.0068 | *U* | 0.0059 | *U* | 0.0069 | *U* |
| Endosulfan II | 102 | 2.4 | 200 | 0.0068 | *U* | 0.0059 | *U* | 0.0069 | *U* |
| Endosulfan sulfate | 1000 | 2.4 | 200 | 0.0068 | *U* | 0.0059 | *U* | 0.0069 | *U* |
| Endrin | 0.06 | 0.014 | 89 | 0.0068 | *U* | 0.0059 | *U* | 0.0069 | *U* |
| Endrin aldehyde | NA | NA | NA | 0.0068 | *U* | 0.0059 | *U* | 0.0069 | *U* |
| Endrin ketone | NA | NA | NA | 0.0068 | *U* | 0.0059 | *U* | 0.0069 | *U* |
| gamma-BHC (Lindane) | 0.1 | 0.1 | 9.2 | 0.0014 | *U* | 0.0012 | *U* | 0.0014 | *U* |
| Heptachlor | 0.38 | 0.042 | 15 | 0.0068 | *U* | 0.0059 | *U* | 0.0069 | *U* |
| Heptachlor Epoxide | NA | NA | NA | 0.0068 | *U* | 0.0059 | *U* | 0.0069 | *U* |
| Methoxychlor | NA | NA | NA | 0.0068 | *U* | 0.0059 | *U* | 0.0069 | *U* |
| Toxaphene | NA | NA | NA | 0.034 | *U* | 0.029 | *U* | 0.035 | *U* |
| **Herbicides, 8151** | | | | | | | | | |
| 2,4,5-T | NA | NA | NA | NT | *U* | NT | *U* | NT | *U* |
| 2,4-D | NA | NA | NA | NT | *U* | NT | *U* | NT | *U* |
| Dicamba | NA | NA | NA | NT | *U* | NT | *U* | NT | *U* |
| Silvex | 3.8 | 3.8 | 500 | 0.014 | *U* | 0.012 | *U* | 0.014 | *U* |

Analyte Detected

Analyte Above UU SCO

Analyte Above Protection of Groundwater

**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

## Table 4B: Pesticides and Herbicides in Soil (2019-2020 Samples)

BCP ID: C241207 - 3-60 Beach 7th Street

Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | Sample ID | B19S (0-5) | | B29 (6.5-7.5) COMP | | B30 (0-6) COMP | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2019-02-11 | | 2019-01-25 | | 2019-01-25 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | |
| **Pesticides, 8081** | **Protection of Groundwater** | **UU SCO** | **RCUSCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 4,4'-DDD | 17 | 0.0033 | 92 | 0.0028 | *U* | 0.0032 | *U* | 0.0027 | *U* |
| 4,4'-DDE | 136 | 0.0033 | 62 | 0.0028 | *U* | 0.0032 | *U* | 0.0027 | *U* |
| 4,4'-DDT | 14 | 0.0033 | 47 | 0.0028 | *U* | 0.0032 | *U* | 0.0027 | *U* |
| Aldrin | 0.19 | 0.005 | 0.68 | 0.0057 | *U* | 0.0064 | *U* | 0.0054 | *U* |
| alpha-BHC | 0.02 | 0.02 | 3.4 | 0.0011 | *U* | 0.0013 | *U* | 0.0011 | *U* |
| alpha-Chlordane | 2.9 | 0.094 | 24 | 0.0057 | *U* | 0.0064 | *U* | 0.0054 | *U* |
| beta-BHC | 0.09 | 0.036 | 3 | 0.0011 | *U* | 0.0013 | *U* | 0.0011 | *U* |
| Chlordane (cis) | 2.9 | 0.094 | 24 | 0.0057 | *U* | 0.0064 | *U* | 0.0054 | *U* |
| Chlordane (total) | NA | NA | NA | 0.0057 | *U* | 0.0064 | *U* | 0.0054 | *U* |
| delta-BHC | 0.25 | 0.04 | 500 | 0.0057 | *U* | 0.0064 | *U* | 0.0054 | *U* |
| Dieldrin | 0.1 | 0.005 | 1.4 | 0.0011 | *U* | 0.0013 | *U* | 0.0011 | *U* |
| Endosulfan I | 102 | 2.4 | 200 | 0.0057 | *U* | 0.0064 | *U* | 0.0054 | *U* |
| Endosulfan II | 102 | 2.4 | 200 | 0.0057 | *U* | 0.0064 | *U* | 0.0054 | *U* |
| Endosulfan sulfate | 1000 | 2.4 | 200 | 0.0057 | *U* | 0.0064 | *U* | 0.0054 | *U* |
| Endrin | 0.06 | 0.014 | 89 | 0.0057 | *U* | 0.0064 | *U* | 0.0054 | *U* |
| Endrin aldehyde | NA | NA | NA | 0.0057 | *U* | 0.0064 | *U* | 0.0054 | *U* |
| Endrin ketone | NA | NA | NA | 0.0057 | *U* | 0.0064 | *U* | 0.0054 | *U* |
| gamma-BHC (Lindane) | 0.1 | 0.1 | 9.2 | 0.0011 | *U* | 0.0013 | *U* | 0.0011 | *U* |
| Heptachlor | 0.38 | 0.042 | 15 | 0.0057 | *U* | 0.0064 | *U* | 0.0054 | *U* |
| Heptachlor Epoxide | NA | NA | NA | 0.0057 | *U* | 0.0064 | *U* | 0.0054 | *U* |
| Methoxychlor | NA | NA | NA | 0.0057 | *U* | 0.0064 | *U* | 0.0054 | *U* |
| Toxaphene | NA | NA | NA | 0.028 | *U* | 0.032 | *U* | 0.027 | *U* |
| **Herbicides, 8151** | | | | | | | | | |
| 2,4,5-T | NA | NA | NA | NT | *U* | 0.013 | *U* | 0.011 | *U* |
| 2,4-D | NA | NA | NA | NT | *U* | 0.013 | *U* | 0.011 | *U* |
| Dicamba | NA | NA | NA | NT | *U* | 0.013 | *U* | 0.011 | *U* |
| Silvex | 3.8 | 3.8 | 500 | 0.011 | *U* | 0.013 | *U* | 0.011 | *U* |

Analyte Detected

Analyte Above UU SCO

Analyte Above Protection of Groundwater

**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

## Table 4B: Pesticides and Herbicides in Soil (2019-2020 Samples)

BCP ID: C241207 - 3-60 Beach 7th Street

Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | Sample ID | B30 (6-8) COMP | | B31 (0-5) | | B31 (10-12) | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2019-01-25 | | 2019-02-11 | | 2019-02-11 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | |
| **Pesticides, 8081** | **Protection of Groundwater** | **UU SCO** | **RCUSCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 4,4'-DDD | 17 | 0.0033 | 92 | 0.0033 | *U* | 0.0027 | *U* | 0.0031 | *U* |
| 4,4'-DDE | 136 | 0.0033 | 62 | 0.0033 | *U* | 0.0027 | *U* | 0.0031 | *U* |
| 4,4'-DDT | 14 | 0.0033 | 47 | 0.0033 | *U* | 0.0027 | *U* | 0.0031 | *U* |
| Aldrin | 0.19 | 0.005 | 0.68 | 0.0067 | *U* | 0.0054 | *U* | 0.0063 | *U* |
| alpha-BHC | 0.02 | 0.02 | 3.4 | 0.0013 | *U* | 0.0011 | *U* | 0.0013 | *U* |
| alpha-Chlordane | 2.9 | 0.094 | 24 | 0.0067 | *U* | 0.0054 | *U* | 0.0063 | *U* |
| beta-BHC | 0.09 | 0.036 | 3 | 0.0013 | *U* | 0.0011 | *U* | 0.0013 | *U* |
| Chlordane (cis) | 2.9 | 0.094 | 24 | 0.0067 | *U* | 0.0054 | *U* | 0.0063 | *U* |
| Chlordane (total) | NA | NA | NA | 0.0067 | *U* | 0.0054 | *U* | 0.0063 | *U* |
| delta-BHC | 0.25 | 0.04 | 500 | 0.0067 | *U* | 0.0054 | *U* | 0.0063 | *U* |
| Dieldrin | 0.1 | 0.005 | 1.4 | 0.0013 | *U* | 0.0011 | *U* | 0.0013 | *U* |
| Endosulfan I | 102 | 2.4 | 200 | 0.0067 | *U* | 0.0054 | *U* | 0.0063 | *U* |
| Endosulfan II | 102 | 2.4 | 200 | 0.0067 | *U* | 0.0054 | *U* | 0.0063 | *U* |
| Endosulfan sulfate | 1000 | 2.4 | 200 | 0.0067 | *U* | 0.0054 | *U* | 0.0063 | *U* |
| Endrin | 0.06 | 0.014 | 89 | 0.0067 | *U* | 0.0054 | *U* | 0.0063 | *U* |
| Endrin aldehyde | NA | NA | NA | 0.0067 | *U* | 0.0054 | *U* | 0.0063 | *U* |
| Endrin ketone | NA | NA | NA | 0.0067 | *U* | 0.0054 | *U* | 0.0063 | *U* |
| gamma-BHC (Lindane) | 0.1 | 0.1 | 9.2 | 0.0013 | *U* | 0.0011 | *U* | 0.0013 | *U* |
| Heptachlor | 0.38 | 0.042 | 15 | 0.0067 | *U* | 0.0054 | *U* | 0.0063 | *U* |
| Heptachlor Epoxide | NA | NA | NA | 0.0067 | *U* | 0.0054 | *U* | 0.0063 | *U* |
| Methoxychlor | NA | NA | NA | 0.0067 | *U* | 0.0054 | *U* | 0.0063 | *U* |
| Toxaphene | NA | NA | NA | 0.033 | *U* | 0.027 | *U* | 0.031 | *U* |
| **Herbicides, 8151** | | | | | | | | | |
| 2,4,5-T | NA | NA | NA | 0.013 | *U* | NT | *U* | NT | *U* |
| 2,4-D | NA | NA | NA | 0.013 | *U* | NT | *U* | NT | *U* |
| Dicamba | NA | NA | NA | 0.013 | *U* | NT | *U* | NT | *U* |
| Silvex | 3.8 | 3.8 | 500 | 0.013 | *U* | 0.011 | *U* | 0.013 | *U* |

Analyte Detected

Analyte Above UU SCO

Analyte Above Protection of Groundwater

**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 4B: Pesticides and Herbicides in Soil (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | **Sample ID** | **B32 (5-10)** | | **B32 (10-15)** | | **B33 (0-5)** | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2019-02-11 | | 2019-02-11 | | 2019-02-11 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | |
| **Pesticides, 8081** | **Protection of Groundwater** | **UU SCO** | **RCUSCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 4,4'-DDD | 17 | 0.0033 | 92 | 0.0027 | *U* | 0.0035 | *U* | 0.0029 | *U* |
| 4,4'-DDE | 136 | 0.0033 | 62 | 0.0027 | *U* | 0.0035 | *U* | 0.0029 | *U* |
| 4,4'-DDT | 14 | 0.0033 | 47 | 0.0027 | *U* | 0.0035 | *U* | 0.0029 | *U* |
| Aldrin | 0.19 | 0.005 | 0.68 | 0.0055 | *U* | 0.0069 | *U* | 0.0058 | *U* |
| alpha-BHC | 0.02 | 0.02 | 3.4 | 0.0011 | *U* | 0.0014 | *U* | 0.0012 | *U* |
| alpha-Chlordane | 2.9 | 0.094 | 24 | 0.0055 | *U* | 0.0069 | *U* | 0.0058 | *U* |
| beta-BHC | 0.09 | 0.036 | 3 | 0.0011 | *U* | 0.0014 | *U* | 0.0012 | *U* |
| Chlordane (cis) | 2.9 | 0.094 | 24 | 0.0055 | *U* | 0.0069 | *U* | 0.0058 | *U* |
| Chlordane (total) | NA | NA | NA | 0.0055 | *U* | 0.0069 | *U* | 0.0058 | *U* |
| delta-BHC | 0.25 | 0.04 | 500 | 0.0055 | *U* | 0.0069 | *U* | 0.0058 | *U* |
| Dieldrin | 0.1 | 0.005 | 1.4 | 0.0011 | *U* | 0.0014 | *U* | 0.09 | |
| Endosulfan I | 102 | 2.4 | 200 | 0.0055 | *U* | 0.0069 | *U* | 0.0058 | *U* |
| Endosulfan II | 102 | 2.4 | 200 | 0.0055 | *U* | 0.0069 | *U* | 0.0058 | *U* |
| Endosulfan sulfate | 1000 | 2.4 | 200 | 0.0055 | *U* | 0.0069 | *U* | 0.0058 | *U* |
| Endrin | 0.06 | 0.014 | 89 | 0.0055 | *U* | 0.0069 | *U* | 0.0058 | *U* |
| Endrin aldehyde | NA | NA | NA | 0.0055 | *U* | 0.0069 | *U* | 0.0058 | *U* |
| Endrin ketone | NA | NA | NA | 0.0055 | *U* | 0.0069 | *U* | 0.0058 | *U* |
| gamma-BHC (Lindane) | 0.1 | 0.1 | 9.2 | 0.0011 | *U* | 0.0014 | *U* | 0.0012 | *U* |
| Heptachlor | 0.38 | 0.042 | 15 | 0.0055 | *U* | 0.0069 | *U* | 0.0058 | *U* |
| Heptachlor Epoxide | NA | NA | NA | 0.0055 | *U* | 0.0069 | *U* | 0.0058 | *U* |
| Methoxychlor | NA | NA | NA | 0.0055 | *U* | 0.0069 | *U* | 0.0058 | *U* |
| Toxaphene | NA | NA | NA | 0.027 | *U* | 0.035 | *U* | 0.029 | *U* |
| **Herbicides, 8151** | | | | | | | | | |
| 2,4,5-T | NA | NA | NA | NT | *U* | NT | *U* | NT | *U* |
| 2,4-D | NA | NA | NA | NT | *U* | NT | *U* | NT | *U* |
| Dicamba | NA | NA | NA | NT | *U* | NT | *U* | NT | *U* |
| Silvex | 3.8 | 3.8 | 500 | 0.011 | *U* | 0.014 | *U* | 0.012 | *U* |

Analyte Detected
Analyte Above UU SCO
Analyte Above Protection of Groundwater
**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

## Table 4B: Pesticides and Herbicides in Soil (2019-2020 Samples)

BCP ID: C241207 - 3-60 Beach 7th Street

Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | Sample ID | B33 (6-10) | | SV-2 (0-5) | | SV-2 (7-9) | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | 2019-02-11 | | 2019-02-11 | | 2019-02-11 | |
| | | | | Dilution Factor | 1 | | 1 | | 1 | |
| **Pesticides, 8081** | **Protection of Groundwater** | **UU SCO** | **RCUSCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 4,4'-DDD | 17 | 0.0033 | 92 | 0.0051 | *U* | 0.0029 | *U* | 0.004 | *U* |
| 4,4'-DDE | 136 | 0.0033 | 62 | 0.0051 | *U* | 0.0029 | *U* | 0.004 | *U* |
| 4,4'-DDT | 14 | 0.0033 | 47 | 0.0051 | *U* | 0.0029 | *U* | 0.004 | *U* |
| Aldrin | 0.19 | 0.005 | 0.68 | 0.01 | *U* | 0.0058 | *U* | 0.0079 | *U* |
| alpha-BHC | 0.02 | 0.02 | 3.4 | 0.002 | *U* | 0.0012 | *U* | 0.0016 | *U* |
| alpha-Chlordane | 2.9 | 0.094 | 24 | 0.01 | *U* | 0.0058 | *U* | 0.0079 | *U* |
| beta-BHC | 0.09 | 0.036 | 3 | 0.002 | *U* | 0.0012 | *U* | 0.0016 | *U* |
| Chlordane (cis) | 2.9 | 0.094 | 24 | 0.01 | *U* | 0.0058 | *U* | 0.0079 | *U* |
| Chlordane (total) | NA | NA | NA | 0.01 | *U* | 0.0058 | *U* | 0.0079 | *U* |
| delta-BHC | 0.25 | 0.04 | 500 | 0.01 | *U* | 0.0058 | *U* | 0.0079 | *U* |
| Dieldrin | 0.1 | 0.005 | 1.4 | 0.002 | *U* | 0.0012 | *U* | 0.0016 | *U* |
| Endosulfan I | 102 | 2.4 | 200 | 0.01 | *U* | 0.0058 | *U* | 0.0079 | *U* |
| Endosulfan II | 102 | 2.4 | 200 | 0.01 | *U* | 0.0058 | *U* | 0.0079 | *U* |
| Endosulfan sulfate | 1000 | 2.4 | 200 | 0.01 | *U* | 0.0058 | *U* | 0.0079 | *U* |
| Endrin | 0.06 | 0.014 | 89 | 0.01 | *U* | 0.0058 | *U* | 0.0079 | *U* |
| Endrin aldehyde | NA | NA | NA | 0.01 | *U* | 0.0058 | *U* | 0.0079 | *U* |
| Endrin ketone | NA | NA | NA | 0.01 | *U* | 0.0058 | *U* | 0.0079 | *U* |
| gamma-BHC (Lindane) | 0.1 | 0.1 | 9.2 | 0.002 | *U* | 0.0012 | *U* | 0.0016 | *U* |
| Heptachlor | 0.38 | 0.042 | 15 | 0.01 | *U* | 0.0058 | *U* | 0.0079 | *U* |
| Heptachlor Epoxide | NA | NA | NA | 0.01 | *U* | 0.0058 | *U* | 0.0079 | *U* |
| Methoxychlor | NA | NA | NA | 0.01 | *U* | 0.0058 | *U* | 0.0079 | *U* |
| Toxaphene | NA | NA | NA | 0.051 | *U* | 0.029 | *U* | 0.04 | *U* |
| **Herbicides, 8151** | | | | | | | | | |
| 2,4,5-T | NA | NA | NA | NT | *U* | NA | | NT | *U* |
| 2,4-D | NA | NA | NA | NT | *U* | NA | | NT | *U* |
| Dicamba | NA | NA | NA | NT | *U* | NA | | NT | *U* |
| Silvex | 3.8 | 3.8 | 500 | 0.02 | *U* | NA | | 0.016 | *U* |

Analyte Detected

Analyte Above UU SCO

Analyte Above Protection of Groundwater

**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

## Table 4B: Pesticides and Herbicides in Soil (2019-2020 Samples)

BCP ID: C241207 - 3-60 Beach 7th Street

Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in mg/Kg (ppm)* | | | | Sample ID | | SV-5 (0-5) | |
|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | | | | Sample Date | | 2019-02-11 | |
| | | | | Dilution Factor | | 1 | |
| **Pesticides, 8081** | **Protection of Groundwater** | **UU SCO** | **RCUSCO** | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 4,4'-DDD | 17 | 0.0033 | 92 | 0.0028 | *U* | 0.003 | *U* |
| 4,4'-DDE | 136 | 0.0033 | 62 | 0.0028 | *U* | 0.003 | *U* |
| 4,4'-DDT | 14 | 0.0033 | 47 | 0.0028 | *U* | 0.003 | *U* |
| Aldrin | 0.19 | 0.005 | 0.68 | 0.0056 | *U* | 0.0061 | *U* |
| alpha-BHC | 0.02 | 0.02 | 3.4 | 0.0011 | *U* | 0.0012 | *U* |
| alpha-Chlordane | 2.9 | 0.094 | 24 | 0.0056 | *U* | 0.0061 | *U* |
| beta-BHC | 0.09 | 0.036 | 3 | 0.0011 | *U* | 0.0012 | *U* |
| Chlordane (cis) | 2.9 | 0.094 | 24 | 0.0056 | *U* | 0.0061 | *U* |
| Chlordane (total) | NA | NA | NA | 0.0056 | *U* | 0.0061 | *U* |
| delta-BHC | 0.25 | 0.04 | 500 | 0.0056 | *U* | 0.0061 | *U* |
| Dieldrin | 0.1 | 0.005 | 1.4 | 0.0011 | *U* | 0.0012 | *U* |
| Endosulfan I | 102 | 2.4 | 200 | 0.0056 | *U* | 0.0061 | *U* |
| Endosulfan II | 102 | 2.4 | 200 | 0.0056 | *U* | 0.0061 | *U* |
| Endosulfan sulfate | 1000 | 2.4 | 200 | 0.0056 | *U* | 0.0061 | *U* |
| Endrin | 0.06 | 0.014 | 89 | 0.0056 | *U* | 0.0061 | *U* |
| Endrin aldehyde | NA | NA | NA | 0.0056 | *U* | 0.0061 | *U* |
| Endrin ketone | NA | NA | NA | 0.0056 | *U* | 0.0061 | *U* |
| gamma-BHC (Lindane) | 0.1 | 0.1 | 9.2 | 0.0011 | *U* | 0.0012 | *U* |
| Heptachlor | 0.38 | 0.042 | 15 | 0.0056 | *U* | 0.0061 | *U* |
| Heptachlor Epoxide | NA | NA | NA | 0.0056 | *U* | 0.0061 | *U* |
| Methoxychlor | NA | NA | NA | 0.0056 | *U* | 0.0061 | *U* |
| Toxaphene | NA | NA | NA | 0.028 | *U* | 0.03 | *U* |
| **Herbicides, 8151** | | | | | | | |
| 2,4,5-T | NA | NA | NA | NT | *U* | NT | *U* |
| 2,4-D | NA | NA | NA | NT | *U* | NT | *U* |
| Dicamba | NA | NA | NA | NT | *U* | NT | *U* |
| Silvex | 3.8 | 3.8 | 500 | 0.011 | *U* | 0.012 | *U* |

Analyte Detected

Analyte Above UU SCO

Analyte Above Protection of Groundwater

**Analyte Above CU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

2019-2020 Site Investigation – VOCs in Groundwater

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in µg/L (ppb)* | Sample ID | MW-1S | | MW-1S Dup | | MW-1D | | MW-1D Dup | |
|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | Sample Date | (2019-02-22) | | (2019-02-22) | | (2019-02-27) | | (2019-02-27) | |
| | Dilution Factor | 1 | | 1 | | 1 | | 1 | |
| **VOCs, 8260** | **AWQS** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1-trichloroethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,1,2,2-tetrachloroethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,1,2-trichloro-1,2,2-trifluoroethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,1,2-trichloroethane | 1 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,1-dichloroethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,1-dichloroethylene (1,1-DCE) | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,2,3-trichlorobenzene | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,2,4-trichlorobenzene | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,2-dibromo-3-chloropropane | 0.04 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,2-dibromoethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,2-dichlorobenzene | 3 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,2-dichloroethane | 0.6 | 1 | *U* | 1 | *U* | 0.5 | *U* | 0.5 | *U* |
| 1,2-dichloropropane | 1 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,3-dichlorobenzene | 3 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,4-dichlorobenzene | 3 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| 2-butanone (MEK) | 50 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| 2-hexanone (MBK) | 50 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| 4-methyl-2-pentanone | NA | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| acetone | 50 | 0.5 | *U* | 0.5 | *U* | 5 | *U* | 5 | *U* |
| benzene | 1 | 0.74 | | 0.65 | | 0.5 | *U* | 0.5 | *U* |
| bromochloromethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| bromodichloromethane | 50 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| bromoform | 50 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| bromomethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| carbon disulfide | NA | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| carbon tetrachloride | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| chlorobenzene | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| chloroethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| chloroform | 7 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| chloromethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| cis-1,2-dichloroethylene (cis-DCE) | 5 | **13** | | **13** | | **9.7** | | **9.7** | |
| cis-1,3-dichloropropylene | 0.4 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| cyclohexane | NA | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| dibromochloromethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| dichlorodifluoromethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| ethyl benzene | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| isopropylbenzene | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| methyl acetate | NA | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| methyl tert-butyl ether (MTBE) | 10 | 0.5 | *U* | 0.5 | *U* | 0.5 | *U* | 0.5 | *U* |
| methylcyclohexane | NA | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| methylene chloride | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| o-xylene (incl. in total xylenes) | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| p- & m- xylenes (incl. in total xylenes) | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| styrene | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| tetrachloroethylene (PCE) | 5 | **140** | | **140** | | **42** | | **37** | |
| toluene | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| trans-1,2-dichloroethylene (trans-DCE) | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| trans-1,3-dichloropropylene | 0.4 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| trichloroethylene (TCE) | 5 | **13** | | **14** | | **7.8** | | **8.4** | |
| trichlorofluoromethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| vinyl chloride (VC) | 2 | 1.5 | | 1.2 | | 1.2 | | 1 | *U* |
| xylenes, total | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| **TOTAL PCE, TCE and breakdown products** | | **168** | | **168** | | **60.7** | | **55.1** | |
| **TOTAL VOCs** | | **168** | | **169** | | **60.7** | | **55.1** | |

Detected concentrations
**Concentrations above AWQS**

Notes: AWQS based on NYSDEC TOGS 1.1.1 (Class GA) NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

| *All data in µg/L (ppb)* | **Sample ID** | **MW-1D 20200129** | | **MW-2S** | | **MW-2D** | | **MW-3** | |
|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | Sample Date | (2020-01-29) | | (2019-02-22) | | (2019-02-22) | | (2019-02-27) | |
| | Dilution Factor | 1 | | 1 | | 1 | | 1 | |
| **VOCs, 8260** | **AWQS** | | | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1-trichloroethane | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| 1,1,2,2-tetrachloroethane | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| 1,1,2-trichloro-1,2,2-trifluoroethane | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| 1,1,2-trichloroethane | 1 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| 1,1-dichloroethane | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| 1,1-dichloroethylene (1,1-DCE) | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| 1,2,3-trichlorobenzene | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| 1,2,4-trichlorobenzene | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| 1,2-dibromo-3-chloropropane | 0.04 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| 1,2-dibromoethane | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| 1,2-dichlorobenzene | 3 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| 1,2-dichloroethane | 0.6 | 0.5 | *U* | 200 | *U* | 1 | *U* | 0.5 | *U* |
| 1,2-dichloropropane | 1 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| 1,3-dichlorobenzene | 3 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| 1,4-dichlorobenzene | 3 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| 2-butanone (MEK) | 50 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| 2-hexanone (MBK) | 50 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| 4-methyl-2-pentanone | NA | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| acetone | 50 | 5 | *U* | 100 | *U* | 0.5 | *U* | 5 | *U* |
| benzene | 1 | 0.5 | *U* | 100 | *U* | 0.5 | *U* | 0.5 | *U* |
| bromochloromethane | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| bromodichloromethane | 50 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| bromoform | 50 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| bromomethane | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| carbon disulfide | NA | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| carbon tetrachloride | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| chlorobenzene | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| chloroethane | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| chloroform | 7 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| chloromethane | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| cis-1,2-dichloroethylene (cis-DCE) | 5 | 1 | *U* | **14,000** | | **110** | | **32** | |
| cis-1,3-dichloropropylene | 0.4 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| cyclohexane | NA | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| dibromochloromethane | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| dichlorodifluoromethane | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| ethyl benzene | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| isopropylbenzene | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| methyl acetate | NA | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| methyl tert-butyl ether (MTBE) | 10 | 1 | *U* | 100 | *U* | 1 | | 0.5 | *U* |
| methylcyclohexane | NA | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| methylene chloride | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| o-xylene (incl. in total xylenes) | 5 | 0.5 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| p- & m- xylenes (incl. in total xylenes) | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| styrene | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| tetrachloroethylene (PCE) | 5 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| toluene | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| trans-1,2-dichloroethylene (trans-DCE) | 5 | 1 | *U* | 200 | *U* | 2.5 | | 2.8 | |
| trans-1,3-dichloropropylene | 0.4 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| trichloroethylene (TCE) | 5 | 1 | *U* | **1,900** | | **12** | | **9.4** | |
| trichlorofluoromethane | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| vinyl chloride (VC) | 2 | 1 | *U* | **1,400** | | **6.3** | | **58** | |
| xylenes, total | 5 | 1 | *U* | 200 | *U* | 1 | *U* | 1 | *U* |
| **TOTAL PCE, TCE and breakdown products** | | **Not Detected** | | **17,300** | | **131** | | **102** | |
| **TOTAL VOCs** | | **Not Detected** | | **17,300** | | **132** | | **102** | |

Detected concentrations
**Concentrations above AWQS**

Notes: AWQS based on NYSDEC TOGS 1.1.1 (Class GA) NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in µg/L (ppb)* | Sample ID | MW-4 | | MW-4 20200128 | | MW-5S | | 20200130 | |
|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | Sample Date | (2019-02-27) | | (2020-01-28) | | (2019-02-22) | | (2020-01-30) | |
| | Dilution Factor | 1 | | 1 | | 1 | | 1 | |
| **VOCs, 8260** | **AWQS** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1-trichloroethane | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| 1,1,2,2-tetrachloroethane | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| 1,1,2-trichloro-1,2,2-trifluoroethane | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| 1,1,2-trichloroethane | 1 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| 1,1-dichloroethane | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| 1,1-dichloroethylene (1,1-DCE) | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| 1,2,3-trichlorobenzene | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| 1,2,4-trichlorobenzene | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| 1,2-dibromo-3-chloropropane | 0.04 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| 1,2-dibromoethane | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| 1,2-dichlorobenzene | 3 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| 1,2-dichloroethane | 0.6 | 0.5 | *U* | *0.5* | *U* | 1 | *U* | 0.5 | *U* |
| 1,2-dichloropropane | 1 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| 1,3-dichlorobenzene | 3 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| 1,4-dichlorobenzene | 3 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| 2-butanone (MEK) | 50 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| 2-hexanone (MBK) | 50 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| 4-methyl-2-pentanone | NA | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| acetone | 50 | 5 | *U* | *5* | *U* | 0.5 | *U* | 5 | *U* |
| benzene | 1 | 0.5 | *U* | *0.5* | *U* | 0.5 | *U* | 0.5 | *U* |
| bromochloromethane | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| bromodichloromethane | 50 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| bromoform | 50 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| bromomethane | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| carbon disulfide | NA | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| carbon tetrachloride | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| chlorobenzene | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| chloroethane | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| chloroform | 7 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| chloromethane | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| cis-1,2-dichloroethylene (cis-DCE) | 5 | 1.2 | | *1* | *U* | **31** | | **26** | |
| cis-1,3-dichloropropylene | 0.4 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| cyclohexane | NA | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| dibromochloromethane | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| dichlorodifluoromethane | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| ethyl benzene | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| isopropylbenzene | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| methyl acetate | NA | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| methyl tert-butyl ether (MTBE) | 10 | 0.5 | *U* | *1* | *U* | 0.5 | *U* | 1 | *U* |
| methylcyclohexane | NA | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| methylene chloride | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| o-xylene (incl. in total xylenes) | 5 | 1 | *U* | *0.5* | *U* | 1 | *U* | 0.5 | *U* |
| p- & m- xylenes (incl. in total xylenes) | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| styrene | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| tetrachloroethylene (PCE) | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| toluene | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| trans-1,2-dichloroethylene (trans-DCE) | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| trans-1,3-dichloropropylene | 0.4 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| trichloroethylene (TCE) | 5 | 1 | *U* | *1* | *U* | **25** | | **12** | |
| trichlorofluoromethane | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| vinyl chloride (VC) | 2 | 1 | *U* | *1* | *U* | **4.3** | | 1 | *U* |
| xylenes, total | 5 | 1 | *U* | *1* | *U* | 1 | *U* | 1 | *U* |
| **TOTAL PCE, TCE and breakdown products** | | **1.2** | | **Not Detected** | | **60.3** | | **38** | |
| **TOTAL VOCs** | | **1.2** | | **Not Detected** | | **60.3** | | **38** | |

Detected concentrations
**Concentrations above AWQS**

Notes: AWQS based on NYSDEC TOGS 1.1.1 (Class GA) NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

| *All data in µg/L (ppb)* | **Sample ID** | **MW-5D** | | **MW-5D 20200128** | | **DUP 20200128** | |
|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | Sample Date | (2019-02-22) | | (2020-01-28) | | (2020-01-28) | |
| | Dilution Factor | 1 | | 1 | | 1 | |
| **VOCs, 8260** | **AWQS** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1-trichloroethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,1,2,2-tetrachloroethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,1,2-trichloro-1,2,2-trifluoroethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,1,2-trichloroethane | 1 | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,1-dichloroethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,1-dichloroethylene (1,1-DCE) | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,2,3-trichlorobenzene | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,2,4-trichlorobenzene | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,2-dibromo-3-chloropropane | 0.04 | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,2-dibromoethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,2-dichlorobenzene | 3 | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,2-dichloroethane | 0.6 | 1 | *U* | 0.5 | *U* | 0.5 | *U* |
| 1,2-dichloropropane | 1 | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,3-dichlorobenzene | 3 | 1 | *U* | 1 | *U* | 1 | *U* |
| 1,4-dichlorobenzene | 3 | 1 | *U* | 1 | *U* | 1 | *U* |
| 2-butanone (MEK) | 50 | 1 | *U* | 1 | *U* | 1 | *U* |
| 2-hexanone (MBK) | 50 | 1 | *U* | 1 | *U* | 1 | *U* |
| 4-methyl-2-pentanone | NA | 1 | *U* | 1 | *U* | 1 | *U* |
| acetone | 50 | 0.5 | *U* | 5 | *U* | 5 | *U* |
| benzene | 1 | 0.5 | *U* | 0.5 | *U* | 0.5 | *U* |
| bromochloromethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| bromodichloromethane | 50 | 1 | *U* | 1 | *U* | 1 | *U* |
| bromoform | 50 | 1 | *U* | 1 | *U* | 1 | *U* |
| bromomethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| carbon disulfide | NA | 1 | *U* | 1 | *U* | 1 | *U* |
| carbon tetrachloride | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| chlorobenzene | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| chloroethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| chloroform | 7 | 1 | *U* | 1 | *U* | 1 | *U* |
| chloromethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| cis-1,2-dichloroethylene (cis-DCE) | 5 | 2.7 | | 1.5 | | 1 | |
| cis-1,3-dichloropropylene | 0.4 | 1 | *U* | 1 | *U* | 1 | *U* |
| cyclohexane | NA | 1 | *U* | 1 | *U* | 1 | *U* |
| dibromochloromethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| dichlorodifluoromethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| ethyl benzene | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| isopropylbenzene | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| methyl acetate | NA | 1 | *U* | 1 | *U* | 1 | *U* |
| methyl tert-butyl ether (MTBE) | 10 | 1.4 | | 1 | *U* | 1 | *U* |
| methylcyclohexane | NA | 1 | *U* | 1 | *U* | 1 | *U* |
| methylene chloride | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| o-xylene (incl. in total xylenes) | 5 | 1 | *U* | 0.5 | *U* | 1.3 | |
| p- & m- xylenes (incl. in total xylenes) | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| styrene | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| tetrachloroethylene (PCE) | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| toluene | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| trans-1,2-dichloroethylene (trans-DCE) | 5 | 1 | *U* | 1.4 | | 1.4 | |
| trans-1,3-dichloropropylene | 0.4 | 1 | *U* | 1 | *U* | 1 | *U* |
| trichloroethylene (TCE) | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| trichlorofluoromethane | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| vinyl chloride (VC) | 2 | **2.3** | | 1 | *U* | 1 | *U* |
| xylenes, total | 5 | 1 | *U* | 1 | *U* | 1 | *U* |
| **TOTAL PCE, TCE and breakdown products** | | **5** | | **2.9** | | **2.4** | |
| **TOTAL VOCs** | | **6.4** | | **2.9** | | **2.4** | |

Detected concentrations
**Concentrations above AWQS**

Notes: AWQS based on NYSDEC TOGS 1.1.1 (Class GA) NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

2019-2020 Site Investigation – SVOCs in Groundwater

# Table 7A: SVOCs in Groundwater (2020 Samples)

BCP ID: C241207 - 3-60 Beach 7th Street

Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in µg/L (ppb)* | Sample ID | MW-1D 20200129 | | MW-4 20200128 | | MW-5S 20200130 | | MW-5D 20200128 | | DUP 20200128 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | Sample Date | (2020-01-29) | | (2020-01-28) | | (2020-01-30) | | (2020-01-28) | | (2020-01-28) | |
| | Dilution Factor | 1 | | 1 | | 1 | | 1 | | 1 | |
| **SVOCs, 8270** | **AWQS** | | | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1'-Biphenyl | 5 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| 1,2,4,5-Tetrachlorobenzene | 5 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| 1,4-Dioxane | 5 | 0.25 | *U* | 0.25 | *U* | 0.26 | *U* | 0.25 | *U* | 0.25 | *U* |
| 2,3,4,6-Tetrachlorophenol | NA | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| 2,4,5-Trichlorophenol | NA | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| 2,4,6-Trichlorophenol | NA | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| 2,4-Dichlorophenol | 5 | 0.25 | *U* | 0.25 | *U* | 0.26 | *U* | 0.25 | *U* | 0.25 | *U* |
| 2,4-Dimethylphenol | 50 | 0.25 | *U* | 0.25 | *U* | 0.26 | *U* | 0.25 | *U* | 0.25 | *U* |
| 2,4-Dinitrophenol | 10 | 5 | *U* | 5 | *U* | 5.3 | *U* | 5 | *U* | 5 | *U* |
| 2,4-Dinitrotoluene | 5 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| 2,6-Dinitrotoluene | 5 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| 2-Chloronaphthalene | 10 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| 2-Chlorophenol | NA | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| 2-Methylnaphthalene | NA | 1 | *U* | 1 | *U* | 1.1 | | 1 | *U* | 1 | *U* |
| 2-Methylphenol | NA | 0.25 | *U* | 0.25 | *U* | 0.26 | *U* | 0.25 | *U* | 0.25 | *U* |
| 2-Nitroaniline | 5 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| 2-Nitrophenol | NA | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| 3&4-Methylphenol | NA | 0.25 | *U* | 0.25 | *U* | 2.7 | | 0.25 | *U* | 0.25 | *U* |
| 3,3'-Dichlorobenzidine | 5 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| 3-Nitroaniline | 5 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| 4,6-Dinitro-2-methylphenol | NA | | *U* | | *U* | | *U* | | *U* | | *U* |
| 4,6-Dinitro-2-methylphenol | NA | 0.1 | *U* | 0.1 | *U* | 0.11 | *U* | 0.1 | *U* | 0.1 | *U* |
| 4-Bromophenyl-phenylether | NA | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| 4-Chloro-3-methylphenol | NA | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| 4-Chloroaniline | 5 | 0.25 | *U* | 0.25 | *U* | 0.26 | *U* | 0.25 | *U* | 0.25 | *U* |
| 4-Chlorophenyl-phenylether | NA | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| 4-Nitroaniline | 5 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| 4-Nitrophenol | 5 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Acenaphthene | 20 | 4.2 | | 1 | *U* | 4.7 | | 1 | *U* | 1 | *U* |
| Acenaphthylene | NA | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Acetophenone | NA | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Anthracene | 50 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Atrazine | 7.5 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Benzaldehyde | NA | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Benzo[a]anthracene | 0.002 | **0.13** | | 0.01 | *U* | 0.011 | *U* | **0.014** | | 0.01 | *U* |
| Benzo[a]pyrene | NA | 0.082 | | 0.01 | *U* | 0.011 | *U* | 0.01 | *U* | 0.01 | *U* |
| Benzo[b]fluoranthene | 0.002 | **0.073** | | 0.01 | *U* | 0.011 | *U* | **0.013** | | 0.01 | *U* |
| Benzo[g,h,i]perylene | NA | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Benzo[k]fluoranthene | 0.002 | **0.038** | | 0.01 | *U* | 0.011 | *U* | 0.01 | *U* | 0.01 | *U* |
| bis(2-Chloroethoxy)methane | 5 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| bis(2-Chloroethyl)ether | 1 | 0.25 | *U* | 0.25 | *U* | 0.26 | *U* | 0.25 | *U* | 0.25 | *U* |
| bis(2-Chloroisopropyl)ether | NA | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| bis(2-Ethylhexyl)phthalate | 5 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Butylbenzylphthalate | 50 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Caprolactam | NA | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Carbazole | NA | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Chrysene | NA | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Dibenzo[a,h]anthracene | NA | 0.01 | *U* | 0.01 | *U* | 0.011 | *U* | 0.01 | *U* | 0.01 | *U* |
| Dibenzofuran | NA | 0.25 | *U* | 0.25 | *U* | 0.37 | | 0.25 | *U* | 0.25 | *U* |
| Diethylphthalate | 50 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Dimethylphthalate | 50 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Di-n-butylphthalate | 50 | 1.2 | | 0.25 | *U* | 0.26 | *U* | 1.1 | | 0.25 | *U* |
| Di-n-octylphthalate | 50 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Fluoranthene | 50 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Fluorene | 50 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Hexachlorobenzene | 0.04 | 0.01 | *U* | 0.01 | *U* | 0.011 | *U* | 0.01 | *U* | 0.01 | *U* |
| Hexachlorobutadiene | 0.5 | 0.01 | *U* | 0.01 | *U* | 0.011 | *U* | 0.01 | *U* | 0.01 | *U* |
| Hexachlorocyclopentadiene | 5 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Hexachloroethane | 5 | 0.01 | *U* | 0.01 | *U* | 0.011 | *U* | 0.01 | *U* | 0.01 | *U* |
| Indeno[1,2,3-cd]pyrene | 0.002 | 0.042 | *U* | 0.01 | *U* | 0.011 | *U* | 0.01 | *U* | 0.01 | *U* |
| Isophorone | 50 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Naphthalene | 10 | 0.25 | *U* | 0.25 | *U* | 5.2 | | 0.25 | *U* | 0.25 | *U* |
| Nitrobenzene | 0.4 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| N-Nitrosodimethylamine | 50 | 0.1 | *U* | 0.1 | *U* | 0.11 | *U* | 0.1 | *U* | 0.1 | *U* |
| N-Nitroso-di-n-propylamine | NA | 0.25 | *U* | 0.25 | *U* | 0.26 | *U* | 0.25 | *U* | 0.25 | *U* |
| N-Nitrosodiphenylamine | 50 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Pentachlorophenol | 1 | 0.1 | *U* | 0.1 | *U* | 0.86 | | 0.1 | *U* | 0.1 | *U* |
| Phenanthrene | 50 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| Phenol | 1 | 1 | *U* | 1 | *U* | **26** | | 1 | *U* | 1 | *U* |
| Pyrene | 50 | 1 | *U* | 1 | *U* | 1.1 | *U* | 1 | *U* | 1 | *U* |
| | **TOTAL SVOCs** | **5.72** | | **Not Detected** | | **40.1** | | **1.13** | | **Not Detected** | |

Detected concentrations

**Concentrations above AWQS**

Notes: AWQS based on NYSDEC TOGS 1.1.1 (Class GA) NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

| *All data in µg/L (parts per billion, ppb)* | **Sample ID** | **B1 Water** | | **B3 Water** | | **B11W** | | **B17W** | |
|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ indicated value* | Sample Date | 6/8/2017 | | 6/8/2017 | | 7/5/2017 | | 7/5/2017 | |
| *Data above AWQS shown in* **Bold** | Sample Depth | 5-10 feet bgs | | 5-10 feet bgs | | 7-12 feet bgs | | 7-12 feet bgs | |
| **SVOCs** | **AWQS** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 2-Methylphenol | NA | 2.5 | *U* | 2.5 | *U* | 0.5 | *U* | 0.5 | *U* |
| 3- & 4-Methylphenols | NA | 2.5 | *U* | 2.5 | *U* | 0.5 | *U* | 0.5 | *U* |
| Acenaphthene | 20 | 0.05 | *U* | 0.05 | *U* | 2 | *U* | 2 | *U* |
| Acenaphthylene | NA | 0.05 | *U* | 0.05 | *U* | 2 | *U* | 2 | *U* |
| Anthracene | 50 | 0.05 | *U* | 0.05 | *U* | 2 | *U* | 2 | *U* |
| Benzo(a)anthracene | 0.002 | **0.05** | | 0.05 | *U* | **3.2** | | 2 | *U* |
| Benzo(a)pyrene | NA | 0.05 | | 0.05 | *U* | 2.4 | | 2 | *U* |
| Benzo(b)fluoranthene | 0.002 | **0.06** | | 0.05 | *U* | **3.3** | | 2 | *U* |
| Benzo(g,h,i)perylene | NA | 0.05 | *U* | 0.05 | *U* | 2 | *U* | 2 | *U* |
| Benzo(k)fluoranthene | 0.002 | 0.05 | *U* | 0.05 | *U* | 2 | *U* | 2 | *U* |
| Chrysene | 0.002 | **0.07** | | 0.05 | *U* | **3.2** | | 2 | *U* |
| Dibenzo(a,h)anthracene | NA | 0.05 | *U* | 0.05 | *U* | 2 | *U* | 2 | *U* |
| Dibenzofuran | NA | 2.5 | *U* | 2.5 | *U* | 0.5 | *U* | 0.5 | *U* |
| Fluoranthene | 50 | 0.11 | | 0.11 | | 5.2 | | 2 | *U* |
| Fluorene | 50 | 0.05 | *U* | 0.05 | *U* | 2 | *U* | 2 | *U* |
| Hexachlorobenzene | 0.04 | 0.02 | *U* | 0.02 | *U* | 2 | *U* | 2 | *U* |
| Indeno(1,2,3-cd)pyrene | 0.002 | 0.05 | *U* | 0.05 | *U* | 2 | *U* | 2 | *U* |
| Naphthalene | 10 | 0.24 | *B* | 0.05 | *B* | 0.5 | *U* | 0.5 | *U* |
| Pentachlorophenol | 1 | 0.25 | *U* | 0.25 | *U* | 10 | *U* | 10 | *U* |
| Phenanthrene | 50 | 0.13 | | 0.06 | | 5.2 | | 2 | *U* |
| Phenol | 1 | 2.5 | *U* | 2.5 | *U* | 2 | *U* | 2 | *U* |
| Pyrene | 50 | 0.1 | | 0.07 | | 6.5 | | 2 | *U* |

Detected concentrations
**Concentrations above AWQS**

Notes: AWQS based on NYSDEC TOGS 1.1.1 (Class GA) NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

2019-2020 Site Investigation – Metals in Groundwater

| *All data in µg/L (ppb)* | Sample ID | MW-1D 20200129 | | MW-4 20200128 | | MW-5S 20200130 | | MW-5D 20200128 | | DUP 20200128 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | Sample Date | (2020-01-29) | | (2020-01-28) | | (2020-01-30) | | (2020-01-28) | | (2020-01-28) | |
| | Dilution Factor | 1 | | 1 | | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **AWQS** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| aluminum | NA | 200 | *U* | 200 | *U* | 950 | | 260 | | 200 | *U* |
| antimony | 3 | 3 | *U* | 3 | *U* | 3 | *U* | 3 | *U* | 3 | *U* |
| arsenic | 25 | 2 | *U* | 2 | *U* | 2.6 | | 2 | *U* | 2 | *U* |
| barium | 1000 | 98 | | 350 | | 87 | | 81 | | 55 | |
| beryllium | 3 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| cadmium | 5 | 2 | *U* | 2 | *U* | 2 | *U* | 2 | *U* | 2 | *U* |
| calcium | NA | 200,000 | | 150,000 | | 22,000 | | 220,000 | | 230,000 | |
| chromium | 50 | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* |
| cobalt | 5 | 2 | *U* | 2 | *U* | 2 | *U* | 2 | *U* | 2 | *U* |
| copper | 200 | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* |
| iron** | 300 | **500** | | **9,700** | | **340** | | **540** | | 300 | *U* |
| lead | 25 | 3 | *U* | 3 | *U* | 3 | *U* | 7.2 | | 3 | *U* |
| magnesium | 35,000 | **270,000** | | 20,000 | | 5,000 | *U* | **190,000** | | **260,000** | |
| manganese** | 300 | 55 | | 250 | | 40 | *U* | 210 | | 260 | |
| mercury | 0.7 | 0.5 | *U* | 0.5 | *U* | 0.5 | *U* | 0.5 | *U* | 0.5 | *U* |
| nickel | 100 | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* |
| potassium | NA | 98,000 | | 25,000 | | 80,000 | | 95,000 | | 100,000 | |
| selenium | 10 | 10 | *U* | 10 | *U* | 10 | *U* | 10 | *U* | 10 | *U* |
| silver | 50 | 20 | *U* | 20 | *U* | 20 | *U* | 20 | *U* | 20 | *U* |
| sodium | 20,000 | **2,300,000** | | **74,000** | | **92,000** | | **1,900,000** | | **2,400,000** | |
| thallium | 0.5 | 2 | *U* | 2 | *U* | 2 | *U* | 2 | *U* | 2 | *U* |
| vanadium | 14 | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* |
| zinc | 2000 | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* |

Detected concentrations
**Concentrations above AWQS**

Notes: AWQS based on NYSDEC TOGS 1.1.1 (Class GA) NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

2020 Site Investigation – Metals (dissolved) in Groundwater

| *All data in µg/L (ppb)* | **Sample ID** | **MW-1D 20200129** | | **MW-4 20200128** | | **MW-5S 20200130** | | **MW-5D 20200128** | | **DUP 20200128** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | Sample Date | (2020-01-29) | | (2020-01-28) | | (2020-01-30) | | (2020-01-28) | | (2020-01-28) | |
| | Dilution Factor | 1 | | 1 | | 1 | | 1 | | 1 | |
| **Metals, 6010 and 7473** | **AWQS** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| aluminum | NA | 200 | *U* | 200 | *U* | 670 | | 200 | *U* | 320 | |
| antimony | 3 | 3 | *U* | 3 | *U* | 3 | *U* | 3 | *U* | 3 | *U* |
| arsenic | 25 | 2 | *U* | 2 | *U* | 2.1 | | 2 | *U* | 2 | *U* |
| barium | 1000 | 87 | | 270 | | 59 | | 66 | | 57 | |
| beryllium | 3 | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* | 1 | *U* |
| cadmium | 5 | 2 | *U* | 2 | *U* | 2 | *U* | 2 | *U* | 2 | *U* |
| calcium | NA | 200,000 | | 140,000 | | 22,000 | | 130,000 | | 230,000 | |
| chromium | 50 | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* |
| cobalt | 5 | 2 | *U* | 2 | *U* | 2 | *U* | 2 | *U* | 2 | *U* |
| copper | 200 | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* |
| iron** | 300 | 300 | *U* | 300 | *U* | 300 | *U* | 300 | *U* | **480** | |
| lead | 25 | 3 | *U* | 3 | *U* | 3 | *U* | 3 | *U* | 3 | *U* |
| magnesium | 35,000 | **270,000** | | 18,000 | | 5,000 | *U* | **92,000** | | **250,000** | |
| manganese** | 300 | 55 | | 230 | | 40 | *U* | 76 | | 270 | |
| mercury | 0.7 | 0.5 | *U* | 0.5 | *U* | 0.5 | *U* | 0.5 | *U* | 0.5 | *U* |
| nickel | 100 | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* |
| potassium | NA | 100,000 | | 23,000 | | 76,000 | | 59,000 | | 100,000 | |
| selenium | 10 | 10 | *U* | 10 | *U* | 10 | *U* | 10 | *U* | 10 | *U* |
| silver | 50 | 20 | *U* | 20 | *U* | 20 | *U* | 20 | *U* | 20 | *U* |
| sodium | 20,000 | **2,300,000** | | **65,000** | | **88,000** | | **1,000,000** | | **2,300,000** | |
| thallium | 0.5 | 2 | *U* | 2 | *U* | 2 | *U* | 2 | *U* | 2 | *U* |
| vanadium | 14 | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* |
| zinc | 2000 | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* | 50 | *U* |

Detected concentrations
**Concentrations above AWQS**

Notes: AWQS based on NYSDEC TOGS 1.1.1 (Class GA) NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

2020 Site Investigation – PCBs in Groundwater

**Table 11A: PCBs in Groundwater (2020)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in µg/L (ppb)* | **Sample ID** | **MW-1D 20200129** | | **MW-4 20200128** | | **MW-5S 20200130** | | **MW-5D 20200128** | | **DUP 20200128** | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* | Sample Date | (2020-01-29) | | (2020-01-28) | | (2020-01-30) | | (2020-01-28) | | (2020-01-28) | |
| | Dilution Factor | 1 | | 1 | | 1 | | 1 | | 1 | |
| **PCBs, 8082** | **AWQS** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aroclor 1016 | 0.09 | 0.27 | *U* | 0.25 | *U* | 0.26 | *U* | 0.25 | *U* | 0.14 | *U* |
| Aroclor 1221 | 0.09 | 0.27 | *U* | 0.25 | *U* | 0.26 | *U* | 0.25 | *U* | 0.14 | *U* |
| Aroclor 1232 | 0.09 | 0.27 | *U* | 0.25 | *U* | 0.26 | *U* | 0.25 | *U* | 0.14 | *U* |
| Aroclor 1242 | 0.09 | 0.27 | *U* | 0.25 | *U* | 0.26 | *U* | 0.25 | *U* | 0.14 | *U* |
| Aroclor 1248 | 0.09 | 0.27 | *U* | 0.25 | *U* | 0.26 | *U* | 0.25 | *U* | 0.14 | *U* |
| Aroclor 1254 | 0.09 | 0.27 | *U* | 0.25 | *U* | 0.26 | *U* | 0.25 | *U* | 0.14 | *U* |
| Aroclor 1260 | 0.09 | 0.27 | *U* | 0.25 | *U* | 0.26 | *U* | 0.25 | *U* | 0.14 | *U* |
| Aroclor 1262 | 0.09 | 0.27 | *U* | 0.25 | *U* | 0.26 | *U* | 0.25 | *U* | 0.14 | *U* |
| Aroclor 1260 | 0.09 | 0.27 | *U* | 0.25 | *U* | 0.26 | *U* | 0.25 | *U* | 0.14 | *U* |
| Aroclor, Total | 0.09 | 0.27 | *U* | 0.25 | *U* | 0.26 | *U* | 0.25 | *U* | 0.14 | *U* |

Detected concentrations
**Concentrations above AWQS**

Notes: AWQS based on NYSDEC TOGS 1.1.1 (Class GA) NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

2020 Site Investigation – PFAS in Groundwater

**Table 10: PFAS in Groundwater (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in ng/L (ppt)* / Sample ID | MW-1S | | MW-1S Dup | | MW-1D | | MW-1D Dup | | MW-1D 20200129 | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* / Sample Date | (2019-02-22) | | (2019-02-22) | | (2019-02-27) | | (2019-02-27) | | (2020-01-29) | |
| Dilution Factor | 1 | | 1 | | 1 | | 1 | | 1 | |
| **PFAS** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2) | 18.2 | *U* | 17.2 | *U* | 19.7 | *U* | 18.2 | *U* | 2.58 | *U* |
| 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2) | 18.2 | *U* | 17.2 | *U* | 33.2 | | 30.1 | | 4.89 | *U* |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | 18.2 | *U* | 17.2 | *U* | 19.7 | *U* | 18.2 | *U* | 1.33 | *U* |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | 18.2 | *U* | 17.2 | *U* | 19.7 | *U* | 18.2 | *U* | 1.51 | *U* |
| Perfluorobutanesulfonic acid (PFBS) | 2.26 | | 2.571 | | 4.75 | | 5.32 | | 2.61 | *B* |
| Perfluorobutanoic acid (PFBA) | 13.9 | | 12.47 | | 19.7 | *U* | 18.2 | *U* | 8.16 | *B* |
| Perfluorodecanesulfonic acid (PFDS) | 1.82 | *U* | 1.72 | *U* | 1.97 | *U* | 1.82 | *U* | 0.8 | *U* |
| Perfluorodecanoic acid (PFDA) | 1.82 | *U* | 1.72 | *U* | 1.97 | *U* | 1.82 | *U* | 0.68 | *U* |
| Perfluorododecanoic acid (PFDoA) | 1.82 | *U* | 1.72 | *U* | 1.97 | *U* | 1.82 | *U* | 0.52 | *U* |
| Perfluoroheptanesulfonic Acid (PFHpS) | 1.82 | *U* | 1.72 | *U* | 1.97 | *U* | 1.82 | *U* | 0.84 | *U* |
| Perfluoroheptanoic acid (PFHpA) | 7.66 | | 8.369 | | 8.38 | | 8.41 | | 8.62 | |
| Perfluorohexanesulfonic acid (PFHxS) | 2.6 | | 3.128 | | 6.13 | | 7.62 | | 6.87 | |
| Perfluorohexanoic acid (PFHxA) | 12.5 | | 10.8 | | 9.78 | | 12.9 | | 9.14 | |
| Perfluorononanoic acid (PFNA) | 1.82 | *U* | 1.72 | *U* | 1.97 | *U* | 1.95 | | 2.01 | *B* |
| Perfluorooctanesulfonamide (PFOSA) | 1.82 | *U* | 1.72 | *U* | 1.97 | *U* | 1.82 | *U* | 8.89 | *U* |
| Perfluorooctanesulfonic acid (PFOS) | 7.04 | *B* | 6.635 | | 19.7 | | 20.3 | | 23.2 | |
| Perfluorooctanoic acid (PFOA) | 11.7 | | 12.17 | | 40.4 | | 38.7 | | 43.2 | |
| Perfluoropentanoic acid (PFPeA) | 12.6 | | 13.27 | | 13.3 | | 15.9 | | 8.72 | |
| Perfluorotetradecanoic acid (PFTeA) | 1.82 | *U* | 1.72 | *U* | 1.97 | *U* | 1.82 | *U* | 0.82 | *U* |
| Perfluorotridecanoic acid (PFTriA) | 1.82 | *U* | 1.72 | *U* | 1.97 | *U* | 1.82 | *U* | 0.53 | *U* |
| Perfluoroundecanoic acid (PFUnA) | 1.82 | *U* | 1.72 | *U* | 1.97 | *U* | 1.82 | *U* | 0.69 | *U* |
| **TOTAL PFOS and PFOA** | 18.7 | | 18.8 | | 60.1 | | 59.0 | | 66.4 | |
| **TOTAL PFAS** | 70.3 | | 69.4 | | 136 | | 141 | | 112.5 | |

| Sample ID | MW-1S | | MW-1S Dup | | MW-1D | | MW-1D Dup | | MW-1D 20200129 | |
|---|---|---|---|---|---|---|---|---|---|---|
| *All data in µg/L (ppb)* / Sample Date | (2019-02-22) | | (2019-02-22) | | (2019-02-27) | | (2019-02-27) | | (2020-01-29) | |
| *U= Not Detected ≥ value* / Dilution Factor | 1 | | 1 | | 1 | | 1 | | 1 | |
| **1,4-Dioxane (8270 SIM)** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,4-Dioxane | 0.25 | *U* | 0.25 | *U* | 0.25 | *U* | 0.18 | *U* | 0.25 | *U* |

Analyte Detected
TOTAL Compounds

Notes: SCOs based on NYSDEC 375-6.8(a) NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 10: PFAS in Groundwater (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in ng/L (ppt)* / Sample ID | MW-2S | | MW-2D | | MW-3 | | MW-4 | | MW-4 20200128 | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* / Sample Date | (2019-02-22) | | (2019-02-22) | | (2019-02-27) | | (2019-02-27) | | (2020-01-28) | |
| Dilution Factor | 5 | | 5 | | 5 | | 5 | | 1 | |
| **PFAS** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2) | 92 | *U* | 37.5 | *U* | 97.4 | *U* | 97.7 | *U* | 2.37 | *U* |
| 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2) | 92 | *U* | 37.5 | *U* | 97.4 | *U* | 97.7 | *U* | 4.49 | *U* |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | 92 | *U* | 37.5 | *U* | 97.4 | *U* | 97.7 | *U* | 1.23 | *U* |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | 92 | *U* | 37.5 | *U* | 97.4 | *U* | 97.7 | *U* | 1.39 | *U* |
| Perfluorobutanesulfonic acid (PFBS) | 21.5 | | 3.9 | | 9.74 | *U* | 9.77 | *U* | 5.39 | *B* |
| Perfluorobutanoic acid (PFBA) | 27.2 | *U G* | 18.2 | | 19.5 | *U* | 9.77 | *U* | 12.4 | *B* |
| Perfluorodecanesulfonic acid (PFDS) | 9.2 | *U* | 3.75 | *U* | 9.74 | *U* | 9.77 | *U* | 0.74 | *U* |
| Perfluorodecanoic acid (PFDA) | 9.2 | *U* | 3.75 | *U* | 9.74 | *U* | 9.77 | *U* | 1.52 | *J* |
| Perfluorododecanoic acid (PFDoA) | 9.2 | *U* | 3.75 | *U* | 9.74 | *U* | 9.77 | *U* | 0.48 | *U* |
| Perfluoroheptanesulfonic Acid (PFHpS) | 9.2 | *U* | 3.75 | *U* | 9.74 | *U* | 9.77 | *U* | 0.85 | *J* |
| Perfluoroheptanoic acid (PFHpA) | 9.2 | *U* | 6.29 | | 9.74 | *U* | 9.77 | *U* | 4.34 | |
| Perfluorohexanesulfonic acid (PFHxS) | 9.2 | *U* | 8.51 | | 9.74 | *U* | 10.6 | | 8.16 | |
| Perfluorohexanoic acid (PFHxA) | 9.2 | *U* | 12.2 | | 9.74 | *U* | 9.77 | *U* | 5.02 | |
| Perfluorononanoic acid (PFNA) | 9.2 | *U* | 3.75 | *U* | 9.74 | *U* | 9.77 | *U* | 4.52 | *B* |
| Perfluorooctanesulfonamide (PFOSA) | 9.2 | *U* | 3.75 | *U* | 9.74 | *U* | 9.77 | *U* | 8.17 | *U* |
| Perfluorooctanesulfonic acid (PFOS) | 79.3 | *B* | 8.15 | *B* | 44 | | 53.3 | | 58 | |
| Perfluorooctanoic acid (PFOA) | 19.8 | | 34 | | 10 | | 32.8 | | 26.2 | |
| Perfluoropentanoic acid (PFPeA) | 9.2 | *U* | 17 | | 9.74 | *U* | 9.77 | *U* | 4.88 | |
| Perfluorotetradecanoic acid (PFTeA) | 9.2 | *U* | 3.75 | *U* | 9.74 | *U* | 9.77 | *U* | 0.75 | *U* |
| Perfluorotridecanoic acid (PFTriA) | 9.2 | *U* | 3.75 | *U* | 9.74 | *U* | 9.77 | *U* | 0.49 | *U* |
| Perfluoroundecanoic acid (PFUnA) | 9.2 | *U* | 3.75 | *U* | 9.74 | *U* | 9.77 | *U* | 0.64 | *U* |
| **TOTAL PFOS and PFOA** | 99.1 | | 42.2 | | 54.0 | | 86.1 | | 84.2 | |
| **TOTAL PFAS** | 148 | | 108 | | 54.0 | | 96.7 | | 131 | |

| Sample ID | MW-2S | | MW-2D | | MW-3 | | MW-4 | | MW-4 20200128 | |
|---|---|---|---|---|---|---|---|---|---|---|
| *All data in µg/L (ppb)* / Sample Date | (2019-02-22) | | (2019-02-22) | | (2019-02-27) | | (2019-02-27) | | (2020-01-28) | |
| *U= Not Detected ≥ value* / Dilution Factor | 1 | | 1 | | 1 | | 1 | | 1 | |
| **1,4-Dioxane (8270 SIM)** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,4-Dioxane | 0.26 | *U* | 0.25 | *U* | 0.25 | *U* | 0.25 | *U* | 0.25 | *U* |

Analyte Detected
TOTAL Compounds

Notes: SCOs based on NYSDEC 375-6.8(a) NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 10: PFAS in Groundwater (2019-2020 Samples)**
BCP ID: C241207 - 3-60 Beach 7th Street
Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in ng/L (ppt)* / Sample ID | MW-5S | | MW-5S 20200130 | | MW-5D | | MW-5D 20200128 | | DUP 20200128 | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* / Sample Date | (2019-02-22) | | (2020-01-30) | | (2019-02-22) | | (2020-01-28) | | (2020-01-28) | |
| Dilution Factor | 5 | | 1 | | 5 | | 1 | | 1 | |
| **PFAS** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2) | 93.5 | *U* | 2.89 | *U* | 92.4 | *U* | 2.44 | *U* | 2.45 | *U* |
| 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2) | 93.5 | *U* | 5.47 | *U* | 92.4 | *U* | 4.63 | *U* | 4.65 | *U* |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | 93.5 | *U* | 1.49 | *U* | 92.4 | *U* | 1.26 | *U* | 1.27 | *U* |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | 93.5 | *U* | 1.69 | *U* | 92.4 | *U* | 1.43 | *U* | 1.44 | *U* |
| Perfluorobutanesulfonic acid (PFBS) | 9.35 | *U* | 2.71 | *B* | 9.24 | *U* | 2.72 | *B* | 2.52 | *B* |
| Perfluorobutanoic acid (PFBA) | 9.35 | *U* | 14.5 | *B* | 29.1 | *U G* | 12.7 | *B* | 12.9 | *B* |
| Perfluorodecanesulfonic acid (PFDS) | 9.35 | *U* | 0.9 | *U* | 9.24 | *U* | 0.76 | *U* | 0.76 | *U* |
| Perfluorodecanoic acid (PFDA) | 9.35 | *U* | 1.31 | *J* | 9.24 | *U* | 0.68 | *J* | 0.65 | *U* |
| Perfluorododecanoic acid (PFDoA) | 9.35 | *U* | 0.59 | *U* | 9.24 | *U* | 0.5 | *U* | 0.5 | *U* |
| Perfluoroheptanesulfonic Acid (PFHpS) | 9.35 | *U* | 1.15 | *J* | 9.24 | *U* | 0.8 | *U* | 0.8 | *U* |
| Perfluoroheptanoic acid (PFHpA) | 9.35 | *U* | 6.51 | | 9.24 | *U* | 8.74 | | 8.79 | |
| Perfluorohexanesulfonic acid (PFHxS) | 9.35 | *U* | 5.6 | | 9.24 | *U* | 6.44 | | 6.5 | |
| Perfluorohexanoic acid (PFHxA) | 12.5 | | 8.8 | | 9.96 | | 12.5 | | 12.6 | |
| Perfluorononanoic acid (PFNA) | 9.35 | *U* | 3.97 | *B* | 9.24 | *U* | 1.61 | *J B* | 1.71 | *B* |
| Perfluorooctanesulfonamide (PFOSA) | 9.35 | *U* | 9.9500 | *U* | 9.24 | *U* | 8.42 | *U* | 8.45 | *U* |
| Perfluorooctanesulfonic acid (PFOS) | 45.8 | *B* | 54.7 | | 9.24 | *U* | 15.4 | | 14.4 | |
| Perfluorooctanoic acid (PFOA) | 30.1 | | 33.5 | | 41.7 | | 37.3 | | 36.4 | |
| Perfluoropentanoic acid (PFPeA) | 30.9 | | 7.56 | | 26.5 | | 10.6 | | 11.3 | |
| Perfluorotetradecanoic acid (PFTeA) | 9.35 | *U* | 0.92 | *U* | 9.24 | *U* | 0.77 | *U* | 0.78 | *U* |
| Perfluorotridecanoic acid (PFTriA) | 9.35 | *U* | 0.6 | *U* | 9.24 | *U* | 0.51 | *U* | 0.51 | *U* |
| Perfluoroundecanoic acid (PFUnA) | 9.35 | *U* | 0.78 | *J* | 9.24 | *U* | 0.66 | *U* | 0.66 | *U* |
| **TOTAL PFOS and PFOA** | 75.9 | | 88.2 | | 41.7 | | 52.7 | | 50.8 | |
| **TOTAL PFAS** | 119 | | 141 | | 107 | | 109 | | 107 | |

| Sample ID | MW-5S | | MW-5S 20200130 | | MW-5D | | MW-5D 20200128 | | DUP 20200128 | |
|---|---|---|---|---|---|---|---|---|---|---|
| *All data in µg/L (ppb)* / Sample Date | (2019-02-22) | | (2020-01-30) | | (2019-02-22) | | (2020-01-28) | | (2020-01-28) | |
| *U= Not Detected ≥ value* / Dilution Factor | 1 | | 1 | | 1 | | 1 | | 1 | |
| **1,4-Dioxane (8270 SIM)** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,4-Dioxane | 0.25 | *U* | 0.26 | *U* | 0.14 | *U* | 0.25 | *U* | 0.25 | *U* |

Analyte Detected
TOTAL Compounds

Notes: SCOs based on NYSDEC 375-6.8(a) NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

2020 Site Investigation – VOCs in Soil Vapor

# Table 12: VOCs in Vapor and Air (2019-2020)

BCP ID: C241207 - 3-60 Beach 7th Street

Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in µg/m³* / Sample ID | SV-1 | | SV-2 | | SV-3 | | SV-4 | | SV-5 | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* / Sample Date | (2019-02-14) | | (2019-02-14) | | (2019-02-14) | | (2019-02-14) | | (2019-02-14) | |
| Dilution Factor | 5 | | 1 | | 1 | | 6.14 | | 10 | |
| **VOCs, TO-15** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1-Trichloroethane | 5.8 | | 1.2 | | 3.8 | | 20 | | 11 | U |
| 1,1,2,2-Tetrachloroethane | 6.9 | U | 1.4 | U | 1.4 | U | 8.4 | U | 14 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 7.7 | U | 1.5 | U | 1.5 | U | 9.4 | U | 15 | U |
| 1,1,2-Trichloroethane | 5.5 | U | 1.1 | U | 1.1 | U | 6.7 | U | 11 | U |
| 1,1-Dichloroethane | 4 | U | 0.81 | U | 0.81 | U | 6.4 | | 8.1 | U |
| 1,1-Dichloroethene | 0.7 | U | 0.14 | U | 0.14 | U | 0.85 | U | 1.4 | U |
| 1,2,4-Trichlorobenzene | 19 | U | 3.7 | U | 3.7 | U | 23 | U | 37 | U |
| 1,2,4-Trimethylbenzene | 4.9 | U | 0.98 | U | 1.1 | | 6 | U | 9.8 | U |
| 1,2-Dibromoethane | 7.7 | U | 1.5 | U | 1.5 | U | 9.4 | U | 15 | U |
| 1,2-Dichlorobenzene | 6 | U | 1.2 | U | 1.2 | U | 7.4 | U | 12 | U |
| 1,2-Dichloroethane | 4 | U | 0.81 | U | 0.81 | U | 5 | U | 8.1 | U |
| 1,2-Dichloropropane | 4.6 | U | 0.92 | U | 0.92 | U | 5.7 | U | 9.2 | U |
| 1,2-Dichlorotetrafluoroethane | 7 | U | 1.4 | U | 1.4 | U | 8.6 | U | 14 | U |
| 1,3,5-Trimethylbenzene | 4.9 | U | 0.98 | U | 0.98 | U | 6 | U | 9.8 | U |
| 1,3-Butadiene | 2.2 | U | 0.44 | U | 0.44 | U | 2.7 | U | 4.4 | U |
| 1,3-Dichlorobenzene | 6 | U | 1.2 | U | 2.5 | | 7.4 | U | 12 | U |
| 1,4-Dichlorobenzene | 6 | U | 1.2 | U | 1.2 | U | 7.4 | U | 12 | U |
| 1,4-Dioxane | 90 | U | 18 | U | 18 | U | 110 | U | 180 | U |
| 2,2,4-Trimethylpentane | 5.4 | | 0.93 | U | 0.93 | U | 5.7 | U | 9.3 | U |
| 2-Butanone | 7.4 | U | 2.4 | | 1.5 | U | 9.1 | U | 15 | U |
| 2-Chlorotoluene | 5.2 | U | 1 | U | 1 | U | 6.4 | U | 10 | U |
| 2-Hexanone | 10 | U | 2 | U | 2 | U | 13 | U | 20 | U |
| 3-Chloropropene | 7.8 | U | 1.6 | U | 1.6 | U | 9.6 | U | 16 | U |
| 4-Ethyltoluene | 4.9 | U | 0.98 | U | 0.98 | U | 6 | U | 9.8 | U |
| 4-Isopropyltoluene | 5.5 | U | 1.1 | U | 1.1 | U | 6.7 | U | 11 | U |
| 4-Methyl-2-pentanone | 10 | U | 2 | U | 2 | U | 13 | U | 20 | U |
| Acetone | 59 | U | 29 | | 12 | U | 73 | U | 120 | U |
| Benzene | 3.2 | U | 2.8 | | 1.4 | | 3.9 | U | 20 | |
| Benzyl chloride | 5.2 | U | 1 | U | 1 | U | 6.4 | U | 10 | U |
| Bromodichloromethane | 6.7 | U | 1.3 | U | 1.3 | U | 8.2 | U | 13 | U |
| Bromoform | 10 | U | 2.1 | U | 2.1 | U | 13 | U | 21 | U |
| Bromomethane | 3.9 | U | 0.78 | U | 0.78 | U | 4.8 | U | 7.8 | U |
| Carbon disulfide | 12 | | 9.9 | | 3.8 | | 9.6 | U | 18 | |
| Carbon tetrachloride | 1.1 | U | 0.22 | U | 0.22 | U | 1.4 | U | 2.2 | U |
| Chlorobenzene | 4.6 | U | 0.92 | U | 1.7 | | 5.7 | U | 9.2 | U |
| Chlorodifluoromethane | 8.8 | U | 1.8 | U | 1.8 | U | 11 | U | 18 | U |
| Chloroethane | 6.6 | U | 1.3 | U | 1.3 | U | 8.1 | U | 13 | U |
| Chloroform | 4.9 | U | 0.98 | U | 1.1 | | 6 | U | 9.8 | U |
| Chloromethane | 5.2 | U | 1 | U | 1 | U | 6.3 | U | 10 | U |
| cis-1,2-Dichloroethene | 3.2 | | 0.2 | U | 32 | | 210 | | 260 | |
| cis-1,3-Dichloropropene | 4.5 | U | 0.91 | U | 0.91 | U | 5.6 | U | 9.1 | U |
| Cyclohexane | 3.4 | U | 12 | | 3.4 | | 4.2 | U | 6.9 | U |
| Dibromochloromethane | 8.5 | U | 1.7 | U | 1.7 | U | 10 | U | 17 | U |
| Dichlorodifluoromethane | 12 | U | 2.5 | U | 2.5 | U | 15 | U | 25 | U |
| Ethanol | NA | | NA | | NA | | NA | | NA | |
| Ethyl Acetate | NA | | NA | | NA | | NA | | NA | |
| Ethylbenzene | 4.3 | U | 0.87 | U | 0.87 | U | 6.9 | | 1,400 | |
| Heptane | NA | | NA | | NA | | NA | | NA | |
| Hexachlorobutadiene | 11 | U | 2.1 | U | 2.1 | U | 13 | U | 21 | U |
| Isopropanol | 61 | U | 12 | U | 12 | U | 75 | U | 120 | U |
| isopropylbenzene | 4.9 | U | 0.98 | U | 0.98 | U | 21 | | 53 | |
| Methyl methacrylate | 10 | U | 2 | U | 2 | U | 13 | U | 20 | U |
| Methyl tert butyl ether | 3.6 | U | 0.72 | U | 0.72 | U | 4.4 | U | 7.2 | U |
| Methylene Chloride | 230 | | 14 | | 1.7 | U | 11 | U | 17 | U |
| Naphthalene | 13 | U | 2.6 | U | 2.6 | U | 16 | U | 26 | U |
| n-Butane | 5.9 | U | 16 | | 1.9 | | 7.3 | U | 24 | |
| n-Butylbenzene | 5.5 | U | 1.1 | U | 1.1 | U | 6.7 | U | 11 | U |
| n-Heptane | 4.1 | U | 6.1 | | 0.82 | U | 5 | U | 8.2 | U |
| n-Hexane | 3.5 | U | 7.3 | | 0.96 | | 4.3 | U | 7 | U |
| n-Propylbenzene | 4.9 | U | 0.98 | U | 0.98 | U | 6 | U | 9.8 | U |
| o-Xylene | 4.3 | U | 0.87 | U | 1 | | 11 | | 9.2 | |
| p/m-Xylene | 11 | U | 2.2 | U | 2.7 | | 32 | | 130 | |
| sec-Butylbenzene | 5.5 | U | 1.1 | U | 1.1 | U | 6.7 | U | 11 | U |
| Styrene | 4.3 | U | 0.85 | U | 0.85 | U | 5.2 | U | 8.5 | U |
| tert-Butyl alcohol | 76 | U | 15 | U | 15 | U | 93 | U | 150 | U |
| tert-Butylbenzene | 5.5 | U | 1.1 | U | 1.1 | U | 6.7 | U | 11 | U |
| Tetrachloroethene | 1,300 | | 4 | | 1.4 | U | 43 | | 17 | |
| Tetrahydrofuran | 74 | U | 15 | U | 15 | U | 91 | U | 150 | U |
| Toluene | 4.1 | | 3.5 | | 1.9 | | 5.8 | | 20 | |
| trans-1,2-Dichloroethene | 4 | U | 0.79 | U | 4.4 | | 4.9 | U | 7.9 | U |
| trans-1,3-Dichloropropene | 4.5 | U | 0.91 | U | 0.91 | U | 5.6 | U | 9.1 | U |
| Trichloroethene | 43 | | 13 | | 52 | | 1,200 | | 570 | |
| Trichlorofluoromethane | 5.6 | U | 1.1 | U | 1.1 | U | 6.9 | U | 11 | U |
| Vinyl Bromide | 4.4 | U | 0.87 | U | 0.87 | U | 5.4 | U | 8.7 | U |
| Vinyl chloride | 1 | U | 0.2 | U | 0.67 | | 1.2 | U | 6.6 | |

Detected concentrations

Notably elevated concentrations

Notes: NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank

2021 Site Investigation – 2-Series VOCs in Soil

**Table 1: VOCs in Soil (RI and PDI Data)**
BCP ID: C241207 - 3-60 Beach 79th Street
Pre-Design Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | | Sample ID | 2SB-01 8 | | 2SB-02 11 | | 2SB-03 9 | | 2SB-04 9 | | 2SB-05 8 | | 2SB-06 8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *All data in mg/Kg (ppm)* | | | Sample Date | 2021-10-25 | | 2021-10-25 | | 2021-10-25 | | 2021-10-25 | | 2021-10-25 | | 2021-10-25 | |
| *U= Not Detected ≥ value* | | | Dilution Factor | 1 | | 1 | | 1 | | 1 | | 1 | | 100 | |
| **VOCs, 8260** | **PG SCO** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1,2-Tetrachloroethane | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,1,2,2-Tetrachloroethane | 0.6 | NA | 35 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 6 | NA | 100 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,1,2-Trichloroethane | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,2,3-Trichlorobenzene | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,2,3-Trichloropropane | 0.34 | NA | 80 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,2,4-Trichlorobenzene | 3.4 | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,2-Dibromoethane | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,2-Dichloropropane | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,3-Dichloropropane | NA | NA | NA | NA | | NA | | NA | | NA | | NA | | NA | |
| 1,4-Dichlorobenzene | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 0.11 | U | 0.056 | U | 0.052 | U | 0.088 | U | 0.1 | U | 12 | U |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 2-Hexanone | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| 4-Methyl-2-pentanone | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Acetone | 0.05 | 0.05 | 500 | 0.017 | J | 0.006 | J | 0.0052 | U | 0.022 | | 0.019 | J | 1.2 | U |
| Acrolein | NA | NA | NA | 0.011 | U | 0.0056 | U | 0.0052 | U | 0.0088 | U | 0.01 | U | 1.2 | U |
| Acrylonitrile | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Benzene | 0.06 | 0.06 | 44 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Bromochloromethane | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Bromodichloromethane | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Bromoform | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Bromomethane | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Carbon disulfide | 2.7 | NA | NA | 0.013 | | 0.0052 | J | 0.0026 | U | 0.027 | | 0.048 | | 0.58 | U |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Chlorobenzene | 1.1 | 1.1 | 500 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Chloroethane | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Chloroform | 0.37 | 0.37 | 350 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Chloromethane | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | 0.032 | | 0.0028 | U | 0.0026 | U | 0.039 | | 0.021 | | 0.58 | U |
| cis-1,3-Dichloropropylene | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Cyclohexane | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Dibromochloromethane | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0028 | J | 0.0044 | U | 0.005 | U | 0.58 | U |
| Dibromomethane | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Dichlorodifluoromethane | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Ethyl Benzene | 1 | 1 | 390 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Hexachlorobutadiene | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Isopropylbenzene | NA | 2.3 | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Methyl acetate | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Methylcyclohexane | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Methylene chloride | 0.05 | 0.05 | 500 | 0.014 | J | 0.0098 | J | 0.013 | | 0.012 | J | 0.014 | J | 2.1 | JD |
| n-Butylbenzene | 12 | 12 | 500 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| o-Xylene | 1.6 | 0.26 | 500 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 0.011 | U | 0.0056 | U | 0.0052 | U | 0.0088 | U | 0.01 | U | 1.2 | U |
| p-Isopropyltoluene | 10 | 10 | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| sec-Butylbenzene | 11 | 11 | 500 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Styrene | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| tert-Butyl alcohol (TBA) | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Toluene | 0.7 | 0.7 | 500 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0071 | J | 0.005 | U | 0.58 | U |
| trans-1,3-Dichloropropylene | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.005 | J | 0.005 | U | 0.58 | U |
| Trichlorofluoromethane | NA | NA | NA | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | 0.0054 | U | 0.0028 | U | 0.0026 | U | 0.0044 | U | 0.005 | U | 0.58 | U |
| Xylenes, Total | 1.6 | 0.26 | 500 | 0.016 | U | 0.0084 | U | 0.0078 | U | 0.013 | U | 0.015 | U | 1.7 | U |

Analyte Detected
Analyte Above UU SCO
Analyte Above PG SCO (if applicable)
Analyte Above CU SCO

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 1: VOCs in Soil (RI and PDI Data)**
BCP ID: C241207 - 3-60 Beach 79th Street
Pre-Design Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | | Sample ID | 2SB-07 10 | | 2SB-08 9 | | 2SB-10 10 | | 2SB-11 10 | | 2SB-12 9 | | 2SB-13 10 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *All data in mg/Kg (ppm)* | | | Sample Date | 2021-10-25 | | 2021-10-25 | | 2021-10-25 | | 2021-10-25 | | 2021-10-26 | | 2021-10-26 | |
| *U= Not Detected ≥ value* | | | Dilution Factor | 1 | | 100 | | 1 | | 100 | | 1 | | 100 | |
| **VOCs, 8260** | **PG SCO** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1,2-Tetrachloroethane | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,1,2,2-Tetrachloroethane | 0.6 | NA | 35 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 6 | NA | 100 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,1,2-Trichloroethane | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,2,3-Trichlorobenzene | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,2,3-Trichloropropane | 0.34 | NA | 80 | 0.0035 | U | 5.3 | D | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,2,4-Trichlorobenzene | 3.4 | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,2-Dibromoethane | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 0.011 | | 0.24 | U | 0.022 | | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,2-Dichloropropane | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,3-Dichloropropane | NA | NA | NA | NA | | NA | | NA | | NA | | NA | | NA | |
| 1,4-Dichlorobenzene | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 0.07 | U | 4.8 | U | 0.068 | U | 9.6 | U | 0.056 | U | 8.3 | U |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 0.0035 | U | 0.24 | U | 0.014 | | 0.48 | U | 0.0028 | U | 0.42 | U |
| 2-Hexanone | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| 4-Methyl-2-pentanone | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Acetone | 0.05 | 0.05 | 500 | 0.014 | | 0.48 | U | 0.042 | | 0.96 | U | 0.0091 | J | 0.83 | U |
| Acrolein | NA | NA | NA | 0.007 | U | 0.48 | U | 0.0068 | U | 0.96 | U | 0.0056 | U | 0.83 | U |
| Acrylonitrile | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Benzene | 0.06 | 0.06 | 44 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Bromochloromethane | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Bromodichloromethane | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Bromoform | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Bromomethane | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Carbon disulfide | 2.7 | NA | NA | 0.014 | | 0.24 | U | 0.0053 | J | 0.48 | U | 0.0028 | U | 0.42 | U |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Chlorobenzene | 1.1 | 1.1 | 500 | 0.0035 | U | 0.24 | U | 0.0076 | | 0.87 | JD | 0.0028 | U | 0.42 | U |
| Chloroethane | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Chloroform | 0.37 | 0.37 | 350 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Chloromethane | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | 0.0035 | U | 0.24 | U | 0.0079 | | 0.48 | U | 0.0028 | U | 45 | DE |
| cis-1,3-Dichloropropylene | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Cyclohexane | NA | NA | NA | 0.0035 | U | 0.26 | JD | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Dibromochloromethane | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Dibromomethane | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Dichlorodifluoromethane | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Ethyl Benzene | 1 | 1 | 390 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Hexachlorobutadiene | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Isopropylbenzene | NA | 2.3 | NA | 0.0035 | U | 0.35 | JD | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Methyl acetate | NA | NA | NA | 0.0035 | U | 0.4 | JD | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Methylcyclohexane | NA | NA | NA | 0.0035 | U | 0.95 | D | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Methylene chloride | 0.05 | 0.05 | 500 | 0.012 | J | 0.98 | D | 0.012 | J | 1.4 | JD | 0.021 | | 1.7 | D |
| n-Butylbenzene | 12 | 12 | 500 | 0.0035 | U | 1.2 | D | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 0.0035 | U | 0.59 | D | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| o-Xylene | 1.6 | 0.26 | 500 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 0.007 | U | 0.48 | U | 0.0068 | U | 0.96 | U | 0.0056 | U | 0.83 | U |
| p-Isopropyltoluene | 10 | 10 | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| sec-Butylbenzene | 11 | 11 | 500 | 0.0035 | U | 0.65 | D | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Styrene | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| tert-Butyl alcohol (TBA) | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 2.9 | D |
| Toluene | 0.7 | 0.7 | 500 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 3.2 | D |
| trans-1,3-Dichloropropylene | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 39 | DE |
| Trichlorofluoromethane | NA | NA | NA | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 0.42 | U |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | 0.0035 | U | 0.24 | U | 0.0034 | U | 0.48 | U | 0.0028 | U | 7.9 | D |
| Xylenes, Total | 1.6 | 0.26 | 500 | 0.011 | U | 0.72 | U | 0.01 | U | 1.4 | U | 0.0084 | U | 1.2 | U |

Analyte Detected
Analyte Above UU SCO
Analyte Above PG SCO (if applicable)
Analyte Above CU SCO

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 1: VOCs in Soil (RI and PDI Data)**
BCP ID: C241207 - 3-60 Beach 79th Street
Pre-Design Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | | Sample ID | 2SB-14 10 | | 2SB-15 6 | | 2SB-16 7 | | 2SB-17 7 | | DUP-20211026 | | 2SB-18 10 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *All data in mg/Kg (ppm)* | | | Sample Date | 2021-10-26 | | 2021-10-26 | | 2021-10-26 | | 2021-10-26 | | 2021-10-26 | | 2021-10-26 | |
| *U= Not Detected ≥ value* | | | Dilution Factor | 500 | | 100 | | 1 | | 1 | | 100 | | 100 | |
| **VOCs, 8260** | **PG SCO** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1,2-Tetrachloroethane | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,1,2,2-Tetrachloroethane | 0.6 | NA | 35 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 6 | NA | 100 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,1,2-Trichloroethane | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,2,3-Trichlorobenzene | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,2,3-Trichloropropane | 0.34 | NA | 80 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,2,4-Trichlorobenzene | 3.4 | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,2-Dibromoethane | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,2-Dichloropropane | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,3-Dichloropropane | NA | NA | NA | NA | | NA | | NA | | NA | | NA | | NA | |
| 1,4-Dichlorobenzene | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 15 | U | 4.8 | U | 0.12 | U | 0.098 | U | 7.5 | U | 11 | U |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.012 | | 0.38 | U | 0.54 | U |
| 2-Hexanone | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| 4-Methyl-2-pentanone | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Acetone | 0.05 | 0.05 | 500 | 1.5 | U | 0.48 | U | 0.03 | | 0.054 | | 0.75 | U | 1.1 | U |
| Acrolein | NA | NA | NA | 1.5 | U | 0.48 | U | 0.012 | U | 0.0098 | U | 0.75 | U | 1.1 | U |
| Acrylonitrile | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Benzene | 0.06 | 0.06 | 44 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Bromochloromethane | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Bromodichloromethane | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Bromoform | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Bromomethane | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Carbon disulfide | 2.7 | NA | NA | 0.73 | U | 0.24 | U | 0.012 | | 0.0049 | U | 0.38 | U | 0.54 | U |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Chlorobenzene | 1.1 | 1.1 | 500 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Chloroethane | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Chloroform | 0.37 | 0.37 | 350 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Chloromethane | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | 320 | DE | 0.24 | JD | 0.015 | | 0.0079 | J | 0.38 | U | 0.54 | U |
| cis-1,3-Dichloropropylene | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Cyclohexane | NA | NA | NA | 2.1 | D | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Dibromochloromethane | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Dibromomethane | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Dichlorodifluoromethane | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Ethyl Benzene | 1 | 1 | 390 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Hexachlorobutadiene | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Isopropylbenzene | NA | 2.3 | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Methyl acetate | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Methylcyclohexane | NA | NA | NA | 1.3 | JD | 0.29 | JD | 0.0062 | U | 0.01 | | 0.38 | U | 0.54 | U |
| Methylene chloride | 0.05 | 0.05 | 500 | 1.5 | U | 0.56 | JD | 0.016 | J | 0.038 | | 0.99 | JD | 1.1 | U |
| n-Butylbenzene | 12 | 12 | 500 | 0.73 | U | 0.6 | D | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| o-Xylene | 1.6 | 0.26 | 500 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 1.5 | U | 0.48 | U | 0.012 | U | 0.0098 | U | 0.75 | U | 1.1 | U |
| p-Isopropyltoluene | 10 | 10 | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| sec-Butylbenzene | 11 | 11 | 500 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.027 | | 0.38 | U | 0.54 | U |
| Styrene | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| tert-Butyl alcohol (TBA) | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Toluene | 0.7 | 0.7 | 500 | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 1.3 | JD | 0.24 | U | 0.0064 | J | 0.0064 | J | 0.47 | JD | 0.54 | U |
| trans-1,3-Dichloropropylene | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | 1.1 | JD | 0.75 | D | 0.032 | | 0.0049 | U | 1.4 | D | 0.54 | U |
| Trichlorofluoromethane | NA | NA | NA | 0.73 | U | 0.24 | U | 0.0062 | U | 0.0049 | U | 0.38 | U | 0.54 | U |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | 59 | DE | 0.24 | U | 0.0062 | U | 0.0049 | J | 0.38 | U | 0.54 | U |
| Xylenes, Total | 1.6 | 0.26 | 500 | 2.2 | U | 0.72 | U | 0.018 | U | 0.015 | U | 1.1 | U | 1.6 | U |

Analyte Detected
Analyte Above UU SCO
Analyte Above PG SCO (if applicable)
Analyte Above CU SCO

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 1: VOCs in Soil (RI and PDI Data)**
BCP ID: C241207 - 3-60 Beach 79th Street
Pre-Design Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | | Sample ID | 2SB-18 12 | | 2SB-19 10 | | 2SB-19 12 | | 2SB-20 9 | | 2SB-21 13 | | 2SB-22 11 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *All data in mg/Kg (ppm)* | | | Sample Date | 2021-10-26 | | 2021-10-26 | | 2021-10-26 | | 2021-10-26 | | 2021-10-26 | | 2021-10-26 | |
| *U= Not Detected ≥ value* | | | Dilution Factor | 1 | | 100 | | 1 | | 100 | | 500 | | 100 | |
| **VOCs, 8260** | **PG SCO** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1,2-Tetrachloroethane | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,1,2,2-Tetrachloroethane | 0.6 | NA | 35 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 6 | NA | 100 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,1,2-Trichloroethane | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,2,3-Trichlorobenzene | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,2,3-Trichloropropane | 0.34 | NA | 80 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,2,4-Trichlorobenzene | 3.4 | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,2-Dibromoethane | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,2-Dichloropropane | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,3-Dichloropropane | NA | NA | NA | NA | | NA | | NA | | NA | | NA | | NA | |
| 1,4-Dichlorobenzene | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 0.11 | U | 6.8 | U | 0.053 | U | 4.8 | U | 7.7 | U | 4.7 | U |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 2-Hexanone | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| 4-Methyl-2-pentanone | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Acetone | 0.05 | 0.05 | 500 | 0.029 | | 0.68 | U | 0.0053 | U | 0.48 | U | 0.77 | U | 0.47 | U |
| Acrolein | NA | NA | NA | 0.011 | U | 0.68 | U | 0.0053 | U | 0.48 | U | 0.77 | U | 0.47 | U |
| Acrylonitrile | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Benzene | 0.06 | 0.06 | 44 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Bromochloromethane | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Bromodichloromethane | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Bromoform | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Bromomethane | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Carbon disulfide | 2.7 | NA | NA | 0.013 | | 0.34 | U | 0.0097 | | 0.24 | U | 0.39 | U | 0.23 | U |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Chlorobenzene | 1.1 | 1.1 | 500 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Chloroethane | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Chloroform | 0.37 | 0.37 | 350 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Chloromethane | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | 0.045 | | 24 | D | 0.0027 | U | 1.9 | D | 290 | DE | 0.23 | U |
| cis-1,3-Dichloropropylene | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Cyclohexane | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Dibromochloromethane | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Dibromomethane | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Dichlorodifluoromethane | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Ethyl Benzene | 1 | 1 | 390 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Hexachlorobutadiene | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Isopropylbenzene | NA | 2.3 | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Methyl acetate | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Methylcyclohexane | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Methylene chloride | 0.05 | 0.05 | 500 | 0.013 | J | 0.68 | U | 0.022 | | 0.48 | U | 0.77 | U | 0.47 | U |
| n-Butylbenzene | 12 | 12 | 500 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| o-Xylene | 1.6 | 0.26 | 500 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 0.011 | U | 0.68 | U | 0.0053 | U | 0.48 | U | 0.77 | U | 0.47 | U |
| p-Isopropyltoluene | 10 | 10 | NA | 0.0053 | U | 0.41 | JD | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| sec-Butylbenzene | 11 | 11 | 500 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Styrene | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| tert-Butyl alcohol (TBA) | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Toluene | 0.7 | 0.7 | 500 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 0.0053 | U | 3.7 | D | 0.0027 | U | 0.24 | U | 1.2 | D | 0.23 | U |
| trans-1,3-Dichloropropylene | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | 0.0053 | U | 9.2 | D | 0.0027 | U | 1.8 | D | 110 | D | 0.23 | U |
| Trichlorofluoromethane | NA | NA | NA | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 0.39 | U | 0.23 | U |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | 0.0053 | U | 0.34 | U | 0.0027 | U | 0.24 | U | 20 | D | 0.23 | U |
| Xylenes, Total | 1.6 | 0.26 | 500 | 0.016 | U | 1 | U | 0.008 | U | 0.72 | U | 1.2 | U | 0.7 | U |

Analyte Detected
Analyte Above UU SCO
Analyte Above PG SCO (if applicable)
Analyte Above CU SCO

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 1: VOCs in Soil (RI and PDI Data)**
BCP ID: C241207 - 3-60 Beach 79th Street
Pre-Design Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | | Sample ID | 2SB-23 10 | | 2SB-24 11 | | 2SB-25 10 | | 2SB-28 8 | | 2SB-31 9 | | 2SB-32 8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *All data in mg/Kg (ppm)* | | | Sample Date | 2021-10-26 | | 2021-10-26 | | 2021-10-26 | | 2021-10-27 | | 2021-10-27 | | 2021-10-27 | |
| *U= Not Detected ≥ value* | | | Dilution Factor | 200 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| **VOCs, 8260** | **PG SCO** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1,2-Tetrachloroethane | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,1,2,2-Tetrachloroethane | 0.6 | NA | 35 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 6 | NA | 100 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,1,2-Trichloroethane | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,2,3-Trichlorobenzene | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,2,3-Trichloropropane | 0.34 | NA | 80 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,2,4-Trichlorobenzene | 3.4 | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,2-Dibromoethane | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,2-Dichloropropane | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,3-Dichloropropane | NA | NA | NA | NA | | NA | | NA | | NA | | NA | | NA | |
| 1,4-Dichlorobenzene | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 8.9 | U | 0.087 | U | 0.059 | U | 0.058 | U | 0.064 | U | 0.054 | U |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0039 | J |
| 2-Hexanone | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| 4-Methyl-2-pentanone | NA | NA | NA | 0.44 | U | 0.0056 | J | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Acetone | 0.05 | 0.05 | 500 | 0.89 | U | 0.046 | | 0.01 | J | 0.0058 | U | 0.011 | J | 0.01 | J |
| Acrolein | NA | NA | NA | 0.89 | U | 0.0087 | U | 0.0059 | U | 0.0058 | U | 0.0064 | U | 0.0054 | U |
| Acrylonitrile | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Benzene | 0.06 | 0.06 | 44 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Bromochloromethane | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Bromodichloromethane | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Bromoform | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Bromomethane | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Carbon disulfide | 2.7 | NA | NA | 0.44 | U | 0.0072 | J | 0.0088 | | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Chlorobenzene | 1.1 | 1.1 | 500 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Chloroethane | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Chloroform | 0.37 | 0.37 | 350 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Chloromethane | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | 99 | DE | 0.064 | | 0.15 | | 0.0029 | U | 0.0032 | U | 0.0027 | J |
| cis-1,3-Dichloropropylene | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Cyclohexane | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Dibromochloromethane | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Dibromomethane | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Dichlorodifluoromethane | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Ethyl Benzene | 1 | 1 | 390 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Hexachlorobutadiene | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Isopropylbenzene | NA | 2.3 | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Methyl acetate | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Methylcyclohexane | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Methylene chloride | 0.05 | 0.05 | 500 | 1.3 | JD | 0.052 | | 0.012 | | 0.014 | B | 0.06 | B | 0.0054 | U |
| n-Butylbenzene | 12 | 12 | 500 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| o-Xylene | 1.6 | 0.26 | 500 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 0.89 | U | 0.0087 | U | 0.0059 | U | 0.0058 | U | 0.0064 | U | 0.0054 | U |
| p-Isopropyltoluene | 10 | 10 | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| sec-Butylbenzene | 11 | 11 | 500 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Styrene | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| tert-Butyl alcohol (TBA) | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Toluene | 0.7 | 0.7 | 500 | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 0.44 | U | 0.0075 | J | 0.0036 | J | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| trans-1,3-Dichloropropylene | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | 0.44 | U | 0.03 | | 0.046 | | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Trichlorofluoromethane | NA | NA | NA | 0.44 | U | 0.0044 | U | 0.0029 | U | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | 13 | D | 0.0064 | J | 0.27 | E | 0.0029 | U | 0.0032 | U | 0.0027 | U |
| Xylenes, Total | 1.6 | 0.26 | 500 | 1.3 | U | 0.013 | U | 0.0088 | U | 0.0087 | U | 0.0096 | U | 0.008 | U |

Analyte Detected
Analyte Above UU SCO
Analyte Above PG SCO (if applicable)
Analyte Above CU SCO

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

**Table 1: VOCs in Soil (RI and PDI Data)**
BCP ID: C241207 - 3-60 Beach 79th Street
Pre-Design Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | | Sample ID | 2SB-33 9 | | 2SB-34 3 | | 2SB-35 8 | | 2SB-37 8 | | 2SB-38 8 | | DUP-20211027 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *All data in mg/Kg (ppm)* | | | Sample Date | 2021-10-27 | | 2021-10-27 | | 2021-10-27 | | 2021-10-27 | | 2021-10-27 | | 2021-10-27 | |
| *U= Not Detected ≥ value* | | | Dilution Factor | 100 | | 100 | | 1 | | 1 | | 1 | | 1 | |
| **VOCs, 8260** | **PG SCO** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1,2-Tetrachloroethane | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| 1,1,1-Trichloroethane | 0.68 | 0.68 | 500 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| 1,1,2,2-Tetrachloroethane | 0.6 | NA | 35 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 6 | NA | 100 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| 1,1,2-Trichloroethane | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| 1,1-Dichloroethane | 0.27 | 0.27 | 240 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| 1,1-Dichloroethylene (1,1-DCE) | 0.33 | 0.33 | 500 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| 1,2,3-Trichlorobenzene | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| 1,2,3-Trichloropropane | 0.34 | NA | 80 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| 1,2,4-Trichlorobenzene | 3.4 | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| 1,2,4-Trimethylbenzene | 3.6 | 3.6 | 190 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.012 | | 0.0051 | U | 0.0029 | U |
| 1,2-Dibromo-3-chloropropane | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| 1,2-Dibromoethane | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| 1,2-Dichlorobenzene | 1.1 | 1.1 | 500 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| 1,2-Dichloroethane | 0.02 | 0.02 | 30 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| 1,2-Dichloropropane | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| 1,3,5-Trimethylbenzene | 8.4 | 8.4 | 190 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0052 | J | 0.0051 | U | 0.0029 | U |
| 1,3-Dichlorobenzene | 2.4 | 2.4 | 280 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| 1,3-Dichloropropane | NA | NA | NA | NA | | NA | | NA | | NA | | NA | | NA | |
| 1,4-Dichlorobenzene | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| 1,4-Dioxane | 0.1 | 0.1 | 130 | 9.6 | U | 11 | U | 0.091 | U | 0.067 | U | 0.1 | U | 0.057 | U |
| 2-Butanone (MEK) | 0.12 | 0.12 | 500 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.048 | | 0.01 | | 0.0029 | U |
| 2-Hexanone | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| 4-Methyl-2-pentanone | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Acetone | 0.05 | 0.05 | 500 | 0.96 | U | 1.1 | U | 0.0095 | J | 0.12 | | 0.034 | | 0.0058 | J |
| Acrolein | NA | NA | NA | 0.96 | U | 1.1 | U | 0.0091 | U | 0.0067 | U | 0.01 | U | 0.0057 | U |
| Acrylonitrile | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Benzene | 0.06 | 0.06 | 44 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Bromochloromethane | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Bromodichloromethane | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Bromoform | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Bromomethane | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Carbon disulfide | 2.7 | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.015 | | 0.0048 | J |
| Carbon tetrachloride | 0.76 | 0.76 | 22 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Chlorobenzene | 1.1 | 1.1 | 500 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Chloroethane | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Chloroform | 0.37 | 0.37 | 350 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Chloromethane | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| cis-1,2-Dichloroethylene (cis-DCE) | 0.25 | 0.25 | 500 | 0.48 | U | 5.2 | D | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0032 | J |
| cis-1,3-Dichloropropylene | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Cyclohexane | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Dibromochloromethane | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Dibromomethane | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Dichlorodifluoromethane | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Ethyl Benzene | 1 | 1 | 390 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0048 | J | 0.0051 | U | 0.0029 | U |
| Hexachlorobutadiene | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Isopropylbenzene | NA | 2.3 | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.011 | | 0.0051 | U | 0.0029 | U |
| Methyl acetate | NA | NA | NA | 0.48 | U | 0.63 | JD | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Methyl tert-butyl ether (MTBE) | 0.93 | 0.93 | 500 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Methylcyclohexane | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0043 | J | 0.0051 | U | 0.0029 | U |
| Methylene chloride | 0.05 | 0.05 | 500 | 0.96 | U | 1.1 | U | 0.0099 | JB | 0.0067 | U | 0.035 | B | 0.044 | B |
| n-Butylbenzene | 12 | 12 | 500 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| n-Propylbenzene | 3.9 | 3.9 | 500 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| o-Xylene | 1.6 | 0.26 | 500 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0035 | J | 0.0051 | U | 0.0029 | U |
| p- & m- Xylenes | 1.6 | 0.26 | 500 | 0.96 | U | 1.1 | U | 0.0091 | U | 0.0067 | U | 0.01 | U | 0.0057 | U |
| p-Isopropyltoluene | 10 | 10 | NA | 0.48 | U | 70 | DE | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| sec-Butylbenzene | 11 | 11 | 500 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Styrene | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| tert-Butyl alcohol (TBA) | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| tert-Butylbenzene | 5.9 | 5.9 | 500 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Tetrachloroethylene (PCE) | 1.3 | 1.3 | 150 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Toluene | 0.7 | 0.7 | 500 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| trans-1,2-Dichloroethylene (trans-DCE) | 0.19 | 0.19 | 500 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| trans-1,3-Dichloropropylene | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Trichloroethylene (TCE) | 0.47 | 0.47 | 200 | 0.48 | U | 14 | D | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Trichlorofluoromethane | NA | NA | NA | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Vinyl chloride (VC) | 0.02 | 0.02 | 13 | 0.48 | U | 0.56 | U | 0.0045 | U | 0.0034 | U | 0.0051 | U | 0.0029 | U |
| Xylenes, Total | 1.6 | 0.26 | 500 | 1.4 | U | 1.7 | U | 0.014 | U | 0.01 | U | 0.015 | U | 0.0086 | U |

Analyte Detected
Analyte Above UU SCO
Analyte Above PG SCO (if applicable)
Analyte Above CU SCO

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

# Table 12: VOCs in Vapor and Air (2019-2020)

BCP ID: C241207 - 3-60 Beach 7th Street

Remedial Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| *All data in µg/m³* / Sample ID | SV-06 | | SS-01 | | SS-02 | | SS-03 | | IA-01 | |
|---|---|---|---|---|---|---|---|---|---|---|
| *U= Not Detected ≥ value* / Sample Date | (2020-03-05) | | (2020-03-05) | | (2020-03-05) | | (2020-03-05) | | (2020-03-05) | |
| Dilution Factor | 158.2 | | 1 | | 158.2 | | 1.471 | | 1 | |
| **VOCs, TO-15** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1,1-Trichloroethane | 172 | U | 1.09 | U | 172 | U | 1.6 | U | 0.109 | U |
| 1,1,2,2-Tetrachloroethane | 217 | U | 1.37 | U | 217 | U | 2.02 | U | 1.37 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 242 | U | 1.53 | U | 242 | U | 2.25 | U | 1.53 | U |
| 1,1,2-Trichloroethane | 172 | U | 1.09 | U | 172 | U | 1.6 | U | 1.09 | U |
| 1,1-Dichloroethane | 128 | U | 0.809 | U | 128 | U | 1.19 | U | 0.809 | U |
| 1,1-Dichloroethene | 125 | U | 0.793 | U | 125 | U | 1.17 | U | 0.079 | U |
| 1,2,4-Trichlorobenzene | 235 | U | 1.48 | U | 235 | U | 2.18 | U | 1.48 | U |
| 1,2,4-Trimethylbenzene | 155 | U | 8.06 | | 155 | U | 7.23 | | 4.35 | |
| 1,2-Dibromoethane | 243 | U | 1.54 | U | 243 | U | 2.26 | U | 1.54 | U |
| 1,2-Dichlorobenzene | 190 | U | 1.2 | U | 190 | U | 1.77 | U | 1.2 | U |
| 1,2-Dichloroethane | 128 | U | 0.809 | U | 128 | U | 1.19 | U | 0.809 | U |
| 1,2-Dichloropropane | 146 | U | 0.924 | U | 146 | U | 1.36 | U | 0.924 | U |
| 1,2-Dichlorotetrafluoroethane | 221 | U | 1.4 | U | 221 | U | 2.05 | U | 1.4 | U |
| 1,3,5-Trimethylbenzene | 155 | U | 1.73 | | 155 | U | 1.46 | | 1.47 | |
| 1,3-Butadiene | 69.9 | U | 0.442 | U | 69.9 | U | 0.65 | U | 0.442 | U |
| 1,3-Dichlorobenzene | 190 | U | 1.2 | U | 190 | U | 1.77 | U | 1.2 | U |
| 1,4-Dichlorobenzene | 190 | U | 1.2 | U | 190 | U | 1.77 | U | 1.2 | U |
| 1,4-Dioxane | 114 | U | 0.721 | U | 114 | U | 1.06 | U | 0.721 | U |
| 2,2,4-Trimethylpentane | 148 | U | 2.92 | | 148 | U | 2.45 | | 0.934 | U |
| 2-Butanone | 233 | U | 7.93 | | 233 | U | 6.16 | | 1.47 | U |
| 2-Chlorotoluene | NA | | NA | | NA | | NA | | NA | |
| 2-Hexanone | 130 | U | 0.82 | U | 130 | U | 1.2 | U | 0.82 | U |
| 3-Chloropropene | 98.9 | U | 0.626 | U | 98.9 | U | 0.92 | U | 0.626 | U |
| 4-Ethyltoluene | 155 | U | 2.42 | | 155 | U | 2.6 | | 1.21 | |
| 4-Isopropyltoluene | NA | | NA | | NA | | NA | | NA | |
| 4-Methyl-2-pentanone | 324 | | 2.05 | | 324 | | 3.01 | | 2.05 | |
| Acetone | 375 | U | 87.4 | | 375 | U | 30.9 | | 5.04 | |
| Benzene | 101 | U | 3.19 | | 101 | U | 3.13 | | 0.639 | U |
| Benzyl chloride | 164 | U | 1.04 | U | 164 | U | 1.52 | U | 1.04 | U |
| Bromodichloromethane | 212 | U | 1.34 | U | 212 | U | 1.97 | U | 1.34 | U |
| Bromoform | 327 | U | 2.07 | U | 327 | U | 3.04 | U | 2.07 | U |
| Bromomethane | 123 | U | 0.777 | U | 123 | U | 1.14 | U | 0.777 | U |
| Carbon disulfide | 98.4 | U | 0.698 | | 98.4 | U | 0.916 | U | 0.623 | U |
| Carbon tetrachloride | 199 | U | 1.26 | U | 199 | U | 1.85 | U | 0.415 | |
| Chlorobenzene | 146 | U | 0.921 | U | 146 | U | 1.35 | U | 0.921 | U |
| Chlorodifluoromethane | NA | | NA | | NA | | NA | | NA | |
| Chloroethane | 83.4 | U | 0.528 | U | 83.4 | U | 0.776 | U | 0.528 | U |
| Chloroform | 154 | U | 1.16 | | 154 | U | 4.18 | | 0.977 | U |
| Chloromethane | 65.3 | U | 0.421 | | 65.3 | U | 0.607 | U | 1.26 | |
| cis-1,2-Dichloroethene | 2,470 | | 0.793 | U | 1,560 | | 2.26 | | 0.115 | |
| cis-1,3-Dichloropropene | 143 | U | 0.908 | U | 143 | U | 1.33 | U | 0.908 | U |
| Cyclohexane | 109 | U | 2.32 | | 109 | U | 1.51 | | 0.688 | U |
| Dibromochloromethane | 269 | U | 1.7 | U | 269 | U | 2.5 | U | 1.7 | U |
| Dichlorodifluoromethane | 156 | U | 2 | | 156 | U | 2.16 | | 2.01 | |
| Ethanol | 1,490 | U | 78.8 | | 1,490 | U | 42.4 | | 43.5 | |
| Ethyl Acetate | 285 | U | 1.8 | U | 285 | U | 2.65 | U | 1.8 | U |
| Ethylbenzene | 137 | U | 6.99 | | 137 | U | 8.77 | | 2.58 | |
| Heptane | 130 | U | 6.76 | | 130 | U | 3.18 | | 0.82 | U |
| Hexachlorobutadiene | 337 | U | 2.13 | U | 337 | U | 3.14 | U | 2.13 | U |
| Isopropanol | 194 | U | 6.32 | | 194 | U | 2.85 | | 1.67 | |
| isopropylbenzene | NA | | NA | | NA | | NA | | NA | |
| Methyl methacrylate | NA | | NA | | NA | | NA | | NA | |
| Methyl tert butyl ether | 114 | U | 0.721 | U | 114 | U | 1.06 | U | 0.721 | U |
| Methylene Chloride | 275 | U | 1.74 | U | 275 | U | 2.55 | U | 1.74 | U |
| Naphthalene | NA | | NA | | NA | | NA | | NA | |
| n-Butane | NA | | NA | | NA | | NA | | NA | |
| n-Butylbenzene | NA | | NA | | NA | | NA | | NA | |
| n-Heptane | NA | | NA | | NA | | NA | | NA | |
| n-Hexane | 111 | U | 7.37 | | 111 | U | 2.58 | | 0.705 | U |
| n-Propylbenzene | NA | | NA | | NA | | NA | | NA | |
| o-Xylene | 137 | U | 8.25 | | 137 | U | 8.99 | | 2.57 | |
| p/m-Xylene | 275 | U | 25.8 | | 275 | U | 30.3 | | 9.6 | |
| sec-Butylbenzene | NA | | NA | | NA | | NA | | NA | |
| Styrene | 135 | U | 0.852 | U | 135 | U | 1.25 | U | 0.852 | U |
| tert-Butyl alcohol | 240 | U | 1.52 | U | 240 | U | 2.23 | U | 1.52 | U |
| tert-Butylbenzene | NA | | NA | | NA | | NA | | NA | |
| Tetrachloroethene | 71,200 | | 18.4 | | 3,000 | | 574 | | 1.33 | |
| Tetrahydrofuran | 233 | U | 7.64 | | 233 | U | 6.08 | | 1.47 | U |
| Toluene | 119 | U | 32.8 | | 119 | U | 39.9 | | 1.07 | |
| trans-1,2-Dichloroethene | 125 | U | 0.793 | U | 125 | U | 1.17 | U | 0.793 | U |
| trans-1,3-Dichloropropene | 143 | U | 0.908 | U | 143 | U | 1.33 | U | 0.908 | U |
| Trichloroethene | 2,470 | | 7.09 | | 52,300 | | 294 | | 17.6 | |
| Trichlorofluoromethane | 178 | U | 1.12 | U | 178 | U | 1.65 | U | 1.12 | U |
| Vinyl Bromide | 138 | U | 0.874 | U | 138 | U | 1.29 | U | 0.874 | U |
| Vinyl chloride | 80.8 | U | 0.511 | U | 80.8 | U | 0.752 | U | 0.051 | U |

Detected concentrations

Notably elevated concentrations

Notes: NA = not available

Result Qualifiers: J = approximate E = estimated B = detected in blank

2021 Site Investigation – 2-Series SVOCs in Soil

**Table 3: SVOCs in Soil**

BCP ID: C241207 - 3-60 Beach 79th Street

Pre-Design Investigation Report

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | Sample ID | 2SB-08 8-10 | | 2SB-14 8-10 | | 2SB-16 5-7 | | 2SB-34 3 | |
|---|---|---|---|---|---|---|---|---|---|---|
| *All data in mg/Kg (ppm)* | | Sample Date | 2021-10-25 | | 2021-10-26 | | 2021-10-26 | | 2021-10-27 | |
| *U= Not Detected ≥ value* | | Dilution | 2 | | 2 | | 10 | | 2 | |
| **SVOCs, 8270** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| 1,1'-Biphenyl | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 1,2,4,5-Tetrachlorobenzene | NA | NA | 0.159 | *U* | 0.151 | *U* | 0.115 | *U* | 0.103 | *U* |
| 1,2,4-Trichlorobenzene | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 1,2-Dichlorobenzene | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 1,2-Diphenylhydrazine (Azobenzene) | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 1,3-Dichlorobenzene | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 1,4-Dichlorobenzene | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 2,3,4,6-Tetrachlorophenol | NA | NA | 0.159 | *U* | 0.151 | *U* | 0.115 | *U* | 0.103 | *U* |
| 2,4,5-Trichlorophenol | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 2,4,6-Trichlorophenol | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 2,4-Dichlorophenol | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 2,4-Dimethylphenol | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 2,4-Dinitrophenol | NA | NA | 0.159 | *U* | 0.151 | *U* | 0.115 | *U* | 0.103 | *U* |
| 2,4-Dinitrotoluene | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 2,6-Dinitrotoluene | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 2-Chloronaphthalene | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 2-Chlorophenol | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 2-Methylnaphthalene | NA | NA | 0.0799 | *U* | 0.421 | *D* | 0.0578 | *U* | 0.0694 | *JD* |
| 2-Methylphenol | 0.33 | 500 | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 2-Nitroaniline | NA | NA | 0.159 | *U* | 0.151 | *U* | 0.115 | *U* | 0.103 | *U* |
| 2-Nitrophenol | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 3- & 4-Methylphenols | 0.33 | 500 | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 3,3'-Dichlorobenzidine | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 3-Nitroaniline | NA | NA | 0.159 | *U* | 0.151 | *U* | 0.115 | *U* | 0.103 | *U* |
| 4,6-Dinitro-2-methylphenol | NA | NA | 0.159 | *U* | 0.151 | *U* | 0.115 | *U* | 0.103 | *U* |
| 4-Bromophenyl phenyl ether | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 4-Chloro-3-methylphenol | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 4-Chloroaniline | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 4-Chlorophenyl phenyl ether | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| 4-Nitroaniline | NA | NA | 0.159 | *U* | 0.151 | *U* | 0.115 | *U* | 0.103 | *U* |
| 4-Nitrophenol | NA | NA | 0.159 | *U* | 0.151 | *U* | 0.115 | *U* | 0.103 | *U* |
| Acenaphthene | 20 | 500 | 0.0799 | *U* | 0.238 | *D* | 0.22 | *D* | 0.0518 | *U* |
| Acenaphthylene | 100 | 500 | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.183 | *D* |
| Acetophenone | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Aniline | NA | NA | 0.319 | *U* | 0.303 | *U* | 0.231 | *U* | 0.207 | *U* |
| Anthracene | 100 | 500 | 0.0799 | *U* | 0.155 | *D* | 0.997 | *D* | 0.213 | *D* |
| Atrazine | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Benzaldehyde | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.491 | *D* |
| Benzidine | NA | NA | 0.319 | *U* | 0.303 | *U* | 0.231 | *U* | 0.207 | *U* |
| Benzo(a)anthracene | 1 | 5.6 | 0.0799 | *U* | 0.226 | *D* | 1.94 | *D* | 0.354 | *D* |
| Benzo(a)pyrene | 1 | 1 | 0.0799 | *U* | 0.197 | *D* | **2.22** | *D* | 0.258 | *D* |
| Benzo(b)fluoranthene | 1 | 5.6 | 0.0799 | *U* | 0.157 | *D* | 1.4 | *D* | 0.302 | *D* |
| Benzo(g,h,i)perylene | 100 | 500 | 0.0799 | *U* | 0.2 | *D* | 0.925 | *D* | 0.252 | *D* |
| Benzo(k)fluoranthene | 0.8 | 56 | 0.0799 | *U* | 0.117 | *JD* | 2.04 | *D* | 0.155 | *D* |
| Benzoic acid | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Benzyl alcohol | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Benzyl butyl phthalate | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Bis(2-chloroethoxy)methane | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Bis(2-chloroethyl)ether | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Bis(2-chloroisopropyl)ether | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Bis(2-ethylhexyl)phthalate | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Caprolactam | NA | NA | 0.159 | *U* | 0.151 | *U* | 0.115 | *U* | 0.103 | *U* |
| Carbazole | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Chrysene | 1 | 56 | 0.0799 | *U* | 0.29 | *D* | 1.91 | *D* | 0.375 | *D* |
| Dibenzo(a,h)anthracene | 0.33 | 0.56 | 0.0799 | *U* | 0.0758 | *U* | 0.363 | *D* | 0.0843 | *JD* |
| Dibenzofuran | 7 | 350 | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Diethyl phthalate | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Dimethyl phthalate | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Di-n-butyl phthalate | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Di-n-octyl phthalate | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Fluoranthene | 100 | 500 | 0.0799 | *U* | 0.206 | *D* | 7.51 | *D* | 1.47 | *D* |
| Fluorene | 30 | 500 | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Hexachlorobenzene | 0.33 | 6.0 | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Hexachlorobutadiene | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Hexachlorocyclopentadiene | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Hexachloroethane | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Indeno(1,2,3-cd)pyrene | 0.5 | 5.6 | 0.0799 | *U* | 0.138 | *JD* | 1.17 | *D* | 0.302 | *D* |
| Isophorone | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Naphthalene | 12 | 500 | 0.0799 | *U* | 0.506 | *D* | 0.176 | *D* | 0.0518 | *U* |
| Nitrobenzene | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| N-Nitrosodimethylamine | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| N-nitroso-di-n-propylamine | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| N-Nitrosodiphenylamine | NA | NA | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Pentachlorophenol | 0.8 | 6.7 | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Phenanthrene | 100 | 500 | 0.0799 | *U* | 0.167 | *D* | 0.309 | *D* | 0.669 | *D* |
| Phenol | 0.33 | 500 | 0.0799 | *U* | 0.0758 | *U* | 0.0578 | *U* | 0.0518 | *U* |
| Pyrene | 100 | 500 | 0.0799 | *U* | 0.247 | *D* | 6.2 | *D* | 0.375 | *D* |

Analyte Detected
**Analyte Above UU SCO**
**Analyte Above RCU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

2021 Site Investigation – 2-Series Metals in Soil

GALLAGHER BASSETT | TECHNICAL SERVICES

| | | Sample ID | 2SB-08 8-10 | | 2SB-14 8-10 | | 2SB-16 5-7 | |
|---|---|---|---|---|---|---|---|---|
| *All data in mg/Kg (ppm)* | | Sample Date | 2021-10-25 | | 2021-10-26 | | 2021-10-26 | |
| *U= Not Detected ≥ value* | | Dilution | 2 | | 2 | | 10 | |
| **Metals, 6010 and 7473** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* | *Result* | *Qualifier* | *Result* | *Qualifier* |
| Aluminum | NA | NA | 16,800 | | 4,060 | | 4,610 | |
| Antimony | NA | NA | 6.24 | | 4.7 | | 3.51 | *U* |
| Arsenic | 13 | 16 | 10 | | **18.5** | | 2.11 | *U* |
| Barium | 350 | 400 | 39.6 | | 389 | | 61.9 | |
| Beryllium | 7.2 | 590 | 0.097 | *U* | 0.092 | *U* | 0.07 | *U* |
| Cadmium | 2.5 | 9.3 | 0.581 | *U* | 2.64 | | 0.422 | *U* |
| Calcium | NA | NA | 3,280 | | 4,800 | | 1,280 | |
| Chromium | 30 | 1,500 | 43.3 | | 13.3 | | 12 | |
| Cobalt | NA | NA | 10.1 | | 4.13 | | 8.43 | |
| Copper | 50 | 270 | 11.5 | | 176 | | 22.5 | |
| Iron | NA | NA | 36,900 | | 33,200 | | 12,700 | |
| Lead | 63 | 1,000 | 9.66 | | 399 | | 23.8 | |
| Magnesium | NA | NA | 6,850 | | 377 | | 2,030 | |
| Manganese | 1,600 | 10,000 | 247 | | 29 | | 73 | |
| Mercury | 0.18 | 2.8 | 0.0684 | | 0.152 | | 0.16 | |
| Nickel | 30 | 310 | 26.1 | | 10.6 | | 16.3 | |
| Potassium | NA | NA | 3,750 | | 553 | | 1,520 | |
| Selenium | 3.9 | 1,500 | 4.84 | *U* | 4.6 | *U* | 3.51 | *U* |
| Silver | 2 | 1,500 | 0.968 | *U* | 0.919 | *U* | 0.703 | *U* |
| Sodium | NA | NA | 1,080 | | 408 | | 750 | |
| Thallium | NA | NA | 4.84 | *U* | 4.6 | *U* | 3.51 | *U* |
| Vanadium | NA | NA | 56.3 | | 32.5 | | 14.5 | |
| Zinc | 109 | 10,000 | 59 | | 263 | | 174 | |

Analyte Detected
**Analyte Above UU SCO**
**Analyte Above RCU SCO**

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

2021 Site Investigation – 2-Series PCBs in Soil

| | | | Sample ID | 2SB-34 3 |
|---|---|---|---|---|
| *All data in mg/Kg (ppm)* | | | Sample Date | 2021-10-27 |
| *U= Not Detected ≥ value* | | | Dilution | 1 |
| **PCBs, 8082** | **UU SCO** | **RCU SCO** | *Result* | *Qualifier* |
| Aroclor 1016 | 0.1 | 1.00 | 0.0208 | *U* |
| Aroclor 1221 | 0.1 | 1.00 | 0.0208 | *U* |
| Aroclor 1232 | 0.1 | 1.00 | 0.0208 | *U* |
| Aroclor 1242 | 0.1 | 1.00 | 0.0208 | *U* |
| Aroclor 1248 | 0.1 | 1.00 | 0.0208 | *U* |
| Aroclor 1254 | 0.1 | 1.00 | 0.0208 | *U* |
| Aroclor 1260 | 0.1 | 1.00 | 0.0208 | *U* |
| Aroclor, Total | 0.1 | 1.00 | 0.0208 | *U* |

Analyte Detected

Notes: SCOs based on NYSDEC Part 375-6.8 and CP-51 NA = not available
Result Qualifiers: J = approximate E = estimated B = detected in blank D = diluted

2023 Site Investigation – 3-Series VOCs in Soil

**Eurofins Environment Testing Northeast, LLC**

**Eurofins Edison**

**Lab Job ID: 460-273165-1**
**Job Description: 3-60 Beach 79th St, Far Rockaway**
**For:**
**GEI Consultants, Inc.**
**1000 New York Avenue**
**Huntington Station, New York 11746**

**Table 1. Soil Analytical Results-VOC**
**Supplemental Pre-Design Investigation**
**Report**
**3-60 Beach 79th Street**
**Far Rockaway, NY**

| Client ID | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NY CP51 | NY CP-51 | 3SB04 (9-10) | | | 3SB05 (6.5-7.5) | | | 3SB07 (7-8) | | | 3SB06 (6-7) | | | 3SB09 (7-8) | | | 3SB08 (7-8) | | | 3SB10 (7-8) | | | 3SB11 (7-8) | | | 3SB13 (7-8) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab Sample ID | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Table 2 | Table 3 | 460-273165-1 | | | 460-273165-2 | | | 460-273165-3 | | | 460-273165-4 | | | 460-273165-5 | | | 460-273165-6 | | | 460-273165-7 | | | 460-273165-8 | | | 460-273165-9 | | |
| Sampling Date | UnRestricted Use | Restricted Use | Restricted Use | Restricted Use | Restricted Use | Restricted Use | Restricted Use | Soil Gas | Soil Fuel Oil | 01/18/2023 08:30:00 | | | 01/18/2023 08:51:00 | | | 01/18/2023 08:59:00 | | | 01/18/2023 09:15:00 | | | 01/18/2023 09:32:00 | | | 01/18/2023 10:10:00 | | | 01/18/2023 10:19:00 | | | 01/18/2023 10:45:00 | | | 01/18/2023 11:15:00 | | |
| Matrix | | Residential | Restricted Resid | Commercial | Industrial | Protection of EC | Protection of GW | Contaminate | Contaminat | Soil | | | Soil | | | Soil | | | Soil | | | Soil | | | Soil | | | Soil | | | Soil | | | Soil | | |
| Dilution Factor | | | | | | | | | | 50 | | | 50 | | | 1 | | | 1 | | | 1 | | | 50 | | | 50 | | | 1 | | | 500 | | |
| Unit | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | | | mg/kg | | | mg/kg | | | mg/kg | | | mg/kg | | | mg/kg | | | mg/kg | | | mg/kg | | | mg/kg | | |
| | | | | | | | | | | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL |
| **SOIL BY 8260D** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 0.68 | 100 | 100 | 500 | 1000 | NA | 0.68 | NA | NA | 0.14 | U | 0.039 | 0.14 | U | 0.040 | 0.0015 | U | 0.00035 | 0.0013 | U | 0.00030 | 0.0012 | U | 0.00028 | 0.22 | U | 0.063 | 0.12 | U | 0.033 | 0.0013 | U | 0.00031 | 0.66 | J | 0.54 |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.028 | 0.14 | U | 0.028 | 0.0015 | U | 0.00032 | 0.0013 | U | 0.00027 | 0.0012 | U | 0.00026 | 0.22 | U | 0.044 | 0.12 | U | 0.024 | 0.0013 | U | 0.00028 | 1.9 | U | 0.38 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.048 | 0.14 | U | 0.048 | 0.0015 | U | 0.00045 | 0.0013 | U | 0.00038 | 0.0012 | U | 0.00036 | 0.22 | U | 0.076 | 0.12 | U | 0.040 | 0.0013 | U | 0.00040 | 1.9 | U | 0.66 |
| 1,1,2-Trichloroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.029 | 0.14 | U | 0.029 | 0.0015 | U | 0.00027 | 0.0013 | U | 0.00023 | 0.0012 | U | 0.00021 | 0.22 | U | 0.046 | 0.12 | U | 0.024 | 0.0013 | U | 0.00023 | 1.9 | U | 0.39 |
| 1,1-Dichloroethane | 0.27 | 19 | 26 | 240 | 480 | NA | 0.27 | NA | NA | 0.14 | U | 0.034 | 0.14 | U | 0.034 | 0.0015 | U | 0.00031 | 0.0013 | U | 0.00026 | 0.0012 | U | 0.00025 | 0.22 | U | 0.054 | 0.12 | U | 0.029 | 0.0013 | U | 0.00027 | 1.9 | U | 0.46 |
| 1,1-Dichloroethene | 0.33 | 100 | 100 | 500 | 1000 | NA | 0.33 | NA | NA | 0.14 | U | 0.037 | 0.14 | U | 0.037 | 0.0015 | U | 0.00034 | 0.0013 | U | 0.00029 | 0.0012 | U | 0.00027 | 0.22 | U | 0.059 | 0.12 | U | 0.031 | 0.0013 | U | 0.00030 | 1.1 | J | 0.51 |
| 1,2,3-Trichlorobenzene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.049 | 0.14 | U | 0.050 | 0.0015 | U | 0.00027 | 0.0013 | U | 0.00023 | 0.0012 | U | 0.00022 | 0.22 | U | 0.078 | 0.12 | U | 0.042 | 0.0013 | U | 0.00024 | 1.9 | U | 0.68 |
| 1,2,4-Trichlorobenzene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.096 | J | 0.038 | 0.14 | U | 0.038 | 0.0015 | U | 0.00053 | 0.0013 | U | 0.00046 | 0.0012 | U | 0.00043 | 0.22 | U | 0.061 | 0.12 | U | 0.032 | 0.0013 | U | 0.00047 | 1.9 | U | 0.52 |
| 1,2-Dibromo-3-Chloropropane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.030 | 0.14 | U | 0.030 | 0.0015 | U | 0.00069 | 0.0013 | U | 0.00059 | 0.0012 | U | 0.00055 | 0.22 | U | 0.048 | 0.12 | U | 0.025 | 0.0013 | U | 0.00061 | 1.9 | U | 0.41 |
| 1,2-Dichlorobenzene | 1.1 | 100 | 100 | 500 | 1000 | NA | 1.1 | NA | NA | 4.5 | | 0.031 | 10 | | 0.031 | 0.0019 | | 0.00054 | 0.0013 | U | 0.00046 | 0.0012 | U | 0.00043 | 0.22 | U | 0.049 | 0.12 | U | 0.026 | 0.0013 | U | 0.00047 | 2.2 | | 0.42 |
| 1,2-Dichloroethane | NA | 2.3 | 3.1 | 30 | 60 | 10 | 0.02 | NA | NA | 0.14 | U | 0.035 | 0.14 | U | 0.035 | 0.0015 | U | 0.00044 | 0.0013 | U | 0.00038 | 0.0012 | U | 0.00035 | 0.22 | U | 0.056 | 0.12 | U | 0.030 | 0.0013 | U | 0.00039 | 1.9 | U | 0.48 |
| 1,2-Dichloropropane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U * | 0.025 | 0.14 | U * | 0.026 | 0.0015 | U | 0.00063 | 0.0013 | U | 0.00054 | 0.0012 | U | 0.00051 | 0.22 | U | 0.040 | 0.12 | U | 0.021 | 0.0013 | U | 0.00056 | 1.9 | U | 0.35 |
| 1,3-Dichlorobenzene | 2.4 | 17 | 49 | 280 | 560 | NA | 2.4 | NA | NA | 0.14 | | 0.046 | 0.48 | | 0.047 | 0.0015 | U | 0.00054 | 0.0013 | U | 0.00047 | 0.0012 | U | 0.00044 | 0.22 | U | 0.074 | 0.12 | U | 0.039 | 0.0013 | U | 0.00048 | 1.9 | U | 0.64 |
| 1,4-Dichlorobenzene | 1.8 | 9.8 | 13 | 130 | 250 | 20 | 1.8 | NA | NA | 1.7 | | 0.047 | 5.9 | | 0.047 | 0.00068 | J | 0.00034 | 0.0013 | U | 0.00029 | 0.0012 | U | 0.00027 | 0.22 | U | 0.075 | 0.12 | U | 0.040 | 0.0013 | U | 0.00030 | 1.9 | U | 0.64 |
| 2-Butanone (MEK) | 0.12 | 100 | 100 | 500 | 1000 | 100 | 0.12 | NA | NA | 0.70 | U | 0.31 | 0.71 | U | 0.31 | 0.0074 | U | 0.00055 | 0.023 | | 0.00047 | 0.013 | | 0.00044 | 1.1 | U | 0.49 | 0.60 | U | 0.26 | 0.0066 | U | 0.00048 | 9.7 | U | 4.2 |
| 2-Hexanone | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.70 | U | 0.16 | 0.71 | U | 0.16 | 0.0074 | U | 0.0025 | 0.0064 | U | 0.0022 | 0.0060 | U | 0.0020 | 1.1 | U | 0.25 | 0.60 | U | 0.14 | 0.0066 | U | 0.0023 | 9.7 | U | 2.2 |
| 4-Methyl-2-pentanone (MIBK) | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.70 | U | 0.18 | 0.71 | U | 0.18 | 0.0074 | U | 0.0023 | 0.0064 | U | 0.0020 | 0.0060 | U | 0.0019 | 8.0 | | 0.29 | 0.60 | U | 0.16 | 0.0066 | U | 0.0020 | 9.7 | U | 2.5 |
| Acetone | 0.05 | 100 | 100 | 500 | 1000 | 2.2 | 0.05 | NA | NA | 0.70 | U | 0.62 | 0.71 | U | 0.63 | 0.039 | | 0.0085 | 0.12 | | 0.0073 | 0.084 | | 0.0068 | 1.1 | U | 0.99 | 0.60 | U | 0.53 | 0.013 | | 0.0075 | 9.7 | U | 8.5 |
| Benzene | 0.06 | 2.9 | 4.8 | 44 | 89 | 70 | 0.06 | 0.06 | 0.06 | 0.14 | U | 0.028 | 0.14 | U | 0.029 | 0.0015 | U | 0.00038 | 0.00036 | J | 0.00033 | 0.0023 | | 0.00031 | 0.22 | U | 0.045 | 0.12 | U | 0.024 | 0.0013 | U | 0.00034 | 1.9 | U | 0.39 |
| Bromoform | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.025 | 0.14 | U | 0.026 | 0.0015 | U | 0.00063 | 0.0013 | U | 0.00054 | 0.0012 | U | 0.00051 | 0.22 | U | 0.040 | 0.12 | U | 0.021 | 0.0013 | U | 0.00056 | 1.9 | U | 0.35 |
| Bromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.078 | 0.14 | U | 0.079 | 0.0030 | U | 0.0015 | 0.0026 | U | 0.0013 | 0.0024 | U | 0.0012 | 0.22 | U | 0.12 | 0.12 | U * | 0.066 | 0.0026 | U | 0.0013 | 1.9 | U | 1.1 |
| Carbon disulfide | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.095 | 0.14 | U | 0.096 | 0.0077 | * | 0.00040 | 0.0022 | * | 0.00034 | 0.0055 | * | 0.00032 | 0.22 | U | 0.15 | 0.12 | U | 0.080 | 0.012 | * | 0.00035 | 1.9 | U | 1.3 |
| Carbon tetrachloride | 0.76 | 1.4 | 2.4 | 22 | 44 | NA | 0.76 | NA | NA | 0.14 | U | 0.046 | 0.14 | U | 0.047 | 0.0015 | U | 0.00058 | 0.0013 | U | 0.00049 | 0.0012 | U | 0.00046 | 0.22 | U | 0.074 | 0.12 | U | 0.039 | 0.0013 | U | 0.00051 | 1.9 | U | 0.64 |
| Chlorobenzene | 1.1 | 100 | 100 | 500 | 1000 | 40 | 1.1 | NA | NA | 1.0 | | 0.034 | 4.1 | | 0.034 | 0.0015 | U | 0.00026 | 0.0013 | U | 0.00023 | 0.0012 | U | 0.00021 | 0.22 | U | 0.054 | 0.12 | U | 0.029 | 0.0013 | U | 0.00023 | 1.9 | U | 0.46 |
| Chlorobromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.042 | 0.14 | U | 0.043 | 0.0015 | U | 0.00042 | 0.0013 | U | 0.00036 | 0.0012 | U | 0.00034 | 0.22 | U | 0.067 | 0.12 | U | 0.036 | 0.0013 | U | 0.00037 | 1.9 | U | 0.58 |
| Chlorodibromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.031 | 0.14 | U | 0.031 | 0.0015 | U | 0.00029 | 0.0013 | U | 0.00025 | 0.0012 | U | 0.00023 | 0.22 | U | 0.049 | 0.12 | U | 0.026 | 0.0013 | U | 0.00026 | 1.9 | U | 0.42 |
| Chloroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.052 | 0.14 | U | 0.052 | 0.0015 | U | 0.00078 | 0.0013 | U | 0.00067 | 0.0012 | U | 0.00062 | 0.22 | U | 0.083 | 0.12 | U | 0.044 | 0.0013 | U | 0.00069 | 1.9 | U | 0.71 |
| Chloroform | 0.37 | 10 | 49 | 350 | 700 | 12 | 0.37 | NA | NA | 0.14 | U | 0.031 | 0.14 | U | 0.031 | 0.0015 | U | 0.0014 | 0.0013 | U | 0.0012 | 0.0012 | U | 0.0012 | 0.22 | U | 0.049 | 0.12 | U | 0.026 | 0.0013 | U | 0.0013 | 1.9 | U | 0.42 |
| Chloromethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.057 | 0.14 | U | 0.057 | 0.0015 | U | 0.00065 | 0.0013 | U | 0.00055 | 0.0012 | U | 0.00052 | 0.22 | U | 0.090 | 0.12 | U | 0.048 | 0.0013 | U | 0.00057 | 1.9 | U | 0.78 |
| cis-1,2-Dichloroethene | 0.25 | 59 | 100 | 500 | 1000 | NA | 0.25 | NA | NA | 0.25 | | 0.037 | 0.14 | | 0.037 | 0.0015 | U | 0.00053 | 0.00066 | J | 0.00046 | 0.0012 | U | 0.00043 | 0.22 | U | 0.058 | 1.6 | | 0.031 | 0.022 | | 0.00047 | 550 | | 0.50 |
| cis-1,3-Dichloropropene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.031 | 0.14 | U | 0.031 | 0.0015 | U | 0.00041 | 0.0013 | U | 0.00035 | 0.0012 | U | 0.00033 | 0.22 | U | 0.050 | 0.12 | U | 0.026 | 0.0013 | U | 0.00036 | 1.9 | U | 0.43 |
| Cyclohexane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.037 | 0.14 | U | 0.037 | 0.0015 | U | 0.00033 | 0.0013 | U | 0.00028 | 0.0012 | U | 0.00026 | 0.22 | U | 0.058 | 0.12 | U | 0.031 | 0.0013 | U | 0.00029 | 1.9 | U | 0.50 |
| Dichlorobromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.021 | 0.14 | U | 0.021 | 0.0015 | U | 0.00038 | 0.0013 | U | 0.00033 | 0.0012 | U | 0.00031 | 0.22 | U | 0.034 | 0.12 | U | 0.018 | 0.0013 | U | 0.00034 | 1.9 | U | 0.29 |
| Dichlorodifluoromethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.044 | 0.14 | U | 0.044 | 0.0015 | U | 0.00050 | 0.0013 | U | 0.00043 | 0.0012 | U | 0.00040 | 0.22 | U | 0.070 | 0.12 | U | 0.037 | 0.0013 | U | 0.00044 | 1.9 | U | 0.60 |
| Ethylbenzene | 1 | 30 | 41 | 390 | 780 | NA | 1 | 1 | 1 | 0.14 | U | 0.042 | 0.14 | U | 0.043 | 0.0015 | U | 0.00030 | 0.00047 | J | 0.00025 | 0.00039 | J | 0.00024 | 30 | | 0.067 | 0.12 | U | 0.036 | 0.0013 | U | 0.00026 | 3.0 | | 0.58 |
| Ethylene Dibromide | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.027 | 0.14 | U | 0.027 | 0.0015 | U | 0.00027 | 0.0013 | U | 0.00023 | 0.0012 | U | 0.00022 | 0.22 | U | 0.043 | 0.12 | U | 0.023 | 0.0013 | U | 0.00024 | 1.9 | U | 0.37 |
| Isopropylbenzene | NA | NA | NA | NA | NA | NA | NA | 2.3 | 2.3 | 0.14 | U | 0.045 | 0.14 | U | 0.045 | 0.0015 | U | 0.00042 | 0.00044 | J | 0.00036 | 0.0012 | U | 0.00034 | 0.10 | J | 0.072 | 0.12 | U | 0.038 | 0.0013 | U | 0.00037 | 1.9 | U | 0.62 |
| Methyl acetate | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.70 | U | 0.11 | 0.71 | U | 0.11 | 0.0074 | U | 0.0064 | 0.0064 | U | 0.0055 | 0.0060 | U | 0.0051 | 1.1 | U | 0.18 | 0.60 | U | 0.093 | 0.0066 | U | 0.0057 | 9.7 | U | 1.5 |
| Methyl tert-butyl ether | 0.93 | 62 | 100 | 500 | 1000 | NA | 0.93 | 0.93 | NA | 0.14 | U | 0.030 | 0.14 | U | 0.030 | 0.0015 | U | 0.00076 | 0.0013 | U | 0.00065 | 0.0012 | U | 0.00061 | 0.22 | U | 0.048 | 0.12 | U | 0.025 | 0.0013 | U | 0.00067 | 1.9 | U | 0.41 |
| Methylcyclohexane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.10 | 0.14 | U | 0.10 | 0.0015 | U | 0.00074 | 0.0013 | U | 0.00064 | 0.0012 | U | 0.00060 | 0.22 | U | 0.16 | 0.19 | | 0.086 | 0.0013 | U | 0.00066 | 1.9 | U | 1.4 |
| Methylene Chloride | 0.05 | 51 | 100 | 500 | 1000 | 12 | 0.05 | NA | NA | 0.14 | U | 0.030 | 0.14 | U | 0.030 | 0.0030 | U | 0.0017 | 0.0026 | U | 0.0015 | 0.0019 | J | 0.0014 | 0.071 | J | 0.047 | 0.12 | U | 0.025 | 0.0026 | U | 0.0015 | 1.9 | U | 0.41 |
| m-Xylene & p-Xylene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.039 | 0.066 | J | 0.040 | 0.0015 | U | 0.00026 | 0.00059 | J | 0.00022 | 0.00070 | J | 0.00021 | 100 | | 0.063 | 0.12 | U | 0.033 | 0.00057 | J | 0.00023 | 4.2 | | 0.54 |
| o-Xylene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.045 | 0.14 | U | 0.045 | 0.0015 | U | 0.00029 | 0.00054 | J | 0.00025 | 0.00059 | J | 0.00023 | 25 | | 0.072 | 0.12 | U | 0.038 | 0.00039 | J | 0.00026 | 2.0 | | 0.62 |
| Styrene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.024 | 0.14 | U | 0.024 | 0.0015 | U | 0.00041 | 0.0013 | U | 0.00035 | 0.0012 | U | 0.00033 | 0.22 | U | 0.038 | 0.12 | U | 0.020 | 0.0013 | U | 0.00037 | 1.9 | U | 0.33 |
| Tetrachloroethene | 1.3 | 5.5 | 19 | 150 | 300 | 2 | 1.3 | NA | NA | 0.14 | U | 0.051 | 0.14 | U | 0.051 | 0.0015 | U | 0.00045 | 0.0013 | U | 0.00039 | 0.0012 | U | 0.00036 | 0.22 | U | 0.081 | 0.12 | U | 0.043 | 0.0013 | U | 0.00040 | 200 | | 0.70 |
| Toluene | 0.7 | 100 | 100 | 500 | 1000 | 36 | 0.7 | 0.7 | 0.7 | 0.14 | U | 0.035 | 0.12 | J | 0.035 | 0.00039 | J | 0.00035 | 0.00033 | J | 0.00030 | 0.00080 | J | 0.00028 | 3.4 | | 0.056 | 0.072 | J | 0.030 | 0.00098 | J | 0.00031 | 1.9 | U | 0.48 |
| trans-1,2-Dichloroethene | 0.19 | 100 | 100 | 500 | 1000 | NA | 0.19 | NA | NA | 0.034 | J | 0.025 | 0.031 | J | 0.026 | 0.00038 | J * | 0.00037 | 0.0013 | U * | 0.00031 | 0.0012 | U * | 0.00029 | 0.22 | U | 0.040 | 0.088 | J | 0.021 | 0.0013 | U * | 0.00032 | 32 | | 0.35 |
| trans-1,3-Dichloropropene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.031 | 0.14 | U | 0.031 | 0.0015 | U | 0.00040 | 0.0013 | U | 0.00034 | 0.0012 | U | 0.00032 | 0.22 | U | 0.050 | 0.12 | U | 0.026 | 0.0013 | U | 0.00035 | 1.9 | U | 0.43 |
| Trichloroethene | 0.47 | 10 | 21 | 200 | 400 | 2 | 0.47 | NA | NA | 0.54 | | 0.031 | 1.2 | | 0.031 | 0.0020 | | 0.00048 | 0.0013 | U | 0.00041 | 0.0012 | U | 0.00038 | 0.54 | | 0.049 | 3.6 | | 0.026 | 0.012 | | 0.00042 | 420 | | 0.42 |
| Trichlorofluoromethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.14 | U | 0.045 | 0.14 | U | 0.045 | 0.0015 | U | 0.00060 | 0.0013 | U | 0.00052 | 0.0012 | U | 0.00048 | 0.22 | U | 0.072 | 0.12 | U | 0.038 | 0.0013 | U | 0.00053 | 1.9 | U | 0.62 |
| Vinyl chloride | 0.02 | 0.21 | 0.9 | 13 | 27 | NA | 0.02 | NA | NA | 0.14 | U | 0.028 | 0.14 | U | 0.028 | 0.0015 | U | 0.00081 | 0.0013 | U | 0.00070 | 0.0012 | U | 0.00065 | 0.22 | U | 0.045 | 0.12 | U | 0.024 | 0.0013 | U | 0.00072 | 3.8 | | 0.39 |
| Total Conc | NA | NA | NA | NA | NA | NA | NA | NA | NA | 8.26 | | | 22.037 | | | 0.05205 | | | 0.14859 | | | 0.10918 | | | 167.111 | | | 5.55 | | | 0.06094 | | | 1218.96 | | |

Highlighted Concentrations shown in bold type face exceed limits
* : LCS or LCSD is outside acceptance limits.
J : Indicates an estimated value.
U : Analyzed for but not detected.

**Eurofins Environment Testing Northeast, LLC**
**Eurofins Edison**

**Lab Job ID: 460-273165-1**
**Job Description: 3-60 Beach 79th St, Far Rockaway**
**For:**
**GEI Consultants, Inc.**
**1000 New York Avenue**
**Huntington Station, New York 11746**

**Table 1. Soil Analytical Results-VOC**
**Supplemental Pre-Design Investigation**
**Report**
**3-60 Beach 79th Street**
**Far Rockaway, NY**

| Client ID | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NY CP51 | NY CP-51 | 3SB15 (7-8) | | | 3SB14 (7-8) | | | 3SB12 (7-8) | | | 3SB17 (7-8) | | | 3SB18 (7-8) | | | DUP011623 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab Sample ID | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Table 2 | Table 3 | 460-273165-10 | | | 460-273165-11 | | | 460-273165-12 | | | 460-273165-13 | | | 460-273165-14 | | | 460-273165-17 | | |
| Sampling Date | UnRestricted Use | Restricted Use | Restricted Use | Restricted Use | Restricted Use | Restricted Use | Restricted Use | Soil Gas | Soil Fuel Oil | 01/18/2023 11:30:00 | | | 01/18/2023 11:45:00 | | | 01/18/2023 12:00:00 | | | 01/18/2023 13:00:00 | | | 01/18/2023 13:20:00 | | | 01/18/2023 00:00:00 | | |
| Matrix | | Residential | Restricted Resid | Commercial | Industrial | Protection of EC | Protection of GW | Contaminate | Contaminat | Soil | | | Soil | | | Soil | | | Soil | | | Soil | | | Soil | | |
| Dilution Factor | | | | | | | | | | 50 | | | 1 | | | 1 | | | 1 | | | 1 | | | 500 | | |
| Unit | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | | | mg/kg | | | mg/kg | | | mg/kg | | | mg/kg | | | mg/kg | | |
| | | | | | | | | | | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL |
| **SOIL BY 8260D** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 0.68 | 100 | 100 | 500 | 1000 | NA | 0.68 | NA | NA | 0.63 | U | 0.18 | 0.0011 | U | 0.00026 | 0.0010 | U | 0.00024 | 0.0013 | U | 0.00030 | 0.0017 | U | 0.00040 | 1.8 | U | 0.50 |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.12 | 0.0011 | U | 0.00024 | 0.0010 | U | 0.00022 | 0.0013 | U | 0.00027 | 0.0017 | U | 0.00036 | 1.8 | U | 0.36 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.21 | 0.0011 | U | 0.00033 | 0.0010 | U | 0.00031 | 0.0013 | U | 0.00038 | 0.0017 | U | 0.00051 | 1.8 | U | 0.61 |
| 1,1,2-Trichloroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.13 | 0.0011 | U | 0.00020 | 0.0010 | U | 0.00018 | 0.0013 | U | 0.00023 | 0.0017 | U | 0.00030 | 1.8 | U | 0.37 |
| 1,1-Dichloroethane | 0.27 | 19 | 26 | 240 | 480 | NA | 0.27 | NA | NA | 0.63 | U | 0.15 | 0.0011 | U | 0.00023 | 0.0010 | U | 0.00021 | 0.0013 | U | 0.00026 | 0.0017 | U | 0.00035 | 1.8 | U | 0.43 |
| 1,1-Dichloroethene | 0.33 | 100 | 100 | 500 | 1000 | NA | 0.33 | NA | NA | 0.23 | J | 0.17 | 0.0011 | U | 0.00025 | 0.0010 | U | 0.00023 | 0.0013 | U | 0.00029 | 0.0017 | U | 0.00038 | **0.69** | J | 0.48 |
| 1,2,3-Trichlorobenzene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.22 | 0.0011 | U | 0.00020 | 0.0010 | U | 0.00019 | 0.0013 | U | 0.00023 | 0.0017 | U | 0.00031 | 1.8 | U | 0.63 |
| 1,2,4-Trichlorobenzene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.17 | 0.0011 | U | 0.00039 | 0.0010 | U | 0.00037 | 0.0013 | U | 0.00045 | 0.0017 | U | 0.00061 | 1.8 | U | 0.49 |
| 1,2-Dibromo-3-Chloropropane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.13 | 0.0011 | U | 0.00051 | 0.0010 | U | 0.00048 | 0.0013 | U | 0.00058 | 0.0017 | U | 0.00078 | 1.8 | U | 0.38 |
| 1,2-Dichlorobenzene | 1.1 | 100 | 100 | 500 | 1000 | NA | 1.1 | NA | NA | 0.63 | U | 0.14 | 0.0011 | U | 0.00040 | 0.0010 | U | 0.00037 | 0.0013 | U | 0.00046 | 0.0017 | U | 0.00061 | **2.4** | | 0.40 |
| 1,2-Dichloroethane | NA | 2.3 | 3.1 | 30 | 60 | 10 | 0.02 | NA | NA | 0.63 | U | 0.16 | 0.0011 | U | 0.00033 | 0.0010 | U | 0.00031 | 0.0013 | U | 0.00038 | 0.0017 | U | 0.00050 | 1.8 | U | 0.45 |
| 1,2-Dichloropropane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.11 | 0.0011 | U | 0.00047 | 0.0010 | U | 0.00044 | 0.0013 | U | 0.00054 | 0.0017 | U | 0.00072 | 1.8 | U | 0.32 |
| 1,3-Dichlorobenzene | 2.4 | 17 | 49 | 280 | 560 | NA | 2.4 | NA | NA | 0.63 | U | 0.21 | 0.0011 | U | 0.00040 | 0.0010 | U | 0.00038 | 0.0013 | U | 0.00046 | 0.0017 | U | 0.00062 | 1.8 | U | 0.60 |
| 1,4-Dichlorobenzene | 1.8 | 9.8 | 13 | 130 | 250 | 20 | 1.8 | NA | NA | 0.63 | U | 0.21 | 0.0011 | U | 0.00025 | 0.0010 | U | 0.00023 | 0.0013 | U | 0.00029 | 0.0017 | U | 0.00038 | 0.74 | J | 0.60 |
| 2-Butanone (MEK) | 0.12 | 100 | 100 | 500 | 1000 | 100 | 0.12 | NA | NA | 3.1 | U | 1.4 | 0.0079 | | 0.00041 | 0.014 | | 0.00038 | 0.0051 | J | 0.00047 | 0.0084 | J | 0.00062 | 9.0 | U | 4.0 |
| 2-Hexanone | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3.1 | U | 0.71 | 0.0055 | U | 0.0019 | 0.0052 | U | 0.0018 | 0.0064 | U | 0.0022 | 0.0085 | U | 0.0029 | 9.0 | U | 2.0 |
| 4-Methyl-2-pentanone (MIBK) | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3.1 | U | 0.82 | 0.0055 | U | 0.0017 | 0.0052 | U | 0.0016 | 0.0064 | U | 0.0020 | 0.0085 | U | 0.0026 | 9.0 | U | 2.3 |
| Acetone | 0.05 | 100 | 100 | 500 | 1000 | 2.2 | 0.05 | NA | NA | 3.1 | U | 2.8 | **0.062** | | 0.0063 | **0.082** | | 0.0059 | 0.019 | | 0.0073 | 0.044 | | 0.0097 | 9.0 | U | 8.0 |
| Benzene | 0.06 | 2.9 | 4.8 | 44 | 89 | 70 | 0.06 | 0.06 | 0.06 | 0.63 | U | 0.13 | 0.0011 | U | 0.00028 | 0.0010 | U | 0.00027 | 0.0013 | U | 0.00033 | 0.0017 | U | 0.00044 | 1.8 | U | 0.36 |
| Bromoform | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.11 | 0.0011 | U | 0.00047 | 0.0010 | U | 0.00044 | 0.0013 | U | 0.00054 | 0.0017 | U | 0.00072 | 1.8 | U | 0.32 |
| Bromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.35 | 0.0022 | U | 0.0011 | 0.0021 | U | 0.0010 | 0.0025 | U | 0.0013 | 0.0034 | U | 0.0017 | 1.8 | U | 1.0 |
| Carbon disulfide | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.42 | 0.0012 | * | 0.00029 | 0.0026 | * | 0.00028 | 0.013 | * | 0.00034 | 0.025 | * | 0.00045 | 1.8 | U | 1.2 |
| Carbon tetrachloride | 0.76 | 1.4 | 2.4 | 22 | 44 | NA | 0.76 | NA | NA | 0.63 | U | 0.21 | 0.0011 | U | 0.00043 | 0.0010 | U | 0.00040 | 0.0013 | U | 0.00049 | 0.0017 | U | 0.00066 | 1.8 | U | 0.60 |
| Chlorobenzene | 1.1 | 100 | 100 | 500 | 1000 | 40 | 1.1 | NA | NA | 0.63 | U | 0.15 | 0.0011 | U | 0.00019 | 0.0010 | U | 0.00018 | 0.0013 | U | 0.00022 | 0.0017 | U | 0.00030 | 1.8 | U | 0.43 |
| Chlorobromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.19 | 0.0011 | U | 0.00031 | 0.0010 | U | 0.00029 | 0.0013 | U | 0.00036 | 0.0017 | U | 0.00048 | 1.8 | U | 0.54 |
| Chlorodibromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.14 | 0.0011 | U | 0.00021 | 0.0010 | U | 0.00020 | 0.0013 | U | 0.00025 | 0.0017 | U | 0.00033 | 1.8 | U | 0.40 |
| Chloroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.23 | 0.0011 | U | 0.00057 | 0.0010 | U | 0.00054 | 0.0013 | U | 0.00066 | 0.0017 | U | 0.00089 | 1.8 | U | 0.67 |
| Chloroform | 0.37 | 10 | 49 | 350 | 700 | 12 | 0.37 | NA | NA | 0.63 | U | 0.14 | 0.0011 | U | 0.0011 | 0.0010 | U | 0.0010 | 0.0013 | U | 0.0012 | 0.0017 | U | 0.0016 | 1.8 | U | 0.40 |
| Chloromethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.25 | 0.0011 | U | 0.00048 | 0.0010 | U | 0.00045 | 0.0013 | U | 0.00055 | 0.0017 | U | 0.00074 | 1.8 | U | 0.72 |
| cis-1,2-Dichloroethene | 0.25 | 59 | 100 | 500 | 1000 | NA | 0.25 | NA | NA | **170** | | 0.16 | 0.0016 | | 0.00039 | 0.0011 | | 0.00037 | 0.0013 | U | 0.00045 | 0.0028 | | 0.00061 | **310** | | 0.47 |
| cis-1,3-Dichloropropene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.14 | 0.0011 | U | 0.00030 | 0.0010 | U | 0.00028 | 0.0013 | U | 0.00035 | 0.0017 | U | 0.00046 | 1.8 | U | 0.40 |
| Cyclohexane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.16 | 0.0011 | U | 0.00024 | 0.0010 | U | 0.00023 | 0.0013 | U | 0.00028 | 0.0017 | U | 0.00038 | 1.8 | U | 0.47 |
| Dichlorobromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.094 | 0.0011 | U | 0.00028 | 0.0010 | U | 0.00027 | 0.0013 | U | 0.00033 | 0.0017 | U | 0.00044 | 1.8 | U | 0.27 |
| Dichlorodifluoromethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.19 | 0.0011 | U | 0.00037 | 0.0010 | U | 0.00035 | 0.0013 | U | 0.00043 | 0.0017 | U | 0.00057 | 1.8 | U | 0.56 |
| Ethylbenzene | 1 | 30 | 41 | 390 | 780 | NA | 1 | 1 | 1 | 0.22 | J | 0.19 | 0.0011 | U | 0.00022 | 0.0010 | U | 0.00021 | 0.0013 | U | 0.00025 | 0.0017 | U | 0.00034 | **2.4** | | 0.54 |
| Ethylene Dibromide | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.12 | 0.0011 | U | 0.00020 | 0.0010 | U | 0.00019 | 0.0013 | U | 0.00023 | 0.0017 | U | 0.00031 | 1.8 | U | 0.34 |
| Isopropylbenzene | NA | NA | NA | NA | NA | NA | NA | 2.3 | 2.3 | 0.63 | U | 0.20 | 0.0011 | U | 0.00031 | 0.0010 | U | 0.00030 | 0.0013 | U | 0.00036 | 0.0017 | U | 0.00048 | 1.8 | U | 0.58 |
| Methyl acetate | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3.1 | U | 0.49 | 0.0055 | U | 0.0047 | 0.0052 | U | 0.0045 | 0.0064 | U | 0.0055 | 0.0085 | U | 0.0073 | 9.0 | U | 1.4 |
| Methyl tert-butyl ether | 0.93 | 62 | 100 | 500 | 1000 | NA | 0.93 | 0.93 | NA | 0.63 | U | 0.13 | 0.0011 | U | 0.00056 | 0.0010 | U | 0.00053 | 0.0013 | U | 0.00065 | 0.0017 | U | 0.00087 | 1.8 | U | 0.39 |
| Methylcyclohexane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.46 | 0.0011 | U | 0.00055 | 0.0010 | U | 0.00052 | 0.0013 | U | 0.00063 | 0.0017 | U | 0.00085 | 1.8 | U | 1.3 |
| Methylene Chloride | 0.05 | 51 | 100 | 500 | 1000 | 12 | 0.05 | NA | NA | **0.22** | J | 0.13 | 0.0022 | U | 0.0013 | 0.0021 | U | 0.0012 | 0.0025 | U | 0.0015 | 0.0034 | U | 0.0019 | 1.8 | U | 0.38 |
| m-Xylene & p-Xylene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.48 | J | 0.18 | 0.00025 | J | 0.00019 | 0.00023 | J | 0.00018 | 0.0013 | U | 0.00022 | 0.00064 | J | 0.00030 | 5.2 | | 0.50 |
| o-Xylene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.20 | 0.00022 | J | 0.00021 | 0.0010 | U | 0.00020 | 0.0013 | U | 0.00025 | 0.00054 | J | 0.00033 | 1.5 | J | 0.58 |
| Styrene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.11 | 0.0011 | U | 0.00031 | 0.0010 | U | 0.00029 | 0.0013 | U | 0.00035 | 0.0017 | U | 0.00047 | 1.8 | U | 0.31 |
| Tetrachloroethene | 1.3 | 5.5 | 19 | 150 | 300 | 2 | 1.3 | NA | NA | 0.78 | | 0.23 | 0.0011 | U | 0.00034 | 0.0010 | U | 0.00032 | 0.0013 | U | 0.00039 | 0.0017 | U | 0.00052 | **170** | | 0.65 |
| Toluene | 0.7 | 100 | 100 | 500 | 1000 | 36 | 0.7 | 0.7 | 0.7 | 0.63 | U | 0.16 | 0.00027 | J | 0.00026 | 0.00036 | J | 0.00024 | 0.0013 | U | 0.00030 | 0.00044 | J | 0.00040 | 1.8 | U | 0.45 |
| trans-1,2-Dichloroethene | 0.19 | 100 | 100 | 500 | 1000 | NA | 0.19 | NA | NA | **1.0** | | 0.11 | 0.0011 | U * | 0.00027 | 0.00049 | J * | 0.00026 | 0.0013 | U * | 0.00031 | 0.0017 | U * | 0.00042 | **16** | | 0.32 |
| trans-1,3-Dichloropropene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.14 | 0.0011 | U | 0.00029 | 0.0010 | U | 0.00028 | 0.0013 | U | 0.00034 | 0.0017 | U | 0.00045 | 1.8 | U | 0.40 |
| Trichloroethene | 0.47 | 10 | 21 | 200 | 400 | 2 | 0.47 | NA | NA | **3.1** | | 0.14 | 0.00087 | J | 0.00035 | 0.0010 | U | 0.00033 | 0.0011 | J | 0.00041 | 0.0024 | | 0.00055 | **500** | | 0.40 |
| Trichlorofluoromethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.63 | U | 0.20 | 0.0011 | U | 0.00045 | 0.0010 | U | 0.00042 | 0.0013 | U | 0.00052 | 0.0017 | U | 0.00069 | 1.8 | U | 0.58 |
| Vinyl chloride | 0.02 | 0.21 | 0.9 | 13 | 27 | NA | 0.02 | NA | NA | **5.1** | | 0.13 | 0.0011 | U | 0.00060 | 0.0037 | | 0.00057 | 0.0013 | U | 0.00069 | 0.0017 | U | 0.00093 | **1.6** | J | 0.36 |
| Total Conc | NA | NA | NA | NA | NA | NA | NA | NA | NA | 181.13 | | | 0.07431 | | | 0.10448 | | | 0.0382 | | | 0.08422 | | | 1010.53 | | |

Highlighted Concentrations shown in bold type face exceed limits
* : LCS or LCSD is outside acceptance limits.
J : Indicates an estimated value.
U : Analyzed for but not detected.

**Eurofins Environment Testing Northeast, LLC**

**Eurofins Edison**

**Lab Job ID: 460-272242-1**
**Job Description: Beach 79th St**
**For:**
**GEI Consultants, Inc.**
**1000 New York Avenue**
**Huntington Station, New York 11746**

**Table 1. Soil Analytical ResultsVOC**
**Supplemental Pre-Design Investigation Report**
**3-60 Beach 79th Street**
**Far Rockway, NY**

| Client ID | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NY CP51 | NY CP-51 | 35802 (7-8) | | 35802 (7-8) | | 35823 (7-8) | | 35824 (7-8) | | 35826 (7-8) | | 35841 (7-8) | | 35842 (7-8) | | 35843 (7-8) | | 35844 (7-8) | | 35845 (7-8) | | 35846 (7-8) | | 35847 (7-8) | | 35822 (7-8) | | DUP011023 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab Sample ID | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Table 2 | Table 3 | 460-272242-1 | | 460-272242-2 | | 460-272242-3 | | 460-272242-4 | | 460-272242-5 | | 460-272242-6 | | 460-272242-7 | | 460-272242-8 | | 460-272243-9 | | 460-272242-10 | | 460-272242-11 | | 460-272242-12 | | 460-272242-13 | | 460-272242-14 | |
| Sampling Date | Unrestricted Use | Restricted Use | Restricted Use | Restricted Use | Restricted Use | Restricted Use | Restricted Use | Soil Gas | Soil Pad Gil | 01/19/2023 08:20:00 | | 01/19/2023 08:30:00 | | 01/19/2023 08:59:00 | | 01/19/2023 09:40:00 | | 01/19/2023 10:10:00 | | 01/19/2023 10:30:00 | | 01/19/2023 10:50:00 | | 01/19/2023 11:30:00 | | 01/19/2023 11:47:00 | | 01/19/2023 12:10:00 | | 01/19/2023 12:50:00 | | 01/19/2023 13:20:00 | | 01/19/2023 13:15:00 | | 01/19/2023 00:00:00 | |
| Matrix | | Residential | Restricted Resid | Commercial | Industrial | Protection of EC | Protection of GW | Contaminate | Contaminat | Soil | | Soil | | Soil | | Soil | | Soil | | Soil | | Soil | | Soil | | Soil | | Soil | | Soil | | Soil | | Soil | |
| Dilution Factor | | | | | | | | | | 1 | | 1 | | 1 | | 1 | | 1 | | 50 | | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | |
| Unit | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | | mg/kg | | mg/kg | | mg/kg | | mg/kg | | mg/kg | | mg/kg | | mg/kg | | mg/kg | | mg/kg | | mg/kg | | mg/kg | | mg/kg | |
| | | | | | | | | | | Result | Q MDL | Result | Q MDL | Result | Q MDL | Result | Q MDL | Result | Q MDL | Result | Q MDL | Result | Q MDL | Result | Q MDL | Result | Q MDL | Result | Q MDL | Result | Q MDL | Result | Q MDL | Result | Q MDL |
| **SOIL BY 8242D** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 0.68 | 100 | 100 | 500 | 1000 | NA | 0.68 | NA | NA | 0.0011 | U 0.00027 | 0.0013 | U 0.00030 | 0.0013 | U 0.00031 | 0.0013 | U 0.00029 | 0.0011 | U 0.00025 | 0.13 | U 0.036 | 0.0012 | U 0.00027 | 0.0012 | U 0.00028 | 0.0013 | U 0.00030 | 0.0012 | U 0.00027 | 0.0012 | U 0.00028 | 0.0012 | U 0.00027 | 0.0013 | U 0.00031 | 0.0013 | U 0.00030 |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00024 | 0.0013 | U 0.00028 | 0.0013 | U 0.00027 | 0.0013 | U 0.00023 | 0.13 | U 0.025 | 0.0012 | U 0.00025 | 0.0012 | U 0.00025 | 0.0012 | U 0.00028 | 0.0013 | U 0.00028 | 0.0012 | U 0.00025 | 0.0012 | U 0.00025 | 0.0012 | U 0.00025 | 0.0013 | U 0.00029 | 0.0013 | U 0.00028 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00034 | 0.0013 | U 0.00039 | 0.0013 | U 0.00038 | 0.0013 | U 0.00032 | 0.13 | U 0.043 | 0.0012 | U 0.00035 | 0.0012 | U 0.00035 | 0.0012 | U 0.00039 | 0.0013 | U 0.00039 | 0.0012 | U 0.00035 | 0.0012 | U 0.00036 | 0.0012 | U 0.00035 | 0.0013 | U 0.00040 | 0.0013 | U 0.00039 |
| 1,1,2-Trichloroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00020 | 0.0013 | U 0.00023 | 0.0013 | U 0.00024 | 0.0013 | U 0.00022 | 0.0011 | U 0.00019 | 0.13 | U 0.026 | 0.0012 | U 0.00021 | 0.0012 | U 0.00021 | 0.0013 | U 0.00023 | 0.0012 | U 0.00021 | 0.0012 | U 0.00021 | 0.0012 | U 0.00021 | 0.0013 | U 0.00024 | 0.0013 | U 0.00023 |
| 1,1-Dichloroethane | 0.27 | 19 | 26 | 240 | 480 | NA | 0.27 | NA | NA | 0.0011 | U 0.00024 | 0.0013 | U 0.00027 | 0.0013 | U 0.00028 | 0.0013 | U 0.00024 | 0.0011 | U 0.00022 | 0.13 | U 0.031 | 0.0012 | U 0.00024 | 0.0012 | U 0.00025 | 0.0013 | U 0.00027 | 0.0012 | U 0.00024 | 0.0012 | U 0.00024 | 0.0012 | U 0.00024 | 0.0013 | U 0.00028 | 0.0013 | U 0.00027 |
| 1,1-Dichloroethene | 0.33 | 100 | 100 | 500 | 1000 | NA | 0.33 | NA | NA | 0.0011 | U 0.00026 | 0.0013 | U 0.00029 | 0.0013 | U 0.00030 | 0.0013 | U 0.00028 | 0.0011 | U 0.00024 | 0.13 | U 0.034 | 0.0012 | U 0.00026 | 0.0012 | U 0.00027 | 0.0013 | U 0.00029 | 0.0012 | U 0.00027 | 0.0012 | U 0.00026 | 0.0013 | U 0.00030 | 0.0013 | U 0.00030 | 0.0013 | U 0.00029 |
| 1,2,3-Trichlorobenzene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00021 | 0.0013 | U 0.00023 | 0.0013 | U 0.00024 | 0.0013 | U 0.00023 | 0.0011 | U 0.00020 | 0.13 | U * 0.045 | 0.0012 | U 0.00021 | 0.0012 | U 0.00022 | 0.0013 | U 0.00023 | 0.0012 | U 0.00021 | 0.0012 | U 0.00021 | 0.0012 | U 0.00021 | 0.0013 | U 0.00024 | 0.0013 | U 0.00024 |
| 1,2,4-Trichlorobenzene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00041 | 0.0013 | U 0.00046 | 0.0013 | U 0.00048 | 0.0013 | U 0.00045 | 0.0011 | U 0.00039 | 0.13 | U 0.035 | 0.0012 | U 0.00042 | 0.0012 | U 0.00043 | 0.0013 | U 0.00046 | 0.0012 | U 0.00042 | 0.0012 | U 0.00042 | 0.0012 | U 0.00042 | 0.0013 | U 0.00048 | 0.0013 | U 0.00047 |
| 1,2-Dibromo-3-Chloropropane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00053 | 0.0013 | U 0.00059 | 0.0013 | U 0.00062 | 0.0013 | U 0.00058 | 0.0011 | U 0.00050 | 0.13 | U 0.027 | 0.0012 | U 0.00053 | 0.0012 | U 0.00055 | 0.0013 | U 0.00059 | 0.0012 | U 0.00054 | 0.0012 | U 0.00055 | 0.0012 | U 0.00054 | 0.0013 | U 0.00062 | 0.0013 | U 0.00060 |
| 1,2-Dichlorobenzene | 1.1 | 100 | 100 | 500 | 1000 | NA | 1.1 | NA | NA | 0.0011 | U 0.00041 | 0.0013 | U 0.00047 | 0.0013 | U 0.00048 | 0.0013 | U 0.00045 | 0.0011 | U 0.00039 | 0.13 | U 0.028 | 0.0012 | U 0.00042 | 0.0012 | U 0.00043 | 0.0013 | U 0.00047 | 0.0012 | U 0.00042 | 0.0012 | U 0.00042 | 0.0012 | U 0.00042 | 0.0013 | U 0.00049 | 0.0013 | U 0.00047 |
| 1,2-Dichloroethane | NA | 2.3 | 3.1 | 30 | 60 | 10 | 0.02 | NA | NA | 0.0011 | U 0.00034 | 0.0013 | U 0.00038 | 0.0013 | U 0.00040 | 0.0013 | U 0.00037 | 0.0011 | U 0.00032 | 0.13 | U 0.032 | 0.0012 | U 0.00034 | 0.0012 | U 0.00035 | 0.0013 | U 0.00038 | 0.0012 | U 0.00035 | 0.0012 | U 0.00035 | 0.0012 | U 0.00035 | 0.0013 | U 0.00040 | 0.0013 | U 0.00038 |
| 1,2-Dichloropropane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00048 | 0.0013 | U 0.00055 | 0.0013 | U 0.00057 | 0.0013 | U 0.00053 | 0.0011 | U 0.00046 | 0.13 | U 0.033 | 0.0012 | U 0.00049 | 0.0012 | U 0.00050 | 0.0013 | U 0.00055 | 0.0012 | U 0.00050 | 0.0012 | U 0.00050 | 0.0012 | U 0.00050 | 0.0013 | U 0.00057 | 0.0013 | U 0.00055 |
| 1,3-Dichlorobenzene | 2.4 | 17 | 49 | 280 | 560 | NA | 2.4 | NA | NA | 0.0011 | U 0.00042 | 0.0013 | U 0.00047 | 0.0013 | U 0.00049 | 0.0013 | U 0.00046 | 0.0011 | U 0.00040 | 0.13 | U 0.029 | 0.0012 | U 0.00042 | 0.0012 | U 0.00043 | 0.0013 | U 0.00047 | 0.0012 | U 0.00043 | 0.0012 | U 0.00043 | 0.0012 | U 0.00043 | 0.0013 | U 0.00049 | 0.0013 | U 0.00047 |
| 1,4-Dichlorobenzene | 1.8 | 9.8 | 13 | 130 | 250 | 20 | 1.8 | NA | NA | 0.0011 | U 0.00026 | 0.0013 | U 0.00029 | 0.0013 | U 0.00030 | 0.0013 | U 0.00028 | 0.0011 | U 0.00024 | 0.13 | U 0.043 | 0.0012 | U 0.00026 | 0.0012 | U 0.00027 | 0.0013 | U 0.00029 | 0.0012 | U 0.00026 | 0.0012 | U 0.00027 | 0.0012 | U 0.00026 | 0.0013 | U 0.00030 | 0.0013 | U 0.00029 |
| 2-Butanone (MEK) | 0.12 | 100 | 100 | 500 | 1000 | 100 | 0.12 | NA | NA | 0.0099 | J 0.00042 | 0.014 | 0.00047 | 0.0067 | U 0.00049 | 0.0063 | U 0.00046 | 0.0063 | J 0.00040 | 0.64 | U 0.28 | 0.0058 | U 0.00043 | 0.0060 | U 0.00044 | 0.0065 | U 0.00048 | 0.0059 | U 0.00043 | 0.0059 | U 0.00044 | 0.0058 | U 0.00043 | 0.0067 | U 0.00049 | 0.0065 | U 0.00048 |
| 2-Hexanone | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0057 | U 0.0018 | 0.0064 | U 0.0022 | 0.0067 | U 0.0023 | 0.0063 | U 0.0022 | 0.0054 | U 0.0018 | 0.64 | U 0.15 | 0.0058 | U 0.0020 | 0.0060 | U 0.0020 | 0.0065 | U 0.0022 | 0.0059 | U 0.0020 | 0.0059 | U 0.0020 | 0.0058 | U 0.0020 | 0.0067 | U 0.0023 | 0.0065 | U 0.0022 |
| 4-Methyl-2-pentanone (MIBK) | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0057 | U 0.0018 | 0.0064 | U 0.0020 | 0.0067 | U 0.0021 | 0.0063 | U 0.0020 | 0.0054 | U 0.0017 | 0.64 | U 0.17 | 0.0058 | U 0.0018 | 0.0060 | U 0.0019 | 0.0065 | U 0.0020 | 0.0059 | U 0.0018 | 0.0059 | U 0.0018 | 0.0058 | U 0.0018 | 0.0067 | U 0.0021 | 0.0065 | U 0.0020 |
| Acetone | 0.05 | 100 | 100 | 500 | 1000 | 2.2 | 0.05 | NA | NA | 0.042 | 0.0061 | 0.18 | 0.0074 | 0.029 | 0.007 | 0.012 | 0.0077 | 0.02 | 0.0072 | 0.037 | 0.0062 | 0.14 | U 0.57 | 0.027 | 0.0066 | 0.020 | 0.0068 | 0.024 | 0.0074 | 0.028 | 0.0067 | 0.024 | 0.0068 | 0.024 | 0.0067 | 0.0092 | 0.0077 | 0.021 | 0.0074 |
| Benzene | 0.06 | 2.9 | 4.8 | 44 | 89 | 70 | 0.06 | 0.06 | NA | 0.0011 | U 0.00029 | 0.0013 | U 0.00033 | 0.0013 | U 0.00035 | 0.0013 | U 0.00032 | 0.0011 | U 0.00028 | 0.13 | J 0.026 | 0.0012 | U 0.00030 | 0.0012 | U 0.00031 | 0.0013 | U 0.00033 | 0.0012 | U 0.00030 | 0.0012 | U 0.00031 | 0.0012 | U 0.00030 | 0.0013 | U 0.00035 | 0.0013 | U 0.00034 |
| Bromoform | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00049 | 0.0013 | U 0.00055 | 0.0013 | U 0.00057 | 0.0013 | U 0.00053 | 0.0011 | U 0.00046 | 0.13 | U 0.023 | 0.0012 | U 0.00049 | 0.0012 | U 0.00051 | 0.0013 | U 0.00055 | 0.0012 | U 0.00050 | 0.0012 | U 0.00050 | 0.0012 | U 0.00050 | 0.0013 | U 0.00057 | 0.0013 | U 0.00055 |
| Bromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0023 | U 0.0011 | 0.0026 | U 0.0013 | 0.0027 | U 0.0013 | 0.0025 | U 0.0013 | 0.0022 | U 0.0011 | 0.13 | U 0.071 | 0.0023 | U 0.0012 | 0.0024 | U 0.0012 | 0.0026 | U 0.0013 | 0.0023 | U 0.0012 | 0.0024 | U 0.0012 | 0.0023 | U 0.0012 | 0.0027 | U 0.0013 | 0.0026 | U 0.0013 |
| Carbon disulfide | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0038 | 0.00030 | 0.0012 | J 0.00034 | 0.0017 | 0.00036 | 0.0013 | U 0.00033 | 0.00050 | J 0.00029 | 0.13 | U 0.086 | 0.010 | 0.00031 | 0.0027 | 0.00032 | 0.0031 | 0.00034 | 0.0022 | 0.00031 | 0.0012 | U 0.00032 | 0.0051 | 0.00031 | 0.0013 | U 0.00036 | 0.0026 | 0.00035 |
| Carbon tetrachloride | 0.76 | 1.4 | 2.4 | 22 | 44 | NA | 0.76 | NA | NA | 0.0011 | U 0.00044 | 0.0013 | U 0.00050 | 0.0013 | U 0.00052 | 0.0013 | U 0.00049 | 0.0011 | U 0.00042 | 0.13 | U 0.042 | 0.0012 | U 0.00045 | 0.0012 | U 0.00046 | 0.0013 | U 0.00050 | 0.0012 | U 0.00045 | 0.0012 | U 0.00046 | 0.0012 | U 0.00045 | 0.0013 | U 0.00052 | 0.0013 | U 0.00050 |
| Chlorobenzene | 1.1 | 100 | 100 | 500 | 1000 | 40 | 1.1 | NA | NA | 0.0011 | U 0.00020 | 0.0013 | U 0.00022 | 0.0013 | U 0.00024 | 0.0013 | U 0.00022 | 0.0011 | U 0.00019 | 0.13 | U 0.031 | 0.0012 | U 0.00021 | 0.0012 | U 0.00021 | 0.0013 | U 0.00023 | 0.0012 | U 0.00021 | 0.0012 | U 0.00021 | 0.0012 | U 0.00021 | 0.0013 | U 0.00024 | 0.0013 | U 0.00023 |
| Chlorodibromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00032 | 0.0013 | U 0.00036 | 0.0013 | U 0.00038 | 0.0013 | U 0.00035 | 0.0011 | U 0.00030 | 0.13 | U 0.038 | 0.0012 | U 0.00033 | 0.0012 | U 0.00033 | 0.0013 | U 0.00036 | 0.0012 | U 0.00033 | 0.0012 | U 0.00033 | 0.0012 | U 0.00033 | 0.0013 | U 0.00038 | 0.0013 | U 0.00037 |
| Chloroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00022 | 0.0013 | U 0.00025 | 0.0013 | U 0.00026 | 0.0013 | U 0.00024 | 0.0011 | U 0.00021 | 0.13 | U 0.028 | 0.0012 | U 0.00023 | 0.0012 | U 0.00023 | 0.0013 | U 0.00025 | 0.0012 | U 0.00023 | 0.0012 | U 0.00023 | 0.0012 | U 0.00023 | 0.0013 | U 0.00026 | 0.0013 | U 0.00025 |
| Chloroform | 0.37 | 10 | 49 | 350 | 700 | 12 | 0.37 | NA | NA | 0.0011 | U 0.0011 | 0.0013 | U 0.0013 | 0.0013 | U 0.0013 | 0.0013 | U 0.0012 | 0.0011 | U 0.0010 | 0.13 | U 0.028 | 0.0012 | U 0.0011 | 0.0012 | U 0.0012 | 0.0013 | U 0.0013 | 0.0012 | U 0.0011 | 0.0012 | U 0.0012 | 0.0012 | U 0.0011 | 0.0013 | U 0.0013 | 0.0013 | U 0.0013 |
| Chloromethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00050 | 0.0013 | U 0.00056 | 0.0013 | U 0.00058 | 0.0013 | U 0.00055 | 0.0011 | U 0.00047 | 0.13 | U 0.051 | 0.0012 | U 0.00051 | 0.0012 | U 0.00052 | 0.0013 | U 0.00056 | 0.0012 | U 0.00051 | 0.0012 | U 0.00052 | 0.0012 | U 0.00051 | 0.0013 | U 0.00058 | 0.0013 | U 0.00057 |
| cis-1,2-Dichloroethene | 0.25 | 59 | 100 | 500 | 1000 | NA | 0.25 | NA | NA | 0.0026 | 0.00041 | 0.0013 | U 0.00046 | 0.00049 | J 0.00048 | 0.0029 | 0.00045 | 0.00083 | J 0.00039 | 0.25 | 0.033 | 0.0012 | U 0.00042 | 0.0012 | U 0.00043 | 0.0013 | U 0.00046 | 0.00054 | J 0.00042 | 0.0012 | U 0.00043 | 0.0012 | U 0.00042 | 0.0013 | U 0.00048 | 0.0013 | U 0.00047 |
| cis-1,3-Dichloropropene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00031 | 0.0013 | U 0.00035 | 0.0013 | U 0.00037 | 0.0013 | U 0.00034 | 0.0011 | U 0.00029 | 0.13 | U 0.028 | 0.0012 | U 0.00032 | 0.0012 | U 0.00032 | 0.0013 | U 0.00035 | 0.0012 | U 0.00032 | 0.0012 | U 0.00032 | 0.0012 | U 0.00032 | 0.0013 | U 0.00037 | 0.0013 | U 0.00035 |
| Cyclohexane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00025 | 0.0013 | U 0.00029 | 0.0013 | U 0.00030 | 0.0013 | U 0.00028 | 0.0011 | U 0.00024 | 0.13 | U 0.033 | 0.0012 | U 0.00026 | 0.0012 | U 0.00026 | 0.0013 | U 0.00029 | 0.0012 | U 0.00026 | 0.0012 | U 0.00026 | 0.0012 | U 0.00026 | 0.0013 | U 0.00030 | 0.0013 | U 0.00029 |
| Dichlorobromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00029 | 0.0013 | U 0.00033 | 0.0013 | U 0.00034 | 0.0013 | U 0.00032 | 0.0011 | U 0.00028 | 0.13 | U 0.019 | 0.0012 | U 0.00030 | 0.0012 | U 0.00031 | 0.0013 | U 0.00033 | 0.0012 | U 0.00030 | 0.0012 | U 0.00030 | 0.0012 | U 0.00030 | 0.0013 | U 0.00035 | 0.0013 | U 0.00033 |
| Dichlorodifluoromethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00039 | 0.0013 | U 0.00043 | 0.0013 | U 0.00045 | 0.0013 | U 0.00043 | 0.0011 | U 0.00036 | 0.13 | U 0.040 | 0.0012 | U 0.00039 | 0.0012 | U 0.00040 | 0.0013 | U 0.00043 | 0.0012 | U 0.00039 | 0.0012 | U 0.00040 | 0.0012 | U 0.00040 | 0.0013 | U 0.00045 | 0.0013 | U 0.00044 |
| Ethylbenzene | 1 | 30 | 41 | 390 | 780 | NA | 1 | 1 | NA | 0.0011 | U 0.00023 | 0.0012 | J 0.00026 | 0.0013 | U 0.00027 | 0.0013 | U 0.00025 | 0.00046 | J 0.00021 | 0.092 | J 0.038 | 0.0012 | U 0.00023 | 0.0012 | U 0.00024 | 0.0013 | U 0.00026 | 0.0012 | U 0.00023 | 0.0012 | U 0.00024 | 0.0012 | U 0.00023 | 0.0013 | U 0.00027 | 0.0013 | U 0.00026 |
| Ethylene Dibromide | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00021 | 0.0013 | U 0.00023 | 0.0013 | U 0.00024 | 0.0013 | U 0.00023 | 0.0011 | U 0.00019 | 0.13 | U 0.024 | 0.0012 | U 0.00021 | 0.0012 | U 0.00021 | 0.0013 | U 0.00023 | 0.0012 | U 0.00021 | 0.0012 | U 0.00021 | 0.0012 | U 0.00021 | 0.0013 | U 0.00024 | 0.0013 | U 0.00023 |
| Isopropylbenzene | NA | NA | NA | NA | NA | NA | NA | 2.3 | 2.3 | 0.0011 | U 0.00033 | 0.00049 | J 0.00037 | 0.0013 | U 0.00038 | 0.0013 | U 0.00036 | 0.0011 | U 0.00031 | 0.13 | U 0.041 | 0.0012 | U 0.00033 | 0.0012 | U 0.00034 | 0.0013 | U 0.00037 | 0.0012 | U 0.00033 | 0.0012 | U 0.00034 | 0.0012 | U 0.00033 | 0.0013 | U 0.00038 | 0.0013 | U 0.00037 |
| Methyl acetate | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0057 | U 0.0065 | 0.0064 | U 0.0051 | 0.0067 | U 0.0058 | 0.0063 | U 0.0054 | 0.0054 | U 0.0046 | 0.64 | U 0.30 | 0.0058 | U 0.0050 | 0.0060 | U 0.0051 | 0.0065 | U 0.0056 | 0.0059 | U 0.0050 | 0.0059 | U 0.0051 | 0.0058 | U 0.0050 | 0.0067 | U 0.0058 | 0.0065 | U 0.0056 |
| Methyl tert-butyl ether | 0.93 | 62 | 100 | 500 | 1000 | NA | 0.93 | 0.93 | NA | 0.0011 | U 0.00059 | 0.0013 | U 0.00066 | 0.0013 | U 0.00069 | 0.0013 | U 0.00064 | 0.0011 | U 0.00055 | 0.13 | U 0.027 | 0.0012 | U 0.00059 | 0.0012 | U 0.00061 | 0.0013 | U 0.00066 | 0.0012 | U 0.00060 | 0.0012 | U 0.00061 | 0.0012 | U 0.00060 | 0.0013 | U 0.00069 | 0.0013 | U 0.00067 |
| Methylcyclohexane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00057 | 0.0013 | U 0.00064 | 0.0013 | U 0.00067 | 0.0013 | U 0.00063 | 0.0011 | U 0.00054 | 0.13 | U 0.059 | 0.0012 | U 0.00058 | 0.0012 | U 0.00059 | 0.0013 | U 0.00064 | 0.0012 | U 0.00058 | 0.0012 | U 0.00059 | 0.0012 | U 0.00059 | 0.0013 | U 0.00067 | 0.0013 | U 0.00065 |
| Methylene Chloride | 0.05 | 51 | 100 | 500 | 1000 | 12 | 0.05 | NA | NA | 0.0021 | U 0.0013 | 0.0026 | U 0.0015 | 0.0027 | U 0.0015 | 0.0025 | U 0.0014 | 0.0022 | U 0.0012 | 0.13 | U 0.037 | 0.0023 | U 0.0013 | 0.0024 | U 0.0014 | 0.0026 | U 0.0015 | 0.0023 | U 0.0013 | 0.0024 | U 0.0014 | 0.0023 | U 0.0013 | 0.0027 | U 0.0015 | 0.0026 | U 0.0015 |
| m-Xylene & p-Xylene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.00032 | J 0.00020 | 0.0011 | J 0.00022 | 0.00039 | J 0.00023 | 0.00025 | J 0.00022 | 0.0011 | U 0.00019 | 1.2 | 0.036 | 0.00027 | J 0.00020 | 0.0012 | U 0.00021 | 0.0013 | U 0.00022 | 0.00023 | J 0.00020 | 0.0012 | U 0.00021 | 0.0012 | U 0.00020 | 0.0013 | U 0.00023 | 0.0013 | U 0.00023 |
| o-Xylene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00022 | 0.0018 | 0.00023 | 0.0027 | J 0.00026 | 0.0013 | U 0.00024 | 0.0085 | J 0.00021 | 0.33 | 0.041 | 0.0012 | U 0.00023 | 0.0012 | U 0.00023 | 0.0013 | U 0.00025 | 0.0012 | U 0.00023 | 0.0012 | U 0.00023 | 0.0012 | U 0.00023 | 0.0013 | U 0.00026 | 0.0013 | U 0.00025 |
| Styrene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00032 | 0.0013 | U 0.00036 | 0.0013 | U 0.00037 | 0.0013 | U 0.00035 | 0.0011 | U 0.00030 | 0.13 | U 0.022 | 0.0012 | U 0.00032 | 0.0012 | U 0.00033 | 0.0013 | U 0.00036 | 0.0012 | U 0.00033 | 0.0012 | U 0.00033 | 0.0012 | U 0.00033 | 0.0013 | U 0.00037 | 0.0013 | U 0.00036 |
| Tetrachloroethene | 1.3 | 5.5 | 19 | 150 | 300 | 2 | 1.3 | NA | NA | 0.0046 | 0.00035 | 0.0013 | U 0.00039 | 0.0013 | U 0.00041 | 0.00067 | J 0.00038 | 0.0011 | U 0.00033 | 0.49 | * 0.046 | 0.0012 | U 0.00035 | 0.0012 | U 0.00036 | 0.0013 | U 0.00039 | 0.046 | 0.00036 | 0.0011 | U 0.00036 | 0.060 | 0.00035 | 0.0013 | U 0.00041 | 0.0013 | U 0.00040 |
| Toluene | 0.7 | 100 | 100 | 500 | 1000 | 36 | 0.7 | 0.7 | NA | 0.0011 | U 0.00027 | 0.00079 | J 0.00030 | 0.0013 | U 0.00031 | 0.0013 | U 0.00029 | 0.00046 | J 0.00025 | 0.13 | 0.032 | 0.0012 | U 0.00027 | 0.0012 | U 0.00028 | 0.0013 | U 0.00030 | 0.0012 | U 0.00027 | 0.0012 | U 0.00028 | 0.0012 | U 0.00027 | 0.0013 | U 0.00031 | 0.0013 | U 0.00030 |
| trans-1,2-Dichloroethene | 0.19 | 100 | 100 | 500 | 1000 | NA | 0.19 | NA | NA | 0.00054 | J 0.00028 | 0.0013 | U 0.00032 | 0.0013 | U 0.00033 | 0.0013 | U 0.00031 | 0.0011 | U 0.00027 | 0.050 | J 0.033 | 0.0012 | U 0.00029 | 0.0012 | U 0.00029 | 0.0013 | U 0.00032 | 0.0012 | U 0.00029 | 0.0012 | U 0.00029 | 0.0012 | U 0.00029 | 0.0013 | U 0.00033 | 0.0013 | U 0.00032 |
| trans-1,3-Dichloropropene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00030 | 0.0013 | U 0.00034 | 0.0013 | U 0.00036 | 0.0013 | U 0.00033 | 0.0011 | U 0.00029 | 0.13 | U 0.028 | 0.0012 | U 0.00031 | 0.0012 | U 0.00032 | 0.0013 | U 0.00034 | 0.0012 | U 0.00031 | 0.0012 | U 0.00032 | 0.0012 | U 0.00031 | 0.0013 | U 0.00036 | 0.0013 | U 0.00035 |
| Trichloroethene | 0.47 | 10 | 21 | 200 | 400 | 7 | 0.47 | NA | NA | 0.0061 | U 0.00037 | 0.0013 | U 0.00041 | 0.0013 | U 0.00043 | 0.0014 | U 0.00040 | 0.0013 | U 0.00035 | 0.13 | U 0.036 | 0.0012 | U 0.00037 | 0.0012 | U 0.00038 | 0.0013 | U 0.00041 | 0.0014 | U 0.00038 | 0.0013 | U 0.00038 | 0.0013 | U 0.00038 | 0.0014 | U 0.00043 | 0.0013 | U 0.00042 |
| Trichlorofluoromethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U 0.00046 | 0.0013 | U 0.00052 | 0.0013 | U 0.00054 | 0.0013 | U 0.00051 | 0.0011 | U 0.00044 | 0.13 | U 0.041 | 0.0012 | U 0.00047 | 0.0012 | U 0.00048 | 0.0013 | U 0.00052 | 0.0012 | U 0.00048 | 0.0012 | U 0.00048 | 0.0012 | U 0.00048 | 0.0013 | U 0.00055 | 0.0013 | U 0.00053 |
| Vinyl chloride | 0.02 | 0.21 | 0.9 | 13 | 27 | NA | 0.02 | NA | NA | 0.0011 | U 0.00062 | 0.0013 | U 0.00070 | 0.0013 | U 0.00073 | 0.0013 | U 0.00069 | 0.00065 | J 0.00059 | 0.13 | U 0.026 | 0.0012 | U 0.00063 | 0.0012 | U 0.00065 | 0.0013 | U 0.00070 | 0.0012 | U 0.00064 | 0.0012 | U 0.00065 | 0.0012 | U 0.00064 | 0.0013 | U 0.00073 | 0.0013 | U 0.00071 |
| Total Conc | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.07326 | | 0.10349 | | 0.0585 | | 0.01722 | | 0.04855 | | 10.522 | | 0.03727 | | 0.0227 | | 0.0271 | | 0.0291 | | 0.0271 | | 0.0291 | | 0.03541 | | 0.0236 | |

Highlighted Concentrations shown in bold type face exceed limits
* - LCS or LCSD is outside acceptance limits.
J - Indicates an estimated value.
U - Analyzed for but not detected.

**Eurofins Environment Testing Northeast, LLC**
**Eurofins Edison**

**Lab Job ID: 460-284740-1**
**Job Description: 3-60 Beach 79th St, Far Rockaway**
**For:**
**GEI Consultants, Inc.**
**1000 New York Avenue**
**Huntington Station, New York 11746**

**Table 2. Clay Analytical Results-VOC**
**Supplemental Pre-Design Investigation**
**Report**
**3-60 Beach 79th Street**
**Far Rockaway, NY**

| Client ID | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NY CP51 | NY CP-51 | C-12(10ft) | | | C-17(8.5ft) | | | C-18(10ft) | | | C-31(8.0ft) | | | C-32(9.25ft) | | | RSWC-3(1) | | | RSWC-3(2) | | | RSWC-4(1) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab Sample ID | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Table 2 | Table 3 | 460-284740-1 | | | 460-284740-2 | | | 460-284740-3 | | | 460-284740-4 | | | 460-284740-5 | | | 460-284740-6 | | | 460-284740-7 | | | 460-284740-8 | | |
| Sampling Date | UnRestricted Use | Restricted Use | Restricted Use | Restricted Use | Restricted Use | Restricted Use | Restricted Use | Soil Gas | Soil Fuel Oil | 07/21/2023 08:35:00 | | | 07/21/2023 09:00:00 | | | 07/21/2023 09:20:00 | | | 07/21/2023 09:35:00 | | | 07/21/2023 10:00:00 | | | 07/21/2023 10:45:00 | | | 07/21/2023 11:45:00 | | | 07/21/2023 13:50:00 | | |
| Matrix | | Residential | Restricted Resid | Commercial | Industrial | Protection of EC | Protection of GW | Contaminate | Contaminat | Soil | | | Soil | | | Soil | | | Soil | | | Soil | | | Soil | | | Soil | | | Soil | | |
| Dilution Factor | | | | | | | | | | 1 | | | 50 | | | 1 | | | 50 | | | 1 | | | 100 | | | 250 | | | 50 | | |
| Unit | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | | | mg/kg | | | mg/kg | | | mg/kg | | | mg/kg | | | mg/kg | | | mg/kg | | | mg/kg | | |
| | | | | | | | | | | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL |
| **SOIL BY 8260D** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 0.68 | 100 | 100 | 500 | 1000 | NA | 0.68 | NA | NA | 0.0012 | U | 0.00027 | 0.13 | U | 0.037 | 0.0011 | U | 0.00026 | 0.13 | U | 0.036 | 0.0015 | U | 0.00034 | 0.26 | U | 0.073 | **0.96** | | 0.19 | 0.12 | U | 0.035 |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00025 | 0.13 | U | 0.026 | 0.0011 | U | 0.00024 | 0.13 | U | 0.026 | 0.0015 | U | 0.00032 | 0.26 | U | 0.052 | 0.69 | U | 0.14 | 0.12 | U | 0.025 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00035 | 0.13 | U * | 0.044 | 0.0011 | U | 0.00034 | 0.13 | U * | 0.044 | 0.0015 | U | 0.00045 | 0.26 | U * | 0.089 | 0.69 | U * | 0.23 | 0.12 | U * | 0.042 |
| 1,1,2-Trichloroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00020 | 0.13 | U | 0.027 | 0.0011 | U | 0.00020 | 0.13 | U | 0.026 | 0.0015 | U | 0.00026 | 0.26 | U | 0.053 | 0.69 | U | 0.14 | 0.12 | U | 0.025 |
| 1,1-Dichloroethane | 0.27 | 19 | 26 | 240 | 480 | NA | 0.27 | NA | NA | 0.0012 | U | 0.00024 | 0.13 | U | 0.031 | 0.0011 | U | 0.00023 | 0.13 | U | 0.031 | 0.0015 | U | 0.00030 | 0.087 | J | 0.063 | 0.69 | U | 0.16 | 0.030 | J | 0.030 |
| 1,1-Dichloroethene | 0.33 | 100 | 100 | 500 | 1000 | NA | 0.33 | NA | NA | 0.0012 | U | 0.00026 | 0.13 | U | 0.034 | 0.0011 | U | 0.00025 | 0.13 | U | 0.034 | 0.00067 | J | 0.00033 | 0.26 | U | 0.069 | 0.69 | U | 0.18 | 0.12 | U | 0.033 |
| 1,2,3-Trichlorobenzene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00021 | 0.13 | U | 0.046 | 0.0011 | U | 0.00020 | 0.13 | U | 0.045 | 0.0015 | U | 0.00027 | 0.26 | U | 0.091 | 0.69 | U | 0.24 | 0.12 | U | 0.043 |
| 1,2,4-Trichlorobenzene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00041 | 0.13 | U | 0.035 | 0.0011 | U | 0.00040 | 0.26 | | 0.035 | 0.0015 | U | 0.00053 | 0.26 | U | 0.071 | 0.69 | U | 0.19 | 0.12 | U | 0.033 |
| 1,2-Dibromo-3-Chloropropane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00053 | 0.13 | U | 0.028 | 0.0011 | U | 0.00051 | 0.13 | U | 0.027 | 0.0015 | U | 0.00068 | 0.26 | U | 0.055 | 0.69 | U | 0.15 | 0.12 | U | 0.026 |
| 1,2-Dichlorobenzene | 1.1 | 100 | 100 | 500 | 1000 | NA | 1.1 | NA | NA | 0.0012 | U | 0.00042 | 0.063 | J | 0.029 | 0.0011 | U | 0.00040 | **2.3** | | 0.028 | 0.0015 | U | 0.00053 | 0.069 | J | 0.057 | **1.6** | | 0.15 | 0.29 | | 0.027 |
| 1,2-Dichloroethane | NA | 2.3 | 3.1 | 30 | 60 | 10 | 0.02 | NA | NA | 0.0012 | U | 0.00034 | 0.13 | U | 0.033 | 0.0011 | U | 0.00033 | 0.13 | U | 0.032 | 0.0015 | U | 0.00044 | 0.26 | U | 0.065 | 0.69 | U | 0.17 | 0.12 | U | 0.031 |
| 1,2-Dichloropropane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00049 | 0.13 | | 0.024 | 0.0011 | U | 0.00047 | 0.13 | U | 0.023 | 0.0015 | U | 0.00063 | 1.1 | | 0.047 | 0.69 | U | 0.12 | 0.12 | U | 0.022 |
| 1,3-Dichlorobenzene | 2.4 | 17 | 49 | 280 | 560 | NA | 2.4 | NA | NA | 0.0012 | U | 0.00042 | 0.13 | U | 0.043 | 0.0011 | U | 0.00041 | 0.12 | J | 0.043 | 0.0015 | U | 0.00054 | 0.26 | U | 0.086 | 0.69 | U | 0.23 | 0.12 | U | 0.041 |
| 1,4-Dichlorobenzene | 1.8 | 9.8 | 13 | 130 | 250 | 20 | 1.8 | NA | NA | 0.0012 | U | 0.00026 | 0.13 | U | 0.044 | 0.0011 | U | 0.00025 | 0.94 | | 0.043 | 0.0015 | U | 0.00033 | 0.26 | U | 0.087 | 0.36 | J | 0.23 | 0.056 | J | 0.041 |
| 2-Butanone (MEK) | 0.12 | 100 | 100 | 500 | 1000 | 100 | 0.12 | NA | NA | 0.0096 | | 0.00042 | 0.65 | U | 0.29 | 0.0056 | U | 0.00041 | 0.65 | U | 0.28 | 0.0074 | U | 0.00054 | 1.3 | U | 0.57 | 3.4 | U | 1.5 | 0.62 | U | 0.27 |
| 2-Hexanone | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0058 | U | 0.0020 | 0.65 | U | 0.15 | 0.0056 | U | 0.0019 | 0.65 | U | 0.15 | 0.0074 | U | 0.0025 | 1.3 | U | 0.30 | 3.4 | U | 0.78 | 0.62 | U | 0.14 |
| 4-Methyl-2-pentanone (MIBK) | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0058 | U | 0.0018 | 0.65 | U | 0.17 | 0.0056 | U | 0.0017 | 0.65 | U | 0.17 | 0.0074 | U | 0.0023 | 1.3 | U | 0.34 | 3.4 | U | 0.89 | 0.62 | U | 0.16 |
| Acetone | 0.05 | 100 | 100 | 500 | 1000 | 2.2 | 0.05 | NA | NA | 0.011 | | 0.0066 | 0.65 | U | 0.58 | 0.0067 | U | 0.0064 | 0.65 | U | 0.57 | 0.0089 | U | 0.0085 | 1.3 | U | 1.2 | 3.4 | U | 3.0 | 0.62 | U | 0.55 |
| Benzene | 0.06 | 2.9 | 4.8 | 44 | 89 | 70 | 0.06 | 0.06 | 0.06 | 0.0012 | U | 0.00030 | 0.13 | U | 0.026 | 0.0011 | U | 0.00029 | 0.13 | U | 0.026 | 0.0015 | U | 0.00038 | 0.26 | U | 0.053 | 0.69 | U | 0.14 | 0.12 | U | 0.025 |
| Bromoform | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00049 | 0.13 | U | 0.024 | 0.0011 | U | 0.00048 | 0.13 | U | 0.023 | 0.0015 | U | 0.00063 | 0.26 | U | 0.047 | 0.69 | U | 0.12 | 0.12 | U | 0.022 |
| Bromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0023 | U | 0.0012 | 0.13 | U | 0.072 | 0.0022 | U | 0.0011 | 0.13 | U | 0.072 | 0.0030 | U | 0.0015 | 0.26 | U | 0.14 | 0.69 | U | 0.38 | 0.12 | U | 0.069 |
| Carbon disulfide | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0038 | | 0.00031 | 0.13 | U | 0.088 | 0.0011 | U | 0.00030 | 0.13 | U | 0.087 | 0.0015 | U | 0.00039 | 0.26 | U | 0.18 | 0.69 | U | 0.46 | 0.12 | U | 0.083 |
| Carbon tetrachloride | 0.76 | 1.4 | 2.4 | 22 | 44 | NA | 0.76 | NA | NA | 0.0012 | U | 0.00045 | 0.13 | U | 0.043 | 0.0011 | U | 0.00043 | 0.13 | U | 0.043 | 0.0015 | U | 0.00057 | 0.26 | U | 0.086 | 0.69 | U | 0.23 | 0.12 | U | 0.041 |
| Chlorobenzene | 1.1 | 100 | 100 | 500 | 1000 | 40 | 1.1 | NA | NA | 0.0012 | U | 0.00020 | 0.13 | U | 0.031 | 0.0011 | U | 0.00020 | 0.13 | U | 0.031 | 0.0015 | U | 0.00026 | 0.26 | U | 0.063 | 0.69 | U | 0.16 | 0.12 | U | 0.030 |
| Chlorobromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00032 | 0.13 | U | 0.039 | 0.0011 | U | 0.00031 | 0.13 | U | 0.039 | 0.0015 | U | 0.00042 | 0.26 | U | 0.078 | 0.69 | U | 0.21 | 0.12 | U | 0.037 |
| Chlorodibromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00022 | 0.13 | U | 0.029 | 0.0011 | U | 0.00022 | 0.13 | U | 0.028 | 0.0015 | U | 0.00029 | 0.26 | U | 0.057 | 0.69 | U | 0.15 | 0.12 | U | 0.027 |
| Chloroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00060 | 0.13 | U | 0.048 | 0.0011 | U | 0.00058 | 0.13 | U | 0.048 | 0.0015 | U | 0.00077 | 0.26 | U | 0.097 | 0.69 | U | 0.25 | 0.12 | U | 0.046 |
| Chloroform | 0.37 | 10 | 49 | 350 | 700 | 12 | 0.37 | NA | NA | 0.0012 | U | 0.0011 | 0.13 | U | 0.029 | 0.0011 | U | 0.0011 | 0.13 | U | 0.028 | 0.0015 | U | 0.0014 | 0.26 | U | 0.057 | 0.69 | U | 0.15 | 0.12 | U | 0.027 |
| Chloromethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00050 | 0.13 | U | 0.052 | 0.0011 | U | 0.00049 | 0.13 | U | 0.052 | 0.0015 | U | 0.00064 | 0.26 | U | 0.10 | 0.69 | U | 0.28 | 0.12 | U | 0.050 |
| cis-1,2-Dichloroethene | 0.25 | 59 | 100 | 500 | 1000 | NA | 0.25 | NA | NA | 0.00091 | J | 0.00041 | **6.6** | | 0.034 | 0.00058 | J | 0.00040 | **1.1** | | 0.034 | 0.0015 | U | 0.00053 | **85** | | 0.068 | **250** | | 0.18 | **2.3** | | 0.032 |
| cis-1,3-Dichloropropene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00031 | 0.13 | U | 0.029 | 0.0011 | U | 0.00031 | 0.13 | U | 0.029 | 0.0015 | U | 0.00040 | 0.26 | U | 0.058 | 0.69 | U | 0.15 | 0.12 | U | 0.027 |
| Cyclohexane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00025 | 0.13 | U * | 0.034 | 0.0011 | U | 0.00025 | 0.13 | U * | 0.034 | 0.0015 | U | 0.00033 | 0.26 | U * | 0.068 | 0.69 | U * | 0.18 | 0.12 | U * | 0.032 |
| Dichlorobromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00030 | 0.13 | U | 0.020 | 0.0011 | U | 0.00029 | 0.13 | U | 0.019 | 0.0015 | U | 0.00038 | 0.26 | U | 0.039 | 0.69 | U | 0.10 | 0.12 | U | 0.019 |
| Dichlorodifluoromethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00039 | 0.13 | U * | 0.040 | 0.0011 | U | 0.00038 | 0.13 | U * | 0.040 | 0.0015 | U | 0.00050 | 0.26 | U * | 0.081 | 0.69 | U * | 0.21 | 0.12 | U * | 0.038 |
| Ethylbenzene | 1 | 30 | 41 | 390 | 780 | NA | 1 | 1 | 1 | 0.0012 | U | 0.00023 | 0.13 | U | 0.039 | 0.0011 | U | 0.00022 | 0.13 | U | 0.039 | 0.0015 | U | 0.00029 | 0.16 | J | 0.078 | 0.69 | U | 0.21 | 0.064 | J | 0.037 |
| Ethylene Dibromide | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00021 | 0.13 | U | 0.025 | 0.0011 | U | 0.00020 | 0.13 | U | 0.025 | 0.0015 | U | 0.00027 | 0.26 | U | 0.050 | 0.69 | U | 0.13 | 0.12 | U | 0.024 |
| Isopropylbenzene | NA | NA | NA | NA | NA | NA | NA | 2.3 | 2.3 | 0.0012 | U | 0.00033 | 0.13 | U | 0.042 | 0.0011 | U | 0.00032 | 0.13 | U | 0.041 | 0.0015 | U | 0.00042 | 0.26 | U | 0.084 | 0.69 | U | 0.22 | 0.12 | U | 0.040 |
| Methyl acetate | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0058 | U | 0.0049 | 0.65 | U | 0.10 | 0.0056 | U | 0.0048 | 0.65 | U | 0.10 | 0.0074 | U | 0.0064 | 1.3 | U | 0.20 | 3.4 | U | 0.54 | 0.62 | U | 0.097 |
| Methyl tert-butyl ether | 0.93 | 62 | 100 | 500 | 1000 | NA | 0.93 | 0.93 | NA | 0.0012 | U | 0.00059 | 0.13 | U | 0.028 | 0.0011 | U | 0.00057 | 0.13 | U | 0.028 | 0.0015 | U | 0.00076 | 0.26 | U | 0.056 | 0.69 | U | 0.15 | 0.12 | U | 0.026 |
| Methylcyclohexane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00057 | 0.13 | U | 0.095 | 0.0011 | U | 0.00056 | 0.13 | U | 0.094 | 0.0015 | U | 0.00074 | 0.26 | U | 0.19 | 0.69 | U | 0.50 | 0.12 | U | 0.090 |
| Methylene Chloride | 0.05 | 51 | 100 | 500 | 1000 | 12 | 0.05 | NA | NA | 0.0023 | U | 0.0013 | 0.13 | U | 0.027 | 0.0022 | U | 0.0013 | 0.13 | U | 0.027 | 0.0030 | U | 0.0017 | 0.26 | U | 0.055 | 0.69 | U | 0.14 | 0.12 | U | 0.026 |
| m-Xylene & p-Xylene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00020 | 0.13 | U | 0.037 | 0.0011 | U | 0.00019 | 0.13 | U | 0.036 | 0.0015 | U | 0.00026 | 0.16 | J | 0.073 | 0.29 | J | 0.19 | 0.070 | J | 0.035 |
| o-Xylene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00022 | 0.13 | U | 0.042 | 0.0011 | U | 0.00022 | 0.13 | U | 0.041 | 0.0015 | U | 0.00029 | 0.26 | U | 0.084 | 0.69 | U | 0.22 | 0.12 | U | 0.040 |
| Styrene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00032 | 0.13 | U | 0.022 | 0.0011 | U | 0.00031 | 0.13 | U | 0.022 | 0.0015 | U | 0.00041 | 0.26 | U | 0.044 | 0.69 | U | 0.12 | 0.12 | U | 0.021 |
| Tetrachloroethene | 1.3 | 5.5 | 19 | 150 | 300 | 2 | 1.3 | NA | NA | 0.0012 | U | 0.00035 | **1.9** | | 0.047 | 0.0011 | U | 0.00034 | 0.37 | | 0.047 | 0.0015 | U | 0.00045 | **9.2** | | 0.094 | **2.0** | | 0.25 | 0.12 | U | 0.045 |
| Toluene | 0.7 | 100 | 100 | 500 | 1000 | 36 | 0.7 | 0.7 | 0.7 | 0.0012 | U | 0.00027 | 0.13 | U | 0.033 | 0.0011 | U | 0.00026 | 0.13 | U | 0.032 | 0.0015 | U | 0.00035 | 0.26 | U | 0.065 | 0.69 | U | 0.17 | 0.056 | J | 0.031 |
| trans-1,2-Dichloroethene | 0.19 | 100 | 100 | 500 | 1000 | NA | 0.19 | NA | NA | 0.0012 | U | 0.00028 | **0.27** | | 0.024 | 0.0011 | U | 0.00028 | 0.13 | U | 0.023 | 0.0015 | U | 0.00036 | **6.8** | | 0.047 | **19** | | 0.12 | 0.047 | J | 0.022 |
| trans-1,3-Dichloropropene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00031 | 0.13 | U | 0.029 | 0.0011 | U | 0.00030 | 0.13 | U | 0.029 | 0.0015 | U | 0.00039 | 0.26 | U | 0.058 | 0.69 | U | 0.15 | 0.12 | U | 0.027 |
| Trichloroethene | 0.47 | 10 | 21 | 200 | 400 | 2 | 0.47 | NA | NA | 0.00053 | J | 0.00037 | **7.9** | | 0.029 | 0.0012 | | 0.00036 | **16** | | 0.028 | 0.0042 | | 0.00047 | **33** | | 0.057 | **160** | | 0.15 | 0.33 | | 0.027 |
| Trichlorofluoromethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0012 | U | 0.00047 | 0.13 | U | 0.042 | 0.0011 | U | 0.00045 | 0.13 | U | 0.041 | 0.0015 | U | 0.00060 | 0.26 | U | 0.084 | 0.69 | U | 0.22 | 0.12 | U | 0.040 |
| Vinyl chloride | 0.02 | 0.21 | 0.9 | 13 | 27 | NA | 0.02 | NA | NA | 0.0012 | U | 0.00063 | 0.13 | U | 0.026 | 0.0011 | U | 0.00061 | 0.13 | U | 0.026 | 0.0015 | U | 0.00081 | **2.5** | | 0.052 | **2.8** | | 0.14 | **0.068** | J | 0.025 |
| Total Conc | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.02584 | | | 16.863 | | | 0.00178 | | | 21.09 | | | 0.00487 | | | 138.076 | | | 437.01 | | | 3.311 | | |

Highlighted Concentrations shown in bold type face exceed limits
* : LCS or LCSD is outside acceptance limits.
J : Indicates an estimated value.
U : Analyzed for but not detected.

Lab Contact:
Carin Ferris
Senior Project Manager
(732)549-3900

**Eurofins Environment Testing Northeast, LLC**
**Eurofins Edison**
**Lab Job ID: 460-284591-1**
**Job Description: 3-60 Beach 79th St, Far Rockaway**
**For:**
**GEI Consultants, Inc.**
**1000 New York Avenue**
**Huntington Station, New York 11746**

**Table 2. Clay Analytical Results-VOC**
**Supplemental Pre-Design Investigation**
**Report**
**3-60 Beach 79th Street**
**Far Rockaway, NY**

| Client ID | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NYDEC 375-6 | NY CP51 | NY CP-51 | C-34(9.5ft) | | | C-33(8.5ft) | | | C-35(10ft) | | | C-36(7.5ft) | | | RSWC-1 | | | DUP-01(Clay) | | | C-2(7ft) | | | C-3(9.75ft) | | | C-3(9.75ft) | | | C-11(10ft) | | | RSWC-2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab Sample ID | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Soil Cleanup Obj | Table 2 | Table 3 | 460-284591-1 | | | 460-284591-2 | | | 460-284591-3 | | | 460-284591-4 | | | 460-284591-5 | | | 460-284591-6 | | | 460-284591-7 | | | 460-284591-8 | | | 460-284591-8 | | | 460-284591-9 | | | 460-284591-10 | | |
| Sampling Date | UnRestricted Use | Restricted Use | Restricted Use | Restricted Use | Restricted Use | Restricted Use | Restricted Use | Soil Gas | Soil Fuel Oil | 07/19/2023 09:15:00 | | | 07/19/2023 09:40:00 | | | 07/19/2023 10:20:00 | | | 07/19/2023 11:15:00 | | | 07/19/2023 11:20:00 | | | 07/19/2023 00:00:00 | | | 07/19/2023 12:00:00 | | | 07/19/2023 12:30:00 | | | 07/19/2023 12:30:00 | | | 07/19/2023 14:45:00 | | | 07/19/2023 14:15:00 | | |
| Matrix | | Residential | Restricted Resid | Commercial | Industrial | Protection of EC | Protection of GW | Contaminate | Contaminat | Soil | | | Soil | | | Soil | | | Soil | | | Soil | | | Soil | | | Soil | | | Soil | | | Soil | | | Soil | | | Soil | | |
| Dilution Factor | | | | | | | | | | 1 | | | 1 | | | 1 | | | 1 | | | 50 | | | 1 | | | 1 | | | 1 | | | 50 | | | 1 | | | 50 | | |
| Unit | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL | Result | Q | MDL |
| **SOIL BY 8260D** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 0.68 | 100 | 100 | 500 | 1000 | NA | 0.68 | NA | NA | 0.0011 | U | 0.00025 | 0.0016 | U | 0.00038 | 0.0012 | U | 0.00027 | 0.0011 | U | 0.00026 | 0.11 | U | 0.032 | 0.0012 | U | 0.00028 | 0.0011 | U | 0.00026 | 0.0017 | U | 0.00039 | NR | | | 0.0013 | U | 0.00029 | 0.12 | U | 0.034 |
| 1,1,2,2-Tetrachloroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00023 | 0.0016 | U | 0.00035 | 0.0012 | U | 0.00025 | 0.0011 | U | 0.00024 | 0.11 | U | 0.023 | 0.0012 | U | 0.00026 | 0.0011 | U * | 0.00024 | 0.0017 | U | 0.00036 | NR | | | 0.0013 | U | 0.00027 | 0.12 | U | 0.024 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00032 | 0.0016 | U | 0.00049 | 0.0012 | U | 0.00035 | 0.0011 | U | 0.00034 | 0.11 | U * | 0.039 | 0.0012 | U | 0.00037 | 0.0011 | U | 0.00033 | 0.0017 | U | 0.00050 | NR | | | 0.0013 | U | 0.00038 | 0.12 | U * | 0.041 |
| 1,1,2-Trichloroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00019 | 0.0016 | U | 0.00029 | 0.0012 | U | 0.00021 | 0.0011 | U | 0.00020 | 0.11 | U | 0.023 | 0.0012 | U | 0.00022 | 0.0011 | U | 0.00020 | 0.0017 | U | 0.00030 | NR | | | 0.0013 | U | 0.00022 | 0.12 | U | 0.025 |
| 1,1-Dichloroethane | 0.27 | 19 | 26 | 240 | 480 | NA | 0.27 | NA | NA | 0.0011 | U | 0.00022 | 0.0016 | U | 0.00034 | 0.0012 | U | 0.00024 | 0.0011 | U | 0.00023 | 0.11 | U | 0.027 | 0.0012 | U | 0.00025 | 0.00040 | J | 0.00023 | 0.0011 | J | 0.00034 | NR | | | 0.0013 | U | 0.00026 | 0.12 | U | 0.029 |
| 1,1-Dichloroethene | 0.33 | 100 | 100 | 500 | 1000 | NA | 0.33 | NA | NA | 0.00031 | J | 0.00024 | 0.0016 | U | 0.00037 | 0.0012 | U | 0.00026 | 0.00037 | J | 0.00025 | 0.11 | U | 0.030 | 0.0012 | U | 0.00027 | 0.0011 | U | 0.00025 | 0.00064 | J | 0.00038 | NR | | | 0.00076 | J | 0.00028 | 0.12 | U * | 0.032 |
| 1,2,3-Trichlorobenzene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00019 | 0.0016 | U | 0.00030 | 0.0012 | U | 0.00021 | 0.0011 | U | 0.00020 | 0.11 | U | 0.040 | 0.0012 | U | 0.00022 | 0.0011 | U * | 0.00020 | 0.0017 | U | 0.00030 | NR | | | 0.0013 | U | 0.00023 | 0.12 | U | 0.042 |
| 1,2,4-Trichlorobenzene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00039 | 0.0016 | U | 0.00059 | 0.0012 | U | 0.00042 | 0.0011 | U | 0.00040 | 0.11 | U | 0.031 | 0.0012 | U | 0.00044 | 0.0011 | U * | 0.00040 | 0.0017 | U | 0.00060 | NR | | | 0.0013 | U | 0.00045 | 0.12 | U | 0.032 |
| 1,2-Dibromo-3-Chloropropane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00049 | 0.0016 | U | 0.00075 | 0.0012 | U | 0.00054 | 0.0011 | U | 0.00051 | 0.11 | U | 0.024 | 0.0012 | U | 0.00056 | 0.0011 | U * | 0.00051 | 0.0017 | U | 0.00077 | NR | | | 0.0013 | U | 0.00058 | 0.12 | U | 0.025 |
| 1,2-Dichlorobenzene | 1.1 | 100 | 100 | 500 | 1000 | NA | 1.1 | NA | NA | 0.0011 | U | 0.00039 | 0.0016 | U | 0.00059 | 0.0012 | U | 0.00042 | 0.0011 | U | 0.00040 | 0.11 | U | 0.025 | 0.0012 | U | 0.00044 | 0.0011 | U * | 0.00040 | 0.0017 | U | 0.00060 | NR | | | 0.0013 | U | 0.00045 | 0.12 | U | 0.026 |
| 1,2-Dichloroethane | NA | 2.3 | 3.1 | 30 | 60 | 10 | 0.02 | NA | NA | 0.0011 | U | 0.00032 | 0.0016 | U | 0.00048 | 0.0012 | U | 0.00035 | 0.0011 | U | 0.00033 | 0.11 | U | 0.028 | 0.0012 | U | 0.00036 | 0.0011 | U | 0.00033 | 0.0017 | U | 0.00049 | NR | | | 0.0013 | U | 0.00037 | 0.12 | U | 0.030 |
| 1,2-Dichloropropane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00046 | 0.0016 | U | 0.00069 | 0.0012 | U | 0.00049 | 0.0011 | U | 0.00047 | 0.11 | U | 0.020 | 0.0012 | U | 0.00052 | 0.0011 | U | 0.00047 | 0.0017 | U | 0.00071 | NR | | | 0.0012 | J | 0.00053 | 0.12 | U | 0.022 |
| 1,3-Dichlorobenzene | 2.4 | 17 | 49 | 280 | 560 | NA | 2.4 | NA | NA | 0.0011 | U | 0.00039 | 0.0016 | U | 0.00060 | 0.0012 | U | 0.00043 | 0.0011 | U | 0.00041 | 0.11 | U | 0.038 | 0.0012 | U | 0.00045 | 0.0011 | U * | 0.00041 | 0.0017 | U | 0.00061 | NR | | | 0.0013 | U | 0.00046 | 0.12 | U | 0.040 |
| 1,4-Dichlorobenzene | 1.8 | 9.8 | 13 | 130 | 250 | 20 | 1.8 | NA | NA | 0.0011 | U | 0.00024 | 0.0016 | U | 0.00037 | 0.0012 | U | 0.00026 | 0.0011 | U | 0.00025 | 0.11 | U | 0.038 | 0.0012 | U | 0.00027 | 0.0011 | U * | 0.00025 | 0.0017 | U | 0.00038 | NR | | | 0.0013 | U | 0.00028 | 0.12 | U | 0.040 |
| 2-Butanone (MEK) | 0.12 | 100 | 100 | 500 | 1000 | 100 | 0.12 | NA | NA | 0.0054 | U | 0.00040 | 0.0082 | U | 0.00060 | 0.0058 | U | 0.00043 | 0.0056 | U | 0.00041 | 0.57 | U | 0.25 | 0.0061 | U | 0.00045 | 0.015 | | 0.00041 | 0.0061 | J | 0.00061 | NR | | | 0.0034 | J | 0.00046 | 0.60 | U | 0.26 |
| 2-Hexanone | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0054 | U | 0.0018 | 0.0082 | U | 0.0028 | 0.0058 | U | 0.0020 | 0.0056 | U | 0.0019 | 0.57 | U | 0.13 | 0.0061 | U | 0.0021 | 0.0056 | U | 0.0019 | 0.0083 | U | 0.0029 | NR | | | 0.0063 | U | 0.0021 | 0.60 | U | 0.14 |
| 4-Methyl-2-pentanone (MIBK) | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0054 | U | 0.0017 | 0.0082 | U | 0.0025 | 0.0058 | U | 0.0018 | 0.0056 | U | 0.0017 | 0.57 | U | 0.15 | 0.0061 | U | 0.0019 | 0.0056 | U | 0.0017 | 0.0083 | U | 0.0026 | NR | | | 0.0063 | U | 0.0020 | 0.60 | U | 0.16 |
| Acetone | 0.05 | 100 | 100 | 500 | 1000 | 2.2 | 0.05 | NA | NA | 0.0072 | | 0.0062 | 0.017 | | 0.0094 | 0.0070 | U | 0.0067 | 0.0067 | U | 0.0064 | 0.57 | U | 0.50 | 0.0073 | U | 0.0070 | 0.063 | | 0.0064 | 0.037 | | 0.0095 | NR | | | 0.0075 | U | 0.0072 | 0.60 | U | 0.53 |
| Benzene | 0.06 | 2.9 | 4.8 | 44 | 89 | 70 | 0.06 | 0.06 | 0.06 | 0.0011 | U | 0.00028 | 0.0016 | U | 0.00042 | 0.0012 | U | 0.00030 | 0.0011 | U | 0.00029 | 0.11 | U | 0.023 | 0.0012 | U | 0.00032 | 0.0011 | U | 0.00029 | 0.0017 | U | 0.00043 | NR | | | 0.0013 | U | 0.00032 | 0.12 | U | 0.024 |
| Bromoform | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00046 | 0.0016 | U | 0.00070 | 0.0012 | U | 0.00050 | 0.0011 | U | 0.00047 | 0.11 | U | 0.020 | 0.0012 | U | 0.00052 | 0.0011 | U | 0.00047 | 0.0017 | U | 0.00071 | NR | | | 0.0013 | U | 0.00053 | 0.12 | U | 0.022 |
| Bromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0022 | U | 0.0011 | 0.0033 | U | 0.0016 | 0.0023 | U | 0.0012 | 0.0022 | U | 0.0011 | 0.11 | U | 0.063 | 0.0024 | U | 0.0012 | 0.0022 | U | 0.0011 | 0.0033 | U | 0.0017 | NR | | | 0.0025 | U | 0.0013 | 0.12 | U | 0.067 |
| Carbon disulfide | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.00091 | J | 0.00029 | 0.025 | | 0.00044 | 0.0012 | U | 0.00031 | 0.0011 | U | 0.00030 | 0.11 | U | 0.077 | 0.0012 | U | 0.00032 | 0.0058 | | 0.00030 | 0.0043 | | 0.00044 | NR | | | 0.0013 | U | 0.00033 | 0.12 | U | 0.081 |
| Carbon tetrachloride | 0.76 | 1.4 | 2.4 | 22 | 44 | NA | 0.76 | NA | NA | 0.0011 | U | 0.00042 | 0.0016 | U | 0.00063 | 0.0012 | U | 0.00045 | 0.0011 | U | 0.00043 | 0.11 | U | 0.038 | 0.0012 | U | 0.00047 | 0.0011 | U | 0.00043 | 0.0017 | U | 0.00065 | NR | | | 0.0013 | U | 0.00049 | 0.12 | U | 0.040 |
| Chlorobenzene | 1.1 | 100 | 100 | 500 | 1000 | 40 | 1.1 | NA | NA | 0.0011 | U | 0.00019 | 0.0016 | U | 0.00029 | 0.0012 | U | 0.00021 | 0.0011 | U | 0.00020 | 0.11 | U | 0.027 | 0.0012 | U | 0.00022 | 0.0011 | U | 0.00020 | 0.0017 | U | 0.00030 | NR | | | 0.0013 | U | 0.00022 | 0.12 | U | 0.029 |
| Chlorobromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00030 | 0.0016 | U | 0.00046 | 0.0012 | U | 0.00033 | 0.0011 | U | 0.00031 | 0.11 | U | 0.034 | 0.0012 | U | 0.00034 | 0.0011 | U | 0.00031 | 0.0017 | U | 0.00047 | NR | | | 0.0013 | U * | 0.00035 | 0.12 | U | 0.036 |
| Chlorodibromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00021 | 0.0016 | U | 0.00032 | 0.0012 | U | 0.00023 | 0.0011 | U | 0.00022 | 0.11 | U | 0.025 | 0.0012 | U | 0.00024 | 0.0011 | U | 0.00022 | 0.0017 | U | 0.00032 | NR | | | 0.0013 | U | 0.00024 | 0.12 | U | 0.026 |
| Chloroethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00056 | 0.0016 | U | 0.00086 | 0.0012 | U | 0.00061 | 0.0011 | U | 0.00058 | 0.11 | U | 0.042 | 0.0012 | U | 0.00064 | 0.0011 | U | 0.00058 | 0.0017 | U | 0.00087 | NR | | | 0.0013 | U | 0.00066 | 0.12 | U | 0.044 |
| Chloroform | 0.37 | 10 | 49 | 350 | 700 | 12 | 0.37 | NA | NA | 0.0011 | U | 0.0010 | 0.0016 | U | 0.0016 | 0.0012 | U | 0.0011 | 0.0011 | U | 0.0011 | 0.11 | U | 0.025 | 0.0012 | U | 0.0012 | 0.0011 | U | 0.0011 | 0.0017 | U | 0.0016 | NR | | | 0.0013 | U * | 0.0012 | 0.12 | U | 0.026 |
| Chloromethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00047 | 0.0016 | U | 0.00071 | 0.0012 | U | 0.00051 | 0.0011 | U | 0.00049 | 0.11 | U | 0.046 | 0.0012 | U | 0.00053 | 0.0011 | U | 0.00048 | 0.0017 | U | 0.00073 | NR | | | 0.0013 | U | 0.00055 | 0.12 | U * | 0.048 |
| cis-1,2-Dichloroethene | 0.25 | 59 | 100 | 500 | 1000 | NA | 0.25 | NA | NA | 0.0011 | U | 0.00039 | 0.044 | | 0.00059 | 0.0018 | | 0.00042 | 0.0017 | | 0.00040 | 0.11 | U | 0.030 | 0.0016 | | 0.00044 | 0.012 | | 0.00040 | 0.066 | | 0.00060 | NR | | | 0.024 | * | 0.00045 | 0.53 | | 0.031 |
| cis-1,3-Dichloropropene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00029 | 0.0016 | U | 0.00045 | 0.0012 | U | 0.00032 | 0.0011 | U | 0.00030 | 0.11 | U | 0.025 | 0.0012 | U | 0.00033 | 0.0011 | U | 0.00030 | 0.0017 | U | 0.00046 | NR | | | 0.0013 | U | 0.00034 | 0.12 | U | 0.027 |
| Cyclohexane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00024 | 0.0016 | U | 0.00036 | 0.0012 | U | 0.00025 | 0.0011 | U | 0.00025 | 0.11 | U * | 0.030 | 0.0012 | U | 0.00027 | 0.00096 | J | 0.00025 | 0.0017 | U | 0.00037 | NR | | | 0.0013 | U | 0.00028 | 0.12 | U * | 0.031 |
| Dichlorobromomethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00028 | 0.0016 | U | 0.00042 | 0.0012 | U | 0.00030 | 0.0011 | U | 0.00029 | 0.11 | U | 0.017 | 0.0012 | U | 0.00031 | 0.0011 | U | 0.00029 | 0.0017 | U | 0.00043 | NR | | | 0.0013 | U | 0.00032 | 0.12 | U | 0.018 |
| Dichlorodifluoromethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00036 | 0.0016 | U | 0.00055 | 0.0012 | U | 0.00039 | 0.0011 | U | 0.00038 | 0.11 | U * | 0.035 | 0.0012 | U | 0.00041 | 0.0011 | U | 0.00038 | 0.0017 | U | 0.00056 | NR | | | 0.0013 | U | 0.00042 | 0.12 | U * | 0.037 |
| Ethylbenzene | 1 | 30 | 41 | 390 | 780 | NA | 1 | 1 | 1 | 0.0011 | U | 0.00021 | 0.0016 | U | 0.00033 | 0.0012 | U | 0.00023 | 0.0011 | U | 0.00022 | 0.11 | U | 0.034 | 0.0012 | U | 0.00024 | 0.0011 | U | 0.00022 | 0.0017 | U | 0.00033 | NR | | | 0.0013 | U | 0.00025 | 0.063 | J | 0.036 |
| Ethylene Dibromide | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00019 | 0.0016 | U | 0.00029 | 0.0012 | U | 0.00021 | 0.0011 | U | 0.00020 | 0.11 | U | 0.022 | 0.0012 | U | 0.00022 | 0.0011 | U | 0.00020 | 0.0017 | U | 0.00030 | NR | | | 0.0013 | U | 0.00023 | 0.12 | U | 0.023 |
| Isopropylbenzene | NA | NA | NA | NA | NA | NA | NA | 2.3 | 2.3 | 0.0011 | U | 0.00031 | 0.0016 | U | 0.00047 | 0.0012 | U | 0.00033 | 0.0011 | U | 0.00032 | 0.11 | U | 0.036 | 0.0012 | U | 0.00035 | 0.0011 | U | 0.00032 | 0.0017 | U | 0.00048 | NR | | | 0.0013 | U | 0.00036 | 0.12 | U | 0.038 |
| Methyl acetate | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0054 | U | 0.0046 | 0.0082 | U | 0.0070 | 0.0058 | U | 0.0050 | 0.0056 | U | 0.0048 | 0.57 | U | 0.089 | 0.0061 | U | 0.0053 | 0.0056 | U | 0.0048 | 0.0083 | U | 0.0072 | NR | | | 0.0063 | U | 0.0054 | 0.60 | U | 0.094 |
| Methyl tert-butyl ether | 0.93 | 62 | 100 | 500 | 1000 | NA | 0.93 | 0.93 | NA | 0.0011 | U | 0.00055 | 0.0016 | U | 0.00084 | 0.0012 | U | 0.00060 | 0.0011 | U | 0.00057 | 0.11 | U | 0.024 | 0.0012 | U | 0.00063 | 0.0011 | U | 0.00057 | 0.0017 | U | 0.00085 | NR | | | 0.0013 | U | 0.00064 | 0.12 | U | 0.026 |
| Methylcyclohexane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00054 | 0.0016 | U | 0.00082 | 0.0012 | U | 0.00058 | 0.0011 | U | 0.00056 | 0.11 | U | 0.083 | 0.0012 | U | 0.00061 | 0.0029 | | 0.00055 | 0.0014 | J | 0.00083 | NR | | | 0.0013 | U | 0.00063 | 0.12 | U | 0.087 |
| Methylene Chloride | 0.05 | 51 | 100 | 500 | 1000 | 12 | 0.05 | NA | NA | 0.0022 | U | 0.0012 | 0.0033 | U | 0.0019 | 0.0023 | U | 0.0013 | 0.0022 | U | 0.0013 | 0.11 | U | 0.024 | 0.0024 | U | 0.0014 | 0.0022 | U | 0.0013 | 0.0033 | U | 0.0019 | NR | | | 0.0025 | U | 0.0014 | 0.065 | J * | 0.025 |
| m-Xylene & p-Xylene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00019 | 0.0016 | U | 0.00029 | 0.0012 | U | 0.00020 | 0.0011 | U | 0.00019 | 0.11 | U | 0.032 | 0.0012 | U | 0.00021 | 0.0011 | U | 0.00019 | 0.0017 | U | 0.00029 | NR | | | 0.0013 | U | 0.00022 | 0.32 | | 0.034 |
| o-Xylene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00021 | 0.0016 | U | 0.00032 | 0.0012 | U | 0.00023 | 0.0011 | U | 0.00022 | 0.11 | U | 0.036 | 0.0012 | U | 0.00024 | 0.0011 | U | 0.00022 | 0.0017 | U | 0.00032 | NR | | | 0.0013 | U | 0.00024 | 0.23 | | 0.038 |
| Styrene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00030 | 0.0016 | U | 0.00046 | 0.0012 | U | 0.00032 | 0.0011 | U | 0.00031 | 0.11 | U | 0.019 | 0.0012 | U | 0.00034 | 0.0011 | U | 0.00031 | 0.0017 | U | 0.00046 | NR | | | 0.0013 | U | 0.00035 | 0.12 | U | 0.020 |
| Tetrachloroethene | 1.3 | 5.5 | 19 | 150 | 300 | 2 | 1.3 | NA | NA | 0.0011 | U | 0.00033 | 0.0016 | U | 0.00050 | 0.076 | | 0.00036 | 0.0011 | U | 0.00034 | 17 | | 0.041 | 0.063 | | 0.00037 | 0.0011 | U | 0.00034 | 0.0017 | U | 0.00051 | NR | | | 0.027 | | 0.00038 | 0.38 | | 0.043 |
| Toluene | 0.7 | 100 | 100 | 500 | 1000 | 36 | 0.7 | 0.7 | 0.7 | 0.0011 | U | 0.00025 | 0.0023 | | 0.00038 | 0.0012 | U | 0.00027 | 0.0011 | U | 0.00026 | 0.11 | U | 0.028 | 0.0012 | U | 0.00029 | 0.0011 | U | 0.00026 | 0.0017 | U | 0.00039 | NR | | | 0.0013 | U | 0.00029 | 0.12 | U | 0.030 |
| trans-1,2-Dichloroethene | 0.19 | 100 | 100 | 500 | 1000 | NA | 0.19 | NA | NA | 0.0011 | U | 0.00026 | 0.0049 | | 0.00040 | 0.0012 | U | 0.00029 | 0.0011 | U | 0.00027 | 0.11 | U | 0.020 | 0.0012 | U | 0.00030 | 0.0010 | J | 0.00027 | 0.0018 | | 0.00041 | NR | | | 0.00071 | J * | 0.00031 | 0.041 | J | 0.022 |
| trans-1,3-Dichloropropene | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00029 | 0.0016 | U | 0.00044 | 0.0012 | U | 0.00031 | 0.0011 | U | 0.00030 | 0.11 | U | 0.025 | 0.0012 | U | 0.00032 | 0.0011 | U | 0.00030 | 0.0017 | U | 0.00044 | NR | | | 0.0013 | U | 0.00033 | 0.12 | U | 0.027 |
| Trichloroethene | 0.47 | 10 | 21 | 200 | 400 | 2 | 0.47 | NA | NA | 0.0011 | U | 0.00035 | 0.0025 | | 0.00053 | 0.0029 | | 0.00037 | 0.0034 | | 0.00036 | 2.1 | | 0.025 | 0.0020 | | 0.00039 | 0.014 | | 0.00036 | 0.0017 | U | 0.00054 | NR | | | 0.12 | | 0.00040 | 8.5 | | 0.026 |
| Trichlorofluoromethane | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.0011 | U | 0.00044 | 0.0016 | U | 0.00067 | 0.0012 | U | 0.00047 | 0.0011 | U | 0.00045 | 0.11 | U | 0.036 | 0.0012 | U | 0.00050 | 0.0011 | U | 0.00045 | 0.0017 | U | 0.00068 | NR | | | 0.0013 | U | 0.00051 | 0.12 | U | 0.038 |
| Vinyl chloride | 0.02 | 0.21 | 0.9 | 13 | 27 | NA | 0.02 | NA | NA | 0.0011 | U | 0.00059 | 0.0016 | U | 0.00089 | 0.0012 | U | 0.00064 | 0.0011 | U | 0.00061 | 0.11 | U | 0.023 | 0.0012 | U | 0.00067 | 0.0015 | | 0.00061 | NR | | | 8.8 | 0.038 | 0.0013 | U | 0.00069 | 0.032 | J | 0.024 |
| Total Conc | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.00842 | | | 0.0957 | | | 0.0807 | | | 0.00547 | | | 19.1 | | | 0.0666 | | | 0.11656 | | | 0.11834 | | | 8.8 | | | 0.17707 | | | 10.161 | | |

NR: Not Analyzed
Highlighted Concentrations shown in bold type face exceed limits
* : ISTD response or retention time outside acceptable limits
* : LCS or LCSD is outside acceptance limits.
J : Indicates an estimated value.
U : Analyzed for but not detected.

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# APPENDIX G – INDOOR AIR SAMPLING MEMORANDUM

54 Genesee Street, Suite 100A
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# Memorandum

November 18, 2025

To: Uri Kaufman, Nadine Shadlock, Ira Schwartz, Kevin Desharnais

From: Jason Brien

cc: Margaret Carrillo-Sheridan

**Re: 350 Beach 79th Far Rockaway - Indoor Air Sampling**

This memorandum summarizes the sub-slab depressurization system (SSDS) installation and post-remediation indoor air monitoring conducted in the industrial building (Existing Building) and new self-storage building (New Building) located at 357 and 350 Beach 79th Street, respectively.

## Sub-Slab Depressurization System Installation

EnviroTrac installed SSDSs beneath both the Existing Building) at Block 16100 Lot 14 (357 Beach 79th Street) and the office area of the New Building located at Block 16100 Lot 18 (350 Beach 79th Street).

Before installation, EnviroTrac conducted a pilot study within the Existing Building, following the NYSDEC-approved SSDS Pilot Test Letter Work Plan (Anchor QEA, June 17, 2024). Based on the pilot study results, Anchor QEA developed and submitted a Sub-Slab Depressurization System Design and Installation Work Plan in September 2024. NYSDEC approved this plan in a letter dated October 2, 2024.

Subsequently, Anchor QEA revised the Work Plan to include a second sub-slab depressurization system beneath the occupied ground-level office area of the new mini self-storage building. NYSDEC approved the amended Work Plan in a letter dated March 7, 2025. Two full-scale SSDSs were designed and installed to mitigate vapor intrusion risks in the Lot 14 and Lot 18 buildings.

- The Industrial Building SSDS comprises:
  - 15 sub-slab extraction points (SSD-1 through SSD-15)
  - The extraction points are connected to three exterior roof-mounted blowers (B-1 through B-3).
  - 15 vacuum monitoring points (VMP-1 through VMP-15) were installed to facilitate ongoing SSDS O&M.
- The Self-Storage Building system comprises:
  - Two sub-slab extraction points (SSD-1 through SSD-2)
  - The extraction points are connected to one exterior roof-mounted blower (B-1).
  - Two vacuum monitoring points (VMP-1 and VMP-2) were installed to facilitate vacuum pressure monitoring as part of ongoing SSDS O&M activities.

SSDS Installation and Startup Reports for both the industrial building and self-storage building are included in the Final Engineering Report (FER). As presented in these reports, sufficient post-installation sub-slab vacuum pressures were established (≥ 0.02" $H_2O$ vacuum).

The extraction points for both SSDSs were selected based on the pilot study results and a visual assessment of the buildings' interiors. Where practical and to protect the extraction piping, the vertical extraction pipes were installed near existing interior building walls or columns.

Post-remediation indoor air-monitoring activities and results are described in the following subsection.

**Initial Post-Remediation Indoor Air Sampling Activities and Results**

EnviroTrac conducted initial indoor air sampling on Sunday, April 13, 2025, outside of regular business hours, following installation of the SSDSs. Prior to sampling, EnviroTrac completed the New York State Department of Health (NYSDOH) Indoor Air Quality Questionnaires and Building Inventory Forms for both the industrial building and the new self-storage facility. These completed questionnaires, including chemical inventories for both buildings, are included in Appendix A.

With respect to the Existing Building, the chemical inventory table indicates that several of the stored products contain volatile organic compounds (VOCs). Over recent decades, many industrial products have replaced chlorinated solvents with alternatives such as hydrocarbon solvents, terpenes, and esters. These substances can contribute to indoor air VOC levels independently of any subsurface vapor intrusion.

Indoor air samples were collected using SUMMA vacuum canisters at a total of nine locations: seven within the industrial building (IA-1 through IA-7), one in the self-storage building (IA-8), and one outdoor location for background comparison (OA-1). A blind duplicate sample was collected at location IA-1 to support quality assurance/quality control. The sampling locations are illustrated in the figures in Attachment A, and summary of air sampling field data is provided in Table 1.

Samples were submitted to Pace Laboratories in Mansfield, Massachusetts, for analysis of VOCs using EPA Method TO-15 and TO-15 Selected Ion Monitoring (SIM). Analytical results were independently validated by Environmental Data Services, Inc., based in Palm Beach Gardens, Florida. The Data Usability Summary Report (DUSR) for indoor air monitoring is provided in Attachment B.

Analytical results are presented in Table 2 and summarized below.

## Indoor Air Sampling Results Summary

| Air Sampling Location/Area Use | Detected VOCs[1],[2] (ug/m$^3$) | Potential Sources |
|---|---|---|
| **Industrial Building Samples** | | |
| IA-1/IA-2 Conveyor Belt Shop (Units 1 & 2) | Benzene – 2.25<br>Carbon tetrachloride[1] – 0.51 | See Note 2. Hydraulic oils and lubricants/penetrating oils were identified in this area. |
| | Carbon tetrachloride[1] – 0.434 | See Note 2. |
| IA-3/IA-4 Carpet Shop (Units 3 & 4) | 2,2,4-Trimethylpentane – 2.38<br>Benzene – 2.29<br>Carbon tetrachloride[1] – 0.365<br>o-Xylene – 2.09<br>p/m-Xylene – 7.04<br>Tetrahydrofuran – 1.47<br>Toluene – 11.5 | See Note 2. Adhesives, oils, wood stains, and other materials were identified in this area. |
| | Carbon tetrachloride[1] – 0.421 | See Note 2. |
| IA-5 Woodshop (Unit 5) | Carbon tetrachloride[1] – 0.308<br>Cyclohexane – 4.37 | See Note 2. Although the chemical inventory did not identify any products, some wood working products (e.g., spray adhesives, contact cements, paint thinners) may have cyclohexane used typically as a solvent, propellant, or as an additive in fast-drying agents. |
| IA-6 Disc Jockey (Unit 6) | 1,2,4-Trimethylbenzene – 5.36<br>Carbon tetrachloride[1] – 0.390<br>Cyclohexane – 2.6<br>Ethylbenzene – 11.5<br>o-Xylene – 14.9<br>Toluene - 165 | See Note 2. Minimal products were identified in this unit. In industrial settings, the identified VOCs are commonly associated with paints, fuel blends, adhesives, rubber, degreasers, and coatings. |
| IA-7 Textile Shop (Unit 7) | 1,2,4-Trimethylbenzene – 3.83<br>Carbon tetrachloride[1] – 0.384<br>Ethylbenzene – 6.69<br>o-Xylene – 8.73<br>Toluene – 61 | See Note 2. Like Unit 6, only a chlorine-based cleaner was identified in this area. It is possible that legacy materials from former tenants could be the source of these detections. |
| **Self-Storage Building Sample** | | |
| IA-8 Office (Office) | Carbon tetrachloride[1] – 0.384<br>trans-1,2-Dichloroethene – 73.7 | See Note 2. Trans-1,2-Dichloroethylene (trans1,2-DCE) was not detected in any of the soil vapor samples collected during the remedial investigation. The detection of trans-1,2-DCE is likely associated with spray foam. Field personnel noted fresh spray foam application and a spray foam contractor truck in the ground-floor parking area of the new self-storage building during indoor air sampling.. |
| **Outdoor Air Sample** | | |
| OA-1 | None | |

**Notes**

1. Results reported as micrograms per cubic meter (ug/m$^3$)
2. Carbon tetrachloride was detected in each indoor air sample at concentrations ranging from 0.308 ug/m$^3$ to 0.510 ug/m$^3$ in sample IA-1. Carbon tetrachloride was not detected in the sub-slab samples collected during the remedial investigation,

and its presence in existing products is questioned as it has been banned/restricted since the 1980s. Additionally, lower levels of carbon tetrachloride (i.e., 0.065 mg/m$^3$) were also detected in the outdoor sample.

3. Only compounds detected at concentrations exceeding NYSDOH indoor air decision matrices are listed (except trans-1,2-Dichloroethene). See Table 2 (attached) for the complete list of detected compounds.

With the exception of trans-1,2-DCE, none of the primary chlorinated VOCs—specifically tetrachloroethylene (PCE), trichloroethylene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), or vinyl chloride—detected during the remedial investigation in soil vapor, sub-slab, and indoor air samples were present in the indoor air samples at concentrations suggesting that the SSDS systems are not functioning properly. Trans-1,2-DCE was detected in indoor sample IA-8 located in the office area of the new self-storage building.

**Post-Remediation Resample of Indoor Air Sampling Location IA-8 Activities and Results**

Based on the detection of trans-1,2-dichloroethene in indoor sample IW-8 (located in the ground floor office area of the New Building) at elevated concentrations, NYSDOH and NYSDEC requested that an additional sample be collected at this location. EnviroTrac conducted additional indoor air sampling on November 3, 2025.

Two air samples (sample IA-8 and a duplicate) were collected in the office area of the new self-storage building using SUMMA vacuum canisters. A blind duplicate sample was collected at location IA-1 to support quality assurance/quality control. The sampling locations are illustrated in the figures in Attachment A. Field data for the additional indoor air sample is presented in Table 1.

Samples were submitted to Pace Laboratories in Mansfield, Massachusetts, for analysis of VOCs using EPA Method TO-15 and TO-15 SIM. Analytical results were independently validated by Environmental Data Services, Inc., based in Palm Beach Gardens, Florida. The DUSR for the additional indoor air monitoring is provided in Attachment B and analytical results are summarized in Table 2.

**Indoor Air Sampling VOC Detections (November 3, 2025)**

| Air Sampling | Detected VOCs[2] (mg/m$^3$) | Potential Sources |
|---|---|---|
| **New Building** | | |
| IA-8 | 2,2,4-Trimethyl pentane | A common indoor air source of 2,2,4-trimethylpentane (isooctane) is gasoline vapors (e.g., from an attached garage or stored fuel/vehicles/equipment). This compound is a major gasoline blending component, and its presence in combustion engine emissions, recent fueling events, or HVAC return air that communicates with a garage is a potential pathway. |

## Conclusion

Key chlorinated VOCs previously identified during the remedial investigation, including PCE, TCE, and vinyl chloride, were not detected in indoor air samples at concentrations of concern.

Following the initial indoor air monitoring event, a second round of indoor air monitoring was conducted at sampling location IA-8 in the office area of the New Building, due to the elevated concentration of trans-1,2-DCE. The second round of sampling indicated significantly lower trans-1,2-DCE concentrations suggesting that the detection was due to a potential temporary source other than vapor intrusion.

While several VOCs were detected, most can be attributed to current or legacy building contents or materials rather than subsurface sources. Notably, carbon tetrachloride, a compound not detected in prior sub-slab samples and historically phased out of use, was identified at low levels across multiple indoor locations, including in outdoor air—suggesting a likely ambient or background origin. Based on these findings, the SSD systems are functioning as intended, and no additional mitigation measures are recommended at this time. Continued operation, maintenance, and periodic monitoring of the SSD systems in accordance with the Site Management Plan will ensure ongoing protection of indoor air quality.

## References

Anchor QEA. *SSDS Pilot Test Letter Work Plan*. June 17, 2024.

Anchor QEA. *Subslab Depressurization System Design and Installation Work Plan*. September 2024 (Addended February 2025).

**Table 1**
**Indoor Air Sampling Data Sheet**

| Sample ID | PID Reading | Start Time | End Time | Sample Collection Duration | Initial Vacuum | Final Vacuum |
|---|---|---|---|---|---|---|
| **Industrial Building** | | | | | | |
| IA-1 | 0.0 (0.1) | 7:36 (7:36) | 15:06 (15.06) | 7h 30 m (7h 30m) | -30.65 (-30.48) | -8.73 (-7.50) |
| IA-2 | 0.2 | 7:38 | 14:20 | 6h 42min | -30.47 | -8.53 |
| IA-3 | 0.1 | 7:48 | 16:10 | 8h 22m | -30.46 | -8.74 |
| IA-4 | 0.2 | 7:47 | 15:02 | 7h 15m | -30.25 | -8.82 |
| IA-5 | 0.3 | 7:51 | 14:43 | 6h 52m | -30.56 | -8.78 |
| IA-6 | 0.4 | 7:54 | 14:47 | 6h 53m | -30.22 | -8.04 |
| IA-7 | 0.3 | 7:58 | 14:50 | 6h 52m | -30.39 | -8.52 |
| **Self-Storage Building** | | | | | | |
| IA-8 | 0.0 | 8:02 | 14:31 | 6h 29m | -29.26 | -8.81 |
| IA-8 (resample) | 0.0 (0.0) | 7:00 (7:01) | 15:00 (15:00) | 8h 00m (8h 01m) | -30.43 (-30.43) | -6.14 (-6.33) |
| **Outdoor/Background** | | | | | | |
| OA-1 | 0.1 | 12:25 | 19:25 | 7h 0m | -30.44 | -8.75 |

**Notes:**

- Values in parenthesis represent the blind duplicate sample.
- The initial summa canister for the outdoor air sample was stolen between 12:00 and 12:30, A second outdoor air sample was setup and collected from 12:25 to 19:25.

## Table 2
## Indoor Air Monitoring Results

**Notes:**

- Samples collected by EnviroTrac on dates indicated.
- Samples analyzed by Pace Laboratories out of Mansfield, MA usgin methids TO-15 and TO-15 SIM.
- Analytical data were validated by Environmental Data Services, Inc. out of Palm Beach Gardens, FL.
- NYSDOH Decision Matrix values reflect the lowest criteria for indoor air comparison. The potential for vapor intrusion is being mitigated in both the pre-existing and new self-storage building.
- All results are presented in $\mu g/m^3$
- *Italicised* values indicate chlorinated compounds.
- ND - Non Detect
- NA - Not analyzed for
- **BOLD** values indicate that the detected indoor air concentration was greater than the NYSDOH's lowest decision concentration presented in their Soil Vapor/Indoor Air matrices.
- NYSDOH Decision Matrix - these matrices rely on a comparison of subslab and ambient air concentrations. The post-remediation sampling did not include subslab monitoring. The presented values represent the lowest concentrations in their respective matrix. Since both buildings have operating SSD systems, mitigation is already occuring.

  A - Matrix A
  B - Matrix B
  C - Marrix C
  D - Matrix D
  E - Matrix E
  F - Matrix F

**Table 2**
**Indoor Air Monitoring Results**

| Parameter | NYSDOH Decision Matrix | Sample ID | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | IA-1 µg/m³ 4/13/25 | IA-1 (DUP) µg/m³ 4/13/25 | IA-2 µg/m³ 4/13/25 | IA-3 µg/m³ 4/13/25 | IA-4 µg/m³ 4/13/25 | IA-5 µg/m³ 4/13/25 | IA-6 µg/m³ 4/13/25 | IA-7 µg/m³ 4/13/25 | IA-8 µg/m³ 4/13/25 | IA-8 µg/m³ 11/3/25 | IA-8 (DUP) µg/m³ 11/3/25 | OA-1 µg/m³ 4/13/25 |
| *1,1,1-Trichloroethane* | 0.2[B] | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *1,1,2,2-Tetrachloroethane* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *1,1,2-Trichloroethane* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *1,1-Dichloroethane* | | ND | ND | ND | 0.809 | ND | ND | ND | ND | ND | ND | ND | ND |
| *1,1-Dichloroethene* | 0.2[A] | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,2,4-Trimethylbenzene | 2[D] | ND | ND | ND | 1.04 | ND | ND | **5.36** | **3.83** | ND | 1.37 | 1.28 | ND |
| *1,2,4-Trlchlorobenzene* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,2-Dibromoethane | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *1,2-Dichlorobenzene* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *1,2-Dichloroethane* | | ND | ND | ND | 0.809 | ND | ND | ND | ND | ND | ND | ND | ND |
| *1,2-Dichloropropane* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,3,5-Trimethylbenzene | 2[D] | ND | ND | ND | ND | ND | ND | 1.43 | ND | ND | ND | ND | ND |
| 1,3-Butadiene | | ND | ND | ND | 0.442 | ND | ND | ND | ND | ND | ND | ND | ND |
| *1,3-Dichlorobenzene* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *1,4-Dichlorobenzene* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 1,4-Dioxane | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| 2,2,4-Trimethylpentane | 2[D] | ND | ND | ND | **2.38** | ND | ND | ND | ND | ND | **3.97** | **4.10** | ND |
| 2-Butanone | | ND | ND | ND | 1.47 | 1.8 | 2.85 | 13.7 | 16.9 | ND | ND | ND | ND |
| 2-Hexanone | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *3-Chloropropene* | | ND | ND | ND | 0.626 | ND | ND | ND | ND | ND | ND | ND | ND |
| 4-Ethyltoluene | | ND | ND | ND | ND | ND | ND | 1.21 | ND | ND | ND | ND | ND |
| 4-Methyl-2-pentanone | | ND | ND | ND | ND | ND | ND | 18.4 | 13.9 | ND | ND | ND | ND |
| Acetone | | 22 | 7.97 | 20.3 | 2.38 | 43.2 | 122 | 113 | 70.8 | 4.99 | 9.07 | 8.62 | 7.46 |
| Benzene | 2[D] | **2.25** | **2.23** | 1.54 | **2.29** | ND | ND | ND | ND | ND | 1.01 | 1.07 | ND |
| *Benzyl chloride* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |

**Table 2**
**Indoor Air Monitoring Results**

| Parameter | NYSDOH Decision Matrix | Sample ID | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | IA-1 µg/m³ 4/13/25 | IA-1 (DUP) µg/m³ 4/13/25 | IA-2 µg/m³ 4/13/25 | IA-3 µg/m³ 4/13/25 | IA-4 µg/m³ 4/13/25 | IA-5 µg/m³ 4/13/25 | IA-6 µg/m³ 4/13/25 | IA-7 µg/m³ 4/13/25 | IA-8 µg/m³ 4/13/25 | IA-8 µg/m³ 11/3/25 | IA-8 (DUP) µg/m³ 11/3/25 | OA-1 µg/m³ 4/13/25 |
| *Bromodichloromethane* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Bromoform | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Bromomethane | | ND | ND | ND | 0.777 | ND | ND | ND | ND | 7.49 | ND | ND | ND |
| Carbon disulfide | | ND | ND | ND | 0.623 | ND | ND | ND | ND | ND | ND | ND | ND |
| *Carbon tetrachloride* | 0.2[A] | **0.510** | **0.459** | **0.434** | **0.365** | **0.421** | **0.308** | **0.390** | **0.384** | **0.396** | ND | ND | 0.065 |
| *Chlorobenzene* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *Chloroethane* | | ND | ND | ND | 0.528 | ND | ND | ND | ND | ND | ND | ND | ND |
| *Chloroform* | | ND | ND | ND | 0.977 | ND | ND | ND | ND | ND | ND | ND | ND |
| *Chloromethane* | | 1.21 | 1.23 | 1.22 | 0.413 | 1.16 | 1.21 | 1.19 | 1.18 | 1.25 | 1.12 | 1.02 | 1.23 |
| *cis-1,2 Dichloroethene* | 0.2[A] | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *cis-1,3-Dichloropropene* | | ND | ND | ND | ND | ND | ND | NO | ND | ND | ND | ND | ND |
| Cyclohexane | 2[D] | ND | ND | ND | 1.37 | 1.14 | **4.37** | **2.6** | ND | ND | ND | ND | ND |
| *Dibromochloromethane* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *Dichlorodlfluoromethane* | | 2.56 | 2.47 | 2.57 | 0.989 | 2.36 | 2.31 | 2.38 | 2.49 | 2.50 | 2.20 | 2.12 | 2.49 |
| Ethanol | | 14.6 | 7.45 | 12.9 | 9.42 | 22.8 | 44.5 | 35.6 | 26 | 11.4 | 24.1 | 22.4 | ND |
| Ethyl Acetate | | ND | ND | ND | 1.8 | 3.93 | ND | 5.12 | 5.41 | ND | 3.45 | 3.25 | ND |
| Ethylbenzene | 2[D] | 1.31 | 1.33 | 1.42 | 1.73 | 1.33 | 1.75 | **11.5** | **6.69** | ND | ND | ND | ND |
| *Freon-113* | | ND | ND | ND | 1.53 | ND | ND | ND | ND | ND | ND | ND | ND |
| *Freon-114* | | ND | ND | ND | 1.4 | ND | ND | ND | ND | ND | ND | ND | ND |
| Heptane | 6[E] | ND | 0.210 | ND | 1.11 | ND | ND | 1.43 | ND | ND | ND | 1.29 | ND |
| *Hexachlorobutadiene* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Isopropanol | | 7.77 | 2.79 | 7.08 | 2.46 | 7.57 | 11.5 | 44.7 | 51.4 | 2.73 | 4.25 | 4.08 | 4.94 |
| Methyl tert butyl ether | | ND | ND | ND | 0.721 | ND | ND | ND | ND | ND | ND | ND | ND |
| *Methylene chloride* | 3[B] | ND | ND | ND | 1.74 | ND | **3.05** | ND | ND | ND | ND | ND | ND |
| Naphthalene | 2[D] | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |

**Table 2**
**Indoor Air Monitoring Results**

| Parameter | NYSDOH Decision Matrix | Sample ID | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | IA-1 µg/m³ 4/13/25 | IA-1 (DUP) µg/m³ 4/13/25 | IA-2 µg/m³ 4/13/25 | IA-3 µg/m³ 4/13/25 | IA-4 µg/m³ 4/13/25 | IA-5 µg/m³ 4/13/25 | IA-6 µg/m³ 4/13/25 | IA-7 µg/m³ 4/13/25 | IA-8 µg/m³ 4/13/25 | IA-8 µg/m³ 11/3/25 | IA-8 (DUP) µg/m³ 11/3/25 | OA-1 µg/m³ 4/13/25 |
| n-Hexane | 6[E] | 3.09 | 2.40 | 2.22 | 5.89 | 4.26 | 4.02 | 2.72 | 1.08 | 0.846 | 1.10 | 1.07 | 0.973 |
| o-Xylene | 2[D] | 1.55 | 1.62 | 1.78 | **2.09** | 1.58 | 1.89 | **14.9** | **8.73** | ND | ND | ND | ND |
| m,p-Xylene | 6[E] | 5.3 | 5.34 | 5.86 | **7.04** | 5.47 | **7.12** | **59.5** | **35.7** | ND | ND | ND | ND |
| Styrene | | ND | ND | ND | 0.992 | 0.975 | 1.32 | 1.88 | ND | ND | ND | ND | ND |
| Tertiary butyl Alcohol | | ND | ND | ND | 1.52 | ND | ND | ND | ND | ND | ND | ND | ND |
| *Tetrachloroethene* | 3[B] | 0.448 | 0.495 | 0.481 | 1.96 | 2.22 | 0.773 | 0.312 | 1.42 | ND | ND | ND | ND |
| Tetrahydrofuran | | ND | ND | ND | **1.47** | 3.04 | 1.78 | 11 | ND | ND | ND | 2.11 | ND |
| Toluene | 10[F] | 5.09 | 4.71 | 4.03 | **11.5** | 9.2 | **19.7** | **165** | **61** | ND | 5.13 | 5.54 | ND |
| *trans-1,2-Dichloroethene* | | ND | ND | ND | 0.793 | ND | ND | ND | ND | 73.7 | 6.58 | 6.42 | ND |
| *trans-1,3-Dichloropropene* | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| *Trichloroethene* | 0.2[A] | 0.161 | 0.161 | 0.145 | 0.150 | 0.145 | 0.140 | 0.145 | 0.134 | ND | ND | ND | ND |
| *Trichlorofluoromethane* | | 1.14 | 0.202 | 1.56 | 1.12 | ND | ND | ND | ND | 1.3 | ND | ND | ND |
| Vinyl bromide | | ND | ND | ND | 0.874 | ND | ND | ND | ND | ND | ND | ND | ND |
| *Vinyl Chloride* | 0.2[C] | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |

## Table 2
## Indoor Air Monitoring Results

**Notes:**

- Samples collected by EnviroTrac on dates indicated.
- Samples analyzed by Pace Laboratories out of Mansfield, MA usgin methids TO-15 and TO-15 SIM.
- Analytical data were validated by Environmental Data Services, Inc. out of Palm Beach Gardens, FL.
- NYSDOH Decision Matrix values reflect the lowest criteria for indoor air comparison. The potential for vapor intrusion is being mitigated in both the pre-existing and new self-storage building.
- All results are presented in $\mu g/m^3$
- *Italicised* values indicate chlorinated compounds.
- ND - Non Detect
- NA - Not analyzed for
- **BOLD** values indicate that the detected indoor air concentration was greater than the NYSDOH's lowest decision concentration presented in their Soil Vapor/Indoor Air matrices.
- NYSDOH Decision Matrix - these matrices rely on a comparison of subslab and ambient air concentrations. The post-remediation sampling did not include subslab monitoring. The presented values represent the lowest concentrations in their respective matrix. Since both buildings have operating SSD systems, mitigation is already occuring.

  A - Matrix A
  B - Matrix B
  C - Marrix C
  D - Matrix D
  E - Matrix E
  F - Matrix F

Attachment A

NYSDOH Indoor Air Quality Questionnaires/Chemical Inventory/Indoor Air Sample Locations

Existing Building

OSR – 3

**NEW YORK STATE DEPARTMENT OF HEALTH**
**INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY**
**CENTER FOR ENVIRONMENTAL HEALTH**

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Matthew Stein Date/Time Prepared 4/13/25

Preparer's Affiliation Envirotrac LTD Phone No. (631) 924-3001

Purpose of Investigation _____

**1. OCCUPANT:**

**Interviewed: Y / N**

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

Number of Occupants/persons at this location _____ Age of Occupants _____

**2. OWNER OR LANDLORD:** (Check if same as occupant ___ )

**Interviewed: Y / N**

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

**3. BUILDING CHARACTERISTICS**

**Type of Building:** (Circle appropriate response)

| | | |
|---|---|---|
| Residential | School | Commercial/Multi-use |
| Industrial | Church | Other: _____ |

**If the property is residential, type?** (Circle appropriate response)

| | | |
|---|---|---|
| Ranch | 2-Family | 3-Family |
| Raised Ranch | Split Level | Colonial |
| Cape Cod | Contemporary | Mobile Home |
| Duplex | Apartment House | Townhouses/Condos |
| Modular | Log Home | Other:_____ |

**If multiple units, how many?** _____

**If the property is commercial, type?**

Business Type(s) Manufacturing / assembly

Does it include residences (i.e., multi-use)? Y / (N) If yes, how many? _____

**Other characteristics:**

Number of floors 1 Building age_____

Is the building insulated? Y / N How air tight? Tight / Average / Not Tight

## 4. AIRFLOW

**Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:**

Airflow between floors

_____

_____

_____

Airflow near source

_____

_____

_____

Outdoor air infiltration

_____

_____

_____

Infiltration into air ducts

_____

_____

_____

**5. BASEMENT AND CONSTRUCTION CHARACTERISTICS** (Circle all that apply)

| | | | | |
|---|---|---|---|---|
| **a. Above grade construction:** | wood frame | concrete | stone | brick |
| **b. Basement type:** | full | crawlspace | slab | other _____ |
| **c. Basement floor:** | concrete | dirt | stone | other _____ |
| **d. Basement floor:** | uncovered | covered | covered with _____ | |
| **e. Concrete floor:** | unsealed | sealed | sealed with _____ | |
| **f. Foundation walls:** | poured | block | stone | other _____ |
| **g. Foundation walls:** | unsealed | sealed | sealed with _____ | |
| **h. The basement is:** | wet | damp | dry | moldy |
| **i. The basement is:** | finished | unfinished | partially finished | |
| **j. Sump present?** | Y / N | | | |
| **k. Water in sump?** | Y / N / not applicable | | | |

**Basement/Lowest level depth below grade:** _____(feet)

**Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)**

large cracks in unit 1 slab.

**6. HEATING, VENTING and AIR CONDITIONING** (Circle all that apply)

**Type of heating system(s) used in this building: (circle all that apply – note primary)**

| | | | |
|---|---|---|---|
| Hot air circulation | Heat pump | Hot water baseboard | |
| Space Heaters | Stream radiation | Radiant floor | |
| Electric baseboard | Wood stove | Outdoor wood boiler | Other _____ |

**The primary type of fuel used is**:

| | | |
|---|---|---|
| Natural Gas | Fuel Oil | Kerosene |
| Electric | Propane | Solar |
| Wood | Coal | |

**Domestic hot water tank fueled by:** _____

| | | | | |
|---|---|---|---|---|
| **Boiler/furnace located in:** | Basement | Outdoors | Main Floor | Other_____ |
| **Air conditioning:** | Central Air | Window units | Open Windows | None |

**Are there air distribution ducts present?** Y / N

**Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.**

_____

_____

_____

_____

## 7. OCCUPANCY

**Is basement/lowest level occupied?** Full-time Occasionally Seldom Almost Never

| **Level** | **General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)** |
|---|---|
| Basement | |
| 1st Floor | Work Shops |
| 2nd Floor | |
| 3rd Floor | |
| 4th Floor | |

## 8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

**a. Is there an attached garage?** (Y) N

**b. Does the garage have a separate heating unit?** Y / N / NA

**c. Are petroleum-powered machines or vehicles stored in the garage** (e.g., lawnmower, atv, car) (Y) / N / NA Please specify_____

**d. Has the building ever had a fire?** Y / N When?_____

**e. Is a kerosene or unvented gas space heater present?** Y / (N) Where?_____

**f. Is there a workshop or hobby/craft area?** Y / N Where & Type? _____

**g. Is there smoking in the building?** Y / N How frequently? _____

**h. Have cleaning products been used recently?** Y / N When & Type? _____

**i. Have cosmetic products been used recently?** Y / N When & Type? _____

**j. Has painting/staining been done in the last 6 months?** Y / N Where & When? _____

**k. Is there new carpet, drapes or other textiles?** (Y) N Where & When? Units 3, 4, + 8

**l. Have air fresheners been used recently?** Y / N When & Type? _____

**m. Is there a kitchen exhaust fan?** Y / N If yes, where vented? _____

**n. Is there a bathroom exhaust fan?** Y / N If yes, where vented? _____

**o. Is there a clothes dryer?** Y / N If yes, is it vented outside? Y / N

**p. Has there been a pesticide application?** Y / N When & Type? _____

**Are there odors in the building?** (Y) / N
If yes, please describe: Unit 2 - Propane from fork lift

**Do any of the building occupants use solvents at work?** Y / N
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Y / N

**Do any of the building occupants regularly use or work at a dry-cleaning service?** (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) No
Yes, use dry-cleaning infrequently (monthly or less) Unknown
Yes, work at a dry-cleaning service

**Is there a radon mitigation system for the building/structure?** (Y) N Date of Installation: _____
**Is the system active or passive?** (Active)/Passive

**9. WATER AND SEWAGE**

| | | | | | |
|---|---|---|---|---|---|
| **Water Supply:** | Public Water | Drilled Well | Driven Well | Dug Well | Other: _____ |
| **Sewage Disposal:** | Public Sewer | Septic Tank | Leach Field | Dry Well | Other: _____ |

**10. RELOCATION INFORMATION (for oil spill residential emergency)**

**a. Provide reasons why relocation is recommended:** _____

**b. Residents choose to:** remain in home relocate to friends/family relocate to hotel/motel

**c. Responsibility for costs associated with reimbursement explained?** Y / N

**d. Relocation package provided and explained to residents?** Y / N

**11. FLOOR PLANS**

**Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.**

**Basement:**

**First Floor:**

## 12. OUTDOOR PLOT

**Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.**

**Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.**

See Sampling Sheets



**13. PRODUCT INVENTORY FORM**

**Make & Model of field instrument used:** _____

**List specific products found in the residence that have the potential to affect indoor air quality.**

| Location | Product Description | Size (units) | Condition* | Chemical Ingredients | Field Instrument Reading (units) | Photo ** Y / N |
|---|---|---|---|---|---|---|
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* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

OSR – 3

New Storage Building

**NEW YORK STATE DEPARTMENT OF HEALTH**
**INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY**
**CENTER FOR ENVIRONMENTAL HEALTH**

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Matthew Stein Date/Time Prepared 4/13/25

Preparer's Affiliation Envirotrac LTD Phone No. (631)924-3001

Purpose of Investigation _____

**1. OCCUPANT:**

**Interviewed: Y / N**

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

Number of Occupants/persons at this location _____ Age of Occupants _____

**2. OWNER OR LANDLORD:** (Check if same as occupant ___ )

**Interviewed: Y / N**

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

**3. BUILDING CHARACTERISTICS**

**Type of Building:** (Circle appropriate response)

| | | |
|---|---|---|
| Residential | School | (Commercial/Multi-use) |
| Industrial | Church | Other: _____ |

**If the property is residential, type?** (Circle appropriate response)

| | | |
|---|---|---|
| Ranch | 2-Family | 3-Family |
| Raised Ranch | Split Level | Colonial |
| Cape Cod | Contemporary | Mobile Home |
| Duplex | Apartment House | Townhouses/Condos |
| Modular | Log Home | Other:_____ |

**If multiple units, how many?** _____

**If the property is commercial, type?**

Business Type(s) Storage units

Does it include residences (i.e., multi-use)? Y / N If yes, how many? _____

**Other characteristics:**

Number of floors 6 Building age_____

Is the building insulated? (Y) / N How air tight? (Tight) / Average / Not Tight

## 4. AIRFLOW

**Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:**

Airflow between floors

Airflow near source

Outdoor air infiltration

Infiltration into air ducts

**5. BASEMENT AND CONSTRUCTION CHARACTERISTICS** (Circle all that apply)

| | | | | |
|---|---|---|---|---|
| **a. Above grade construction:** | wood frame | concrete | stone | brick |
| **b. Basement type:** | full | crawlspace | slab | other _____ |
| **c. Basement floor:** | concrete | dirt | stone | other _____ |
| **d. Basement floor:** | uncovered | covered | covered with _____ | |
| **e. Concrete floor:** | unsealed | sealed | sealed with _____ | |
| **f. Foundation walls:** | poured | block | stone | other _____ |
| **g. Foundation walls:** | unsealed | sealed | sealed with _____ | |
| **h. The basement is:** | wet | damp | dry | moldy |
| **i. The basement is:** | finished | unfinished | partially finished | |
| **j. Sump present?** | Y / N | | | |
| **k. Water in sump?** | Y / N / not applicable | | | |

**Basement/Lowest level depth below grade:** _____(feet)

**Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)**

_____

_____

**6. HEATING, VENTING and AIR CONDITIONING** (Circle all that apply)

**Type of heating system(s) used in this building: (circle all that apply – note primary)**

| | | | |
|---|---|---|---|
| Hot air circulation | Heat pump | Hot water baseboard | |
| Space Heaters | Stream radiation | Radiant floor | |
| Electric baseboard | Wood stove | Outdoor wood boiler | Other _____ |

**The primary type of fuel used is:**

| | | |
|---|---|---|
| Natural Gas | Fuel Oil | Kerosene |
| Electric | Propane | Solar |
| Wood | Coal | |

**Domestic hot water tank fueled by:** _____

| | | | | |
|---|---|---|---|---|
| **Boiler/furnace located in:** | Basement | Outdoors | Main Floor | Other_____ |
| **Air conditioning:** | Central Air | Window units | Open Windows | None |

**Are there air distribution ducts present?** Y / N

**Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.**

_____

_____

_____

_____

## 7. OCCUPANCY

**Is basement/lowest level occupied?** Full-time Occasionally Seldom Almost Never

| **Level** | **General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)** |
|---|---|
| Basement | |
| 1st Floor | Storage |
| 2nd Floor | Storage |
| 3rd Floor | Storage |
| 4th Floor | Storage |

## 8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

**a. Is there an attached garage?** Y / (N)

**b. Does the garage have a separate heating unit?** Y / N / (NA)

**c. Are petroleum-powered machines or vehicles stored in the garage** (e.g., lawnmower, atv, car) Y / N / (NA) Please specify_____

**d. Has the building ever had a fire?** Y / (N) When?_____

**e. Is a kerosene or unvented gas space heater present?** Y / (N) Where?_____

**f. Is there a workshop or hobby/craft area?** Y / (N) Where & Type? _____

**g. Is there smoking in the building?** Y / (N) How frequently? _____

**h. Have cleaning products been used recently?** Y / N When & Type? _____

**i. Have cosmetic products been used recently?** Y / N When & Type? _____

**j. Has painting/staining been done in the last 6 months?** (Y) / N Where & When? office

**k. Is there new carpet, drapes or other textiles?** Y / (N) Where & When? _____

**l. Have air fresheners been used recently?** Y / (N) When & Type? _____

**m. Is there a kitchen exhaust fan?** Y / (N) If yes, where vented? _____

**n. Is there a bathroom exhaust fan?** Y / (N) If yes, where vented? _____

**o. Is there a clothes dryer?** Y / (N) If yes, is it vented outside? Y / N

**p. Has there been a pesticide application?** Y / (N) When & Type? _____

**Are there odors in the building?** Y / (N)
If yes, please describe: _____

**Do any of the building occupants use solvents at work?** Y / N
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Y / N

**Do any of the building occupants regularly use or work at a dry-cleaning service?** (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) No
Yes, use dry-cleaning infrequently (monthly or less) Unknown
Yes, work at a dry-cleaning service

**Is there a radon mitigation system for the building/structure?** (Y) / N Date of Installation: _____
**Is the system active or passive?** Active/Passive

**9. WATER AND SEWAGE**

**Water Supply:** (Public Water) Drilled Well Driven Well Dug Well Other: _____

**Sewage Disposal:** (Public Sewer) Septic Tank Leach Field Dry Well Other: _____

**10. RELOCATION INFORMATION (for oil spill residential emergency)**

**a. Provide reasons why relocation is recommended:** _____

**b. Residents choose to:** remain in home relocate to friends/family relocate to hotel/motel

**c. Responsibility for costs associated with reimbursement explained?** Y / N

**d. Relocation package provided and explained to residents?** Y / N

## 11. FLOOR PLANS

**Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.**

**Basement:**

**First Floor:**

## 12. OUTDOOR PLOT

**Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.**

**Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.**

See sampling sheet



**13. PRODUCT INVENTORY FORM**

**Make & Model of field instrument used:** _____

**List specific products found in the residence that have the potential to affect indoor air quality.**

| Location | Product Description | Size (units) | Condition* | Chemical Ingredients | Field Instrument Reading (units) | Photo ** Y / N |
|---|---|---|---|---|---|---|
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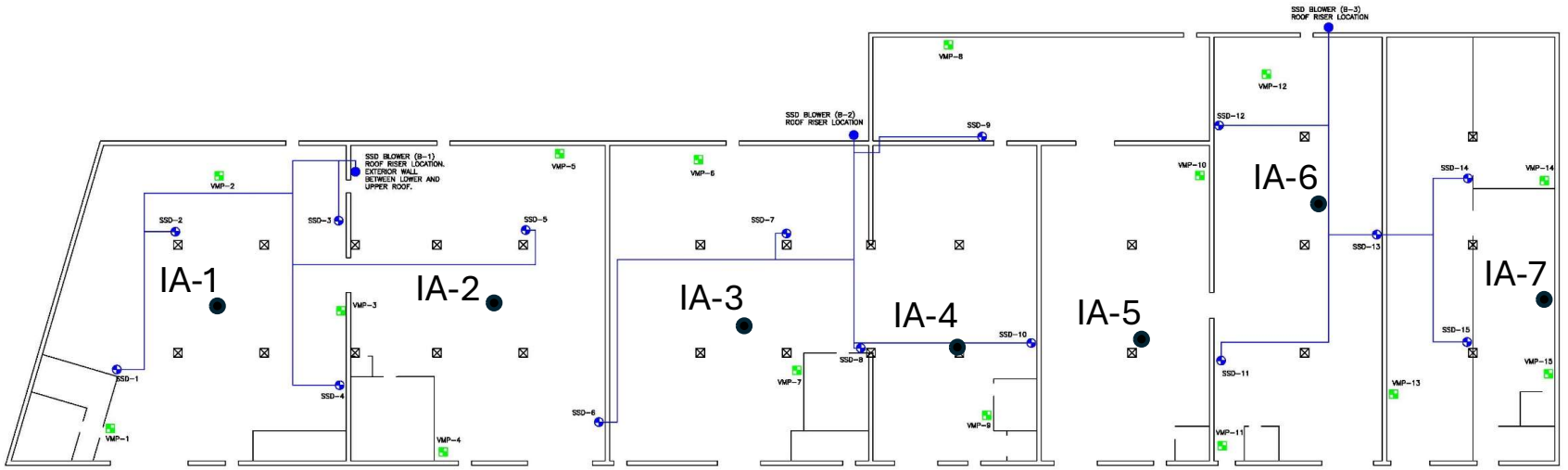
* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

**Chemical Inventory Sheet**

| Indoor Air Sampling Location/ Description | Chemical / Material | Associated VOCs | Contains Chlorinated Compounds (Y/N) |
|---|---|---|---|
| **Industrial Building** | | | |
| **IA-1/2** Conveyor Belt Shop (Units 1 & 2) | Clorox | Sodium hypochlorite solution (bleach) | Y |
| | Uline Air Freshener | Solvents, ethanol, isopropanol | Y |
| | Gear Oil | None | NA |
| | 6 - 16 oz Full Synthetic Non-Detergent Air Compressor Oil | Low | N |
| | Silicone Spray | Solvents, heptane, hexane | N |
| | PB Blaster | Penetrating oil; contains petroleum distillates and hydrocarbon solvents. | N |
| | Rustoleum Rust Preventative | Acetone, n-butyl acetate, propane, n-Butane, xylenes, ethyl 3-ethoxypropionate, solvent naphtha, ethyl benzene. Methyl ethyl ketoxime | N |
| | TAP Magic EP Extra Cutting Fluid | None | NA |
| | Rustoleum Paint + Primer | Acetone, toluene, xylenes, ethylbenzene, n-butyl acetate, MEK, mineral spirits, propane, MIBK, MEKO | N |
| | Uline Cleaner Degreaser | 2-(2-butoxyethoxy)ethanol, 2-butoxyethanol, | N |
| | Tool Bench Spray Lube | petroleum distilates, propane, butane, isobutane, n-butyl acetate, mineral oil | N |
| | Power Care Hydraulic Oil | petroleum distilates, mineral spirits, benzene, toluene, xylene | N |
| **IA-3/4** Carpet Shop (Units 3 & 4) | Dawn Detergent | None | NA |
| | TDE Wheel & Rim Cleaner – 5 gal | glycol ethers, isopropyl alcohol, surfactants | N |
| | 5 gal FiberShield Water Proofer | siloxanes, glycol ethers, isopropyl alcohol | N |
| | 111 Unidentified Buckets | | |
| | 35 × 4 gal Buckets (Flexco) – White Latex Liquid: Wall Base Adhesive | None (100% solids and solvent free) | N |
| | Pressure Sensitive Adhesive | toluene, xylenes, hexane, ethyl acetate, MEK | N |
| | Floor Adhesive | toluene, xylenes, ethylbenzene, n-butyl acetate, acetone, MEK, MIBK, EGBE, isopropyl alcohol, hexane, terpenes | N |
| | Instant Tack Adhesive Aerosol (22 cans) | toluene, xylenes, ethylbenzene, n-butyl acetate, acetone, MEK, MIBK, glycol ethers, isopropyl alcohol, hexane | N |
| | Various Oils | Depends on formulation | N |
| | 20 (1 L) Wood Stain Cans | mineral spirits, toluene, xylenes, ethylbenzene, n-butyl acetate, acetone, MEK, glycol ethers, isopropyl alcohol | N |
| **IA-5** Woodshop Unit 5 | No apparent chemicals | | NA |
| **IA-6** Disc Jockey (Unit 6) | Lysol Disinfect Spray | Contains ethanol and quaternary ammonium compounds. | N |
| | Windex | Ammonia and isopropanol | N |
| **IA-7** Textile Shop (Unit 7) | Clorox Bleach | Explicitly chlorinated—standard household bleach | Y |
| **Self-Storage Building** | | | |
| **IA-8** Office | Spray Foam | trans-1,2-Dichloroethene, isocyanates, hydrocarbons, amines, solvents and carrier VOCs for processing and thinning. VOCs typoically off-gas within 24-72 hours. | N |




**LEGEND**

IA-8 ● Indoor Air Sampling Location

OA-1 ● Outdoor Air Sampling Location

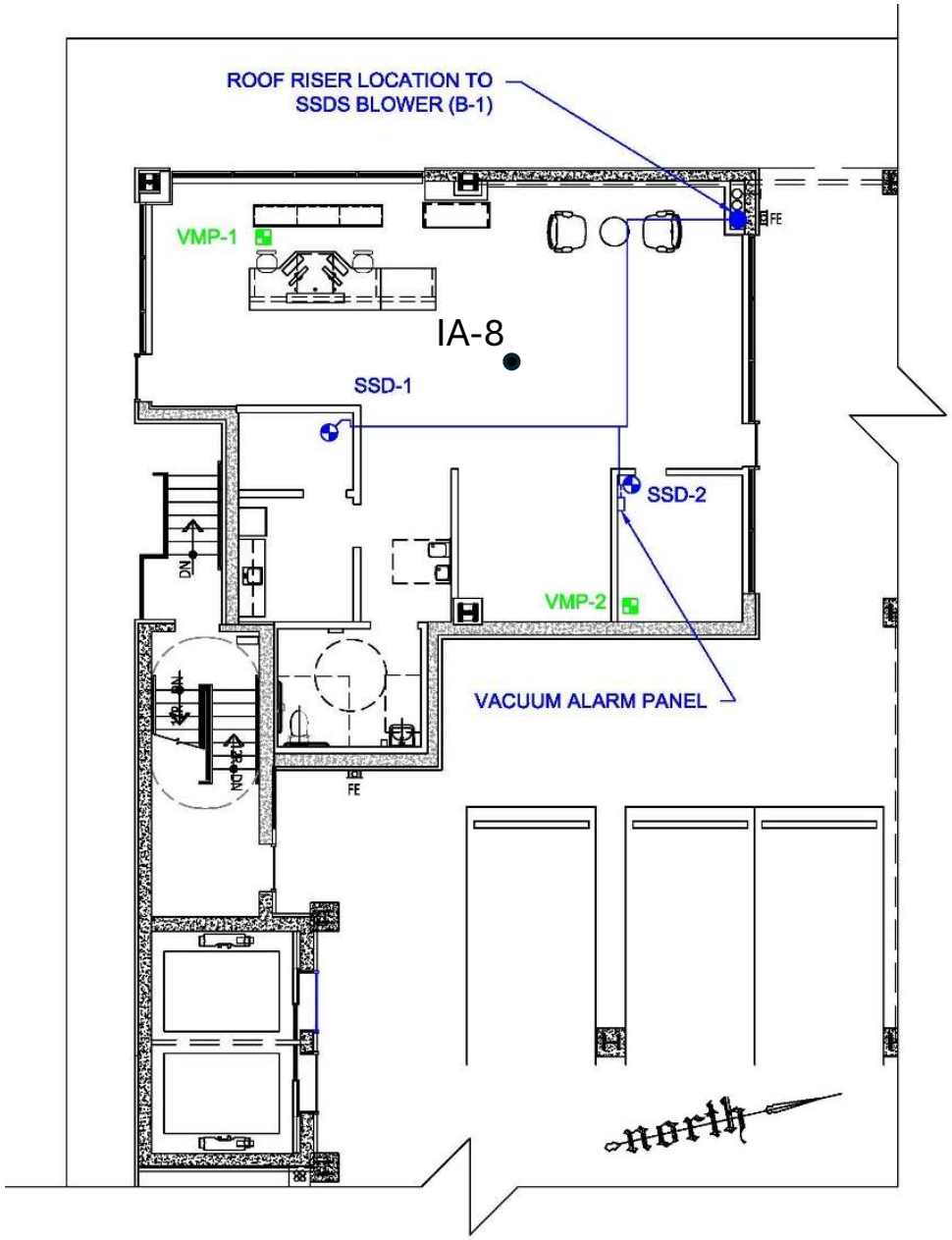
**SSD-1** Vapor Extraction Point

**VMP-1** Vapor Monitoring Point

north

OA-1 ●

# Industrial Building Indoor Air Sampling




**LEGEND**

IA-8 ● Indoor Air Sampling Location

SSD-1 ⊕ Vapor Extraction Point

VMP-1 ▪ Vapor Monitoring Point

# Self-Storage Building Indoor Air Sampling

# Attachment B

# Data Usability Summary Report

ENVIRONMENTAL
Data Services, Inc.

# DATA USABILITY SUMMARY REPORT
# FAR ROCKAWAY, ROCKAWAY BEACH, NEW YORK

Client: EnviroTrac Ltd., Yaphank, New York
SDG: L2522877
Laboratory: Pace Analytical, Mansfield, Massachusetts
Site: Far Rockaway, Rockaway Beach, New York
Date: May 7, 2025

| EDS ID | Client ID | Laboratory ID | Matrix |
|---|---|---|---|
| 1 | IA-1 | L2522877-01 | Air |
| 2 | DUP | L2522877-02 | Air |
| 3 | IA-2 | L2522877-03 | Air |
| 4 | IA-3 | L2522877-04 | Air |
| 5 | IA-4 | L2522877-05 | Air |
| 6 | IA-5 | L2522877-06 | Air |
| 7 | IA-6 | L2522877-07 | Air |
| 8 | IA-7 | L2522877-08 | Air |
| 9 | IA-8 | L2522877-09 | Air |
| 10 | OA-1 | L2522877-10 | Air |

A Data Usability Summary Review was performed on the analytical data for ten air samples collected on April 13, 2025 by EnviroTrac at the Far Rockaway site in Rockaway Beach, New York. The samples were analyzed under "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition January 1999, EPA/625/R-96/010B", Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)".

Specific method references are as follows:

| *Analysis* | *Method References* |
|---|---|
| VOC | USEPA Method TO-15 |
| VOC-SIM | USEPA Method TO-15 SIM |

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods and the USEPA Region II Data Review Standard Operating Procedures (SOPs) as follows:

- SOP Number HW 31, Revision 6, September 2016: Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15.

The following items/criteria were reviewed for this report:

## *Organics*

- Data Completeness
- Cover letter, Narrative, and Data Reporting Forms
- Canister Certification Blanks
- Canister Certification Pressures Differences
- Chains-of-Custody and Traffic Reports
- Holding Times and sample preservation
- Laboratory Control Sample (LCS) recoveries
- GC/MS Tuning
- Method Blank Contamination
- Initial and Continuing Calibration Summaries
- Compound Quantitation
- Internal Standard (IS) Area Performance
- Field Duplicate Sample Precision

## Data Usability Assessment

There were no rejections of data.

The data are acceptable for the intended purposes. There were no qualifications.

## Data Completeness

- The data is a complete Category B data package as defined under the requirements for the NYS Department of Environmental Conservation Analytical Services Protocol.

## Volatile Organic Compounds (VOC)

## Cover letter, Narrative, and Data Reporting Forms

- All criteria were met.

## Canister Certification Blanks

- The batch blank checks were non-detect or < RL.

## Canister Certification Pressures Differences

- All criteria were met.

## Chains-of-Custody and Traffic Reports

- All criteria were met.

## Holding Times

- All samples were analyzed within 30 days for air samples.

## GC/MS Tuning

- All criteria were met.

## Initial Calibration

- All %RSD and mean RRF criteria were met.

## Continuing Calibration

- All %D and RRF criteria were met.

## Method Blank

- The method blanks were free of contamination.

## Laboratory Control Samples

- The LCS samples exhibited acceptable percent recoveries (%R).

## Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

## Compound Quantitation

- All criteria were met.

## Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

| Compound | IA-1 ug/m3 | DUP ug/m3 | RPD | Qualifier |
|---|---|---|---|---|
| Dichlorodifluoromethane | 2.56 | 2.47 | 4% | None |
| Chloromethane | 1.21 | 1.23 | 2% | |
| Ethanol | 14.6 | 14.1 | 3% | |
| Acetone | 22.0 | 18.9 | 15% | |
| Trichlorofluoromethane | 1.14 | 1.14 | 0% | |
| Isopropanol | 7.77 | 6.86 | 12% | |
| n-Hexane | 3.09 | 2.40 | 25% | |
| Benzene | 2.25 | 2.23 | 1% | |
| Heptane | 0.820U | 0.861 | NC | |
| Toluene | 5.09 | 4.71 | 8% | |
| Ethylbenzene | 1.31 | 1.33 | 2% | |
| p,m-Xylene | 5.30 | 5.34 | 1% | |
| o-Xylene | 1.55 | 1.62 | 4% | |

## Volatile Organic Compounds by SIM (VOC-SIM)

### Cover letter, Narrative, and Data Reporting Forms

- All criteria were met.

### Canister Certification Blanks

- The batch blank checks were non-detect or < RL.

### Canister Certification Pressures Differences

- All criteria were met.

### Chains-of-Custody and Traffic Reports

- All criteria were met.

### Holding Times

- All samples were analyzed within 30 days for air samples.

### GC/MS Tuning

- All criteria were met.

### Initial Calibration

- All %RSD and mean RRF criteria were met.

### Continuing Calibration

- All %D and RRF criteria were met.

### Method Blank

- The method blanks were free of contamination.

## Laboratory Control Samples

- The LCS samples exhibited acceptable percent recoveries (%R).

## Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

## Compound Quantitation

- All criteria were met.

## Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

| Compound | IA-1 ug/m3 | DUP ug/m3 | RPD | Qualifier |
|---|---|---|---|---|
| Carbon Tetrachloride | 0.510 | 0.459 | 11% | None |
| Trichloroethene | 0.161 | 0.161 | 0% | |
| Tetrachloroethene | 0.448 | 0.495 | 10% | |

Please contact the undersigned at (561) 475-2000 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 5/7/25

Nancy Weaver
Senior Chemist

| Data Qualifier | Definition |
|---|---|
| U | The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit. |
| J | The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. |
| NJ | The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples. |

# Results Summary
# Form 1
# Volatile Organics in Air

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-01 | Date Collected | : 04/13/25 15:06 |
| Client ID | : IA-1 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/15/25 23:56 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748423 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-71-8 | Dichlorodifluoromethane | 0.518 | 0.200 | -- | 2.56 | 0.989 | -- | |
| 74-87-3 | Chloromethane | 0.588 | 0.200 | -- | 1.21 | 0.413 | -- | |
| 76-14-2 | Freon-114 | ND | 0.200 | -- | ND | 1.40 | -- | U |
| 106-99-0 | 1,3-Butadiene | ND | 0.200 | -- | ND | 0.442 | -- | U |
| 74-83-9 | Bromomethane | ND | 0.200 | -- | ND | 0.777 | -- | U |
| 75-00-3 | Chloroethane | ND | 0.200 | -- | ND | 0.528 | -- | U |
| 64-17-5 | Ethanol | 7.76 | 5.00 | -- | 14.6 | 9.42 | -- | |
| 593-60-2 | Vinyl bromide | ND | 0.200 | -- | ND | 0.874 | -- | U |
| 67-64-1 | Acetone | 9.25 | 1.00 | -- | 22.0 | 2.38 | -- | |
| 75-69-4 | Trichlorofluoromethane | 0.203 | 0.200 | -- | 1.14 | 1.12 | -- | |
| 67-63-0 | Isopropanol | 3.16 | 1.00 | -- | 7.77 | 2.46 | -- | |
| 75-65-0 | Tertiary butyl Alcohol | ND | 0.500 | -- | ND | 1.52 | -- | U |
| 75-09-2 | Methylene chloride | ND | 0.500 | -- | ND | 1.74 | -- | U |
| 107-05-1 | 3-Chloropropene | ND | 0.200 | -- | ND | 0.626 | -- | U |
| 75-15-0 | Carbon disulfide | ND | 0.200 | -- | ND | 0.623 | -- | U |
| 76-13-1 | Freon-113 | ND | 0.200 | -- | ND | 1.53 | -- | U |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 0.200 | -- | ND | 0.793 | -- | U |
| 75-34-3 | 1,1-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |
| 1634-04-4 | Methyl tert butyl ether | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 78-93-3 | 2-Butanone | ND | 0.500 | -- | ND | 1.47 | -- | U |
| 141-78-6 | Ethyl Acetate | ND | 0.500 | -- | ND | 1.80 | -- | U |
| 67-66-3 | Chloroform | ND | 0.200 | -- | ND | 0.977 | -- | U |
| 109-99-9 | Tetrahydrofuran | ND | 0.500 | -- | ND | 1.47 | -- | U |
| 107-06-2 | 1,2-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |

NW 5/7/25

# Results Summary
# Form 1
# Volatile Organics in Air

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-01 | Date Collected | : 04/13/25 15:06 |
| Client ID | : IA-1 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/15/25 23:56 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748423 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 110-54-3 | n-Hexane | 0.878 | 0.200 | -- | 3.09 | 0.705 | -- | |
| 71-43-2 | Benzene | 0.703 | 0.200 | -- | 2.25 | 0.639 | -- | |
| 110-82-7 | Cyclohexane | ND | 0.200 | -- | ND | 0.688 | -- | U |
| 78-87-5 | 1,2-Dichloropropane | ND | 0.200 | -- | ND | 0.924 | -- | U |
| 75-27-4 | Bromodichloromethane | ND | 0.200 | -- | ND | 1.34 | -- | U |
| 123-91-1 | 1,4-Dioxane | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | 0.200 | -- | ND | 0.934 | -- | U |
| 142-82-5 | Heptane | ND | 0.200 | -- | ND | 0.820 | -- | U |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 108-10-1 | 4-Methyl-2-pentanone | ND | 0.500 | -- | ND | 2.05 | -- | U |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 0.200 | -- | ND | 1.09 | -- | U |
| 108-88-3 | Toluene | 1.35 | 0.200 | -- | 5.09 | 0.754 | -- | |
| 591-78-6 | 2-Hexanone | ND | 0.200 | -- | ND | 0.820 | -- | U |
| 124-48-1 | Dibromochloromethane | ND | 0.200 | -- | ND | 1.70 | -- | U |
| 106-93-4 | 1,2-Dibromoethane | ND | 0.200 | -- | ND | 1.54 | -- | U |
| 108-90-7 | Chlorobenzene | ND | 0.200 | -- | ND | 0.921 | -- | U |
| 100-41-4 | Ethylbenzene | 0.301 | 0.200 | -- | 1.31 | 0.869 | -- | |
| 179601-23-1 | p/m-Xylene | 1.22 | 0.400 | -- | 5.30 | 1.74 | -- | |
| 75-25-2 | Bromoform | ND | 0.200 | -- | ND | 2.07 | -- | U |
| 100-42-5 | Styrene | ND | 0.200 | -- | ND | 0.852 | -- | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.200 | -- | ND | 1.37 | -- | U |
| 95-47-6 | o-Xylene | 0.356 | 0.200 | -- | 1.55 | 0.869 | -- | |
| 622-96-8 | 4-Ethyltoluene | ND | 0.200 | -- | ND | 0.983 | -- | U |

NM 5/7/25

# Results Summary
# Form 1
# Volatile Organics in Air

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-01 | Date Collected | : 04/13/25 15:06 |
| Client ID | : IA-1 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/15/25 23:56 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748423 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | 0.200 | -- | ND | 0.983 | -- | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | 0.200 | -- | ND | 0.983 | -- | U |
| 100-44-7 | Benzyl chloride | ND | 0.200 | -- | ND | 1.04 | -- | U |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 0.200 | -- | ND | 1.48 | -- | U |
| 91-20-3 | Naphthalene | ND | 0.190 | -- | ND | 0.996 | -- | U |
| 87-68-3 | Hexachlorobutadiene | ND | 0.200 | -- | ND | 2.13 | -- | U |

MW 5/7/25

# Results Summary
# Form 1
# Volatile Organics in Air

2

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-02 | Date Collected | : 04/13/25 15:06 |
| Client ID | : DUP | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 00:34 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748424 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-71-8 | Dichlorodifluoromethane | 0.499 | 0.200 | -- | 2.47 | 0.989 | -- | |
| 74-87-3 | Chloromethane | 0.594 | 0.200 | -- | 1.23 | 0.413 | -- | |
| 76-14-2 | Freon-114 | ND | 0.200 | -- | ND | 1.40 | -- | U |
| 106-99-0 | 1,3-Butadiene | ND | 0.200 | -- | ND | 0.442 | -- | U |
| 74-83-9 | Bromomethane | ND | 0.200 | -- | ND | 0.777 | -- | U |
| 75-00-3 | Chloroethane | ND | 0.200 | -- | ND | 0.528 | -- | U |
| 64-17-5 | Ethanol | 7.46 | 5.00 | -- | 14.1 | 9.42 | -- | |
| 593-60-2 | Vinyl bromide | ND | 0.200 | -- | ND | 0.874 | -- | U |
| 67-64-1 | Acetone | 7.97 | 1.00 | -- | 18.9 | 2.38 | -- | |
| 75-69-4 | Trichlorofluoromethane | 0.202 | 0.200 | -- | 1.14 | 1.12 | -- | |
| 67-63-0 | Isopropanol | 2.79 | 1.00 | -- | 6.86 | 2.46 | -- | |
| 75-65-0 | Tertiary butyl Alcohol | ND | 0.500 | -- | ND | 1.52 | -- | U |
| 75-09-2 | Methylene chloride | ND | 0.500 | -- | ND | 1.74 | -- | U |
| 107-05-1 | 3-Chloropropene | ND | 0.200 | -- | ND | 0.626 | -- | U |
| 75-15-0 | Carbon disulfide | ND | 0.200 | -- | ND | 0.623 | -- | U |
| 76-13-1 | Freon-113 | ND | 0.200 | -- | ND | 1.53 | -- | U |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 0.200 | -- | ND | 0.793 | -- | U |
| 75-34-3 | 1,1-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |
| 1634-04-4 | Methyl tert butyl ether | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 78-93-3 | 2-Butanone | ND | 0.500 | -- | ND | 1.47 | -- | U |
| 141-78-6 | Ethyl Acetate | ND | 0.500 | -- | ND | 1.80 | -- | U |
| 67-66-3 | Chloroform | ND | 0.200 | -- | ND | 0.977 | -- | U |
| 109-99-9 | Tetrahydrofuran | ND | 0.500 | -- | ND | 1.47 | -- | U |
| 107-06-2 | 1,2-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |

MW 5/7/25

# Results Summary
# Form 1
# Volatile Organics in Air

2

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-02 | Date Collected | : 04/13/25 15:06 |
| Client ID | : DUP | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 00:34 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748424 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 110-54-3 | n-Hexane | 0.680 | 0.200 | -- | 2.40 | 0.705 | -- | |
| 71-43-2 | Benzene | 0.699 | 0.200 | -- | 2.23 | 0.639 | -- | |
| 110-82-7 | Cyclohexane | ND | 0.200 | -- | ND | 0.688 | -- | U |
| 78-87-5 | 1,2-Dichloropropane | ND | 0.200 | -- | ND | 0.924 | -- | U |
| 75-27-4 | Bromodichloromethane | ND | 0.200 | -- | ND | 1.34 | -- | U |
| 123-91-1 | 1,4-Dioxane | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | 0.200 | -- | ND | 0.934 | -- | U |
| 142-82-5 | Heptane | 0.210 | 0.200 | -- | 0.861 | 0.820 | -- | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 108-10-1 | 4-Methyl-2-pentanone | ND | 0.500 | -- | ND | 2.05 | -- | U |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 0.200 | -- | ND | 1.09 | -- | U |
| 108-88-3 | Toluene | 1.25 | 0.200 | -- | 4.71 | 0.754 | -- | |
| 591-78-6 | 2-Hexanone | ND | 0.200 | -- | ND | 0.820 | -- | U |
| 124-48-1 | Dibromochloromethane | ND | 0.200 | -- | ND | 1.70 | -- | U |
| 106-93-4 | 1,2-Dibromoethane | ND | 0.200 | -- | ND | 1.54 | -- | U |
| 108-90-7 | Chlorobenzene | ND | 0.200 | -- | ND | 0.921 | -- | U |
| 100-41-4 | Ethylbenzene | 0.306 | 0.200 | -- | 1.33 | 0.869 | -- | |
| 179601-23-1 | p/m-Xylene | 1.23 | 0.400 | -- | 5.34 | 1.74 | -- | |
| 75-25-2 | Bromoform | ND | 0.200 | -- | ND | 2.07 | -- | U |
| 100-42-5 | Styrene | ND | 0.200 | -- | ND | 0.852 | -- | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.200 | -- | ND | 1.37 | -- | U |
| 95-47-6 | o-Xylene | 0.374 | 0.200 | -- | 1.62 | 0.869 | -- | |
| 622-96-8 | 4-Ethyltoluene | ND | 0.200 | -- | ND | 0.983 | -- | U |

Pace

Nu 5/7/25

# Results Summary
# Form 1
# Volatile Organics in Air

2

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-02 | Date Collected | : 04/13/25 15:06 |
| Client ID | : DUP | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 00:34 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748424 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | 0.200 | -- | ND | 0.983 | -- | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | 0.200 | -- | ND | 0.983 | -- | U |
| 100-44-7 | Benzyl chloride | ND | 0.200 | -- | ND | 1.04 | -- | U |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 0.200 | -- | ND | 1.48 | -- | U |
| 91-20-3 | Naphthalene | ND | 0.190 | -- | ND | 0.996 | -- | U |
| 87-68-3 | Hexachlorobutadiene | ND | 0.200 | -- | ND | 2.13 | -- | U |

MW 5/7/25

# Results Summary
# Form 1
# Volatile Organics in Air

3

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-03 | Date Collected | : 04/13/25 14:20 |
| Client ID | : IA-2 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 01:12 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748425 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-71-8 | Dichlorodifluoromethane | 0.520 | 0.200 | -- | 2.57 | 0.989 | -- | |
| 74-87-3 | Chloromethane | 0.592 | 0.200 | -- | 1.22 | 0.413 | -- | |
| 76-14-2 | Freon-114 | ND | 0.200 | -- | ND | 1.40 | -- | U |
| 106-99-0 | 1,3-Butadiene | ND | 0.200 | -- | ND | 0.442 | -- | U |
| 74-83-9 | Bromomethane | ND | 0.200 | -- | ND | 0.777 | -- | U |
| 75-00-3 | Chloroethane | ND | 0.200 | -- | ND | 0.528 | -- | U |
| 64-17-5 | Ethanol | 6.83 | 5.00 | -- | 12.9 | 9.42 | -- | |
| 593-60-2 | Vinyl bromide | ND | 0.200 | -- | ND | 0.874 | -- | U |
| 67-64-1 | Acetone | 8.56 | 1.00 | -- | 20.3 | 2.38 | -- | |
| 75-69-4 | Trichlorofluoromethane | 0.277 | 0.200 | -- | 1.56 | 1.12 | -- | |
| 67-63-0 | Isopropanol | 2.88 | 1.00 | -- | 7.08 | 2.46 | -- | |
| 75-65-0 | Tertiary butyl Alcohol | ND | 0.500 | -- | ND | 1.52 | -- | U |
| 75-09-2 | Methylene chloride | ND | 0.500 | -- | ND | 1.74 | -- | U |
| 107-05-1 | 3-Chloropropene | ND | 0.200 | -- | ND | 0.626 | -- | U |
| 75-15-0 | Carbon disulfide | ND | 0.200 | -- | ND | 0.623 | -- | U |
| 76-13-1 | Freon-113 | ND | 0.200 | -- | ND | 1.53 | -- | U |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 0.200 | -- | ND | 0.793 | -- | U |
| 75-34-3 | 1,1-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |
| 1634-04-4 | Methyl tert butyl ether | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 78-93-3 | 2-Butanone | ND | 0.500 | -- | ND | 1.47 | -- | U |
| 141-78-6 | Ethyl Acetate | ND | 0.500 | -- | ND | 1.80 | -- | U |
| 67-66-3 | Chloroform | ND | 0.200 | -- | ND | 0.977 | -- | U |
| 109-99-9 | Tetrahydrofuran | ND | 0.500 | -- | ND | 1.47 | -- | U |
| 107-06-2 | 1,2-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |

Pace

MW 5/7/25

3

# Results Summary
# Form 1
# Volatile Organics in Air

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-03 | Date Collected | : 04/13/25 14:20 |
| Client ID | : IA-2 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 01:12 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748425 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 110-54-3 | n-Hexane | 0.629 | 0.200 | -- | 2.22 | 0.705 | -- | |
| 71-43-2 | Benzene | 0.482 | 0.200 | -- | 1.54 | 0.639 | -- | |
| 110-82-7 | Cyclohexane | ND | 0.200 | -- | ND | 0.688 | -- | U |
| 78-87-5 | 1,2-Dichloropropane | ND | 0.200 | -- | ND | 0.924 | -- | U |
| 75-27-4 | Bromodichloromethane | ND | 0.200 | -- | ND | 1.34 | -- | U |
| 123-91-1 | 1,4-Dioxane | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | 0.200 | -- | ND | 0.934 | -- | U |
| 142-82-5 | Heptane | ND | 0.200 | -- | ND | 0.820 | -- | U |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 108-10-1 | 4-Methyl-2-pentanone | ND | 0.500 | -- | ND | 2.05 | -- | U |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 0.200 | -- | ND | 1.09 | -- | U |
| 108-88-3 | Toluene | 1.07 | 0.200 | -- | 4.03 | 0.754 | -- | |
| 591-78-6 | 2-Hexanone | ND | 0.200 | -- | ND | 0.820 | -- | U |
| 124-48-1 | Dibromochloromethane | ND | 0.200 | -- | ND | 1.70 | -- | U |
| 106-93-4 | 1,2-Dibromoethane | ND | 0.200 | -- | ND | 1.54 | -- | U |
| 108-90-7 | Chlorobenzene | ND | 0.200 | -- | ND | 0.921 | -- | U |
| 100-41-4 | Ethylbenzene | 0.328 | 0.200 | -- | 1.42 | 0.869 | -- | |
| 179601-23-1 | p/m-Xylene | 1.35 | 0.400 | -- | 5.86 | 1.74 | -- | |
| 75-25-2 | Bromoform | ND | 0.200 | -- | ND | 2.07 | -- | U |
| 100-42-5 | Styrene | ND | 0.200 | -- | ND | 0.852 | -- | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.200 | -- | ND | 1.37 | -- | U |
| 95-47-6 | o-Xylene | 0.409 | 0.200 | -- | 1.78 | 0.869 | -- | |
| 622-96-8 | 4-Ethyltoluene | ND | 0.200 | -- | ND | 0.983 | -- | U |

Pace

MW 5/7/25

3

# Results Summary
# Form 1
# Volatile Organics in Air

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-03 | Date Collected | : 04/13/25 14:20 |
| Client ID | : IA-2 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 01:12 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748425 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | 0.200 | -- | ND | 0.983 | -- | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | 0.200 | -- | ND | 0.983 | -- | U |
| 100-44-7 | Benzyl chloride | ND | 0.200 | -- | ND | 1.04 | -- | U |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 0.200 | -- | ND | 1.48 | -- | U |
| 91-20-3 | Naphthalene | ND | 0.190 | -- | ND | 0.996 | -- | U |
| 87-68-3 | Hexachlorobutadiene | ND | 0.200 | -- | ND | 2.13 | -- | U |

MW 5/7/25

# Results Summary
# Form 1
# Volatile Organics in Air

4

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-04 | Date Collected | : 04/13/25 16:10 |
| Client ID | : IA-3 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 01:50 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748426 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-71-8 | Dichlorodifluoromethane | 0.532 | 0.200 | -- | 2.63 | 0.989 | -- | |
| 74-87-3 | Chloromethane | 0.585 | 0.200 | -- | 1.21 | 0.413 | -- | |
| 76-14-2 | Freon-114 | ND | 0.200 | -- | ND | 1.40 | -- | U |
| 106-99-0 | 1,3-Butadiene | ND | 0.200 | -- | ND | 0.442 | -- | U |
| 74-83-9 | Bromomethane | ND | 0.200 | -- | ND | 0.777 | -- | U |
| 75-00-3 | Chloroethane | ND | 0.200 | -- | ND | 0.528 | -- | U |
| 64-17-5 | Ethanol | 15.3 | 5.00 | -- | 28.8 | 9.42 | -- | |
| 593-60-2 | Vinyl bromide | ND | 0.200 | -- | ND | 0.874 | -- | U |
| 67-64-1 | Acetone | 19.5 | 1.00 | -- | 46.3 | 2.38 | -- | |
| 75-69-4 | Trichlorofluoromethane | ND | 0.200 | -- | ND | 1.12 | -- | U |
| 67-63-0 | Isopropanol | 3.92 | 1.00 | -- | 9.64 | 2.46 | -- | |
| 75-65-0 | Tertiary butyl Alcohol | ND | 0.500 | -- | ND | 1.52 | -- | U |
| 75-09-2 | Methylene chloride | ND | 0.500 | -- | ND | 1.74 | -- | U |
| 107-05-1 | 3-Chloropropene | ND | 0.200 | -- | ND | 0.626 | -- | U |
| 75-15-0 | Carbon disulfide | 0.236 | 0.200 | -- | 0.735 | 0.623 | -- | |
| 76-13-1 | Freon-113 | ND | 0.200 | -- | ND | 1.53 | -- | U |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 0.200 | -- | ND | 0.793 | -- | U |
| 75-34-3 | 1,1-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |
| 1634-04-4 | Methyl tert butyl ether | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 78-93-3 | 2-Butanone | 0.643 | 0.500 | -- | 1.90 | 1.47 | -- | |
| 141-78-6 | Ethyl Acetate | 1.60 | 0.500 | -- | 5.77 | 1.80 | -- | |
| 67-66-3 | Chloroform | ND | 0.200 | -- | ND | 0.977 | -- | U |
| 109-99-9 | Tetrahydrofuran | 1.15 | 0.500 | -- | 3.39 | 1.47 | -- | |
| 107-06-2 | 1,2-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |

MW 5/7/25

# Results Summary
# Form 1
# Volatile Organics in Air

4

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-04 | Date Collected | : 04/13/25 16:10 |
| Client ID | : IA-3 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 01:50 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748426 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 110-54-3 | n-Hexane | 1.67 | 0.200 | -- | 5.89 | 0.705 | -- | |
| 71-43-2 | Benzene | 0.718 | 0.200 | -- | 2.29 | 0.639 | -- | |
| 110-82-7 | Cyclohexane | 0.399 | 0.200 | -- | 1.37 | 0.688 | -- | |
| 78-87-5 | 1,2-Dichloropropane | ND | 0.200 | -- | ND | 0.924 | -- | U |
| 75-27-4 | Bromodichloromethane | ND | 0.200 | -- | ND | 1.34 | -- | U |
| 123-91-1 | 1,4-Dioxane | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 540-84-1 | 2,2,4-Trimethylpentane | 0.510 | 0.200 | -- | 2.38 | 0.934 | -- | |
| 142-82-5 | Heptane | 0.270 | 0.200 | -- | 1.11 | 0.820 | -- | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 108-10-1 | 4-Methyl-2-pentanone | ND | 0.500 | -- | ND | 2.05 | -- | U |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 0.200 | -- | ND | 1.09 | -- | U |
| 108-88-3 | Toluene | 3.04 | 0.200 | -- | 11.5 | 0.754 | -- | |
| 591-78-6 | 2-Hexanone | ND | 0.200 | -- | ND | 0.820 | -- | U |
| 124-48-1 | Dibromochloromethane | ND | 0.200 | -- | ND | 1.70 | -- | U |
| 106-93-4 | 1,2-Dibromoethane | ND | 0.200 | -- | ND | 1.54 | -- | U |
| 108-90-7 | Chlorobenzene | ND | 0.200 | -- | ND | 0.921 | -- | U |
| 100-41-4 | Ethylbenzene | 0.398 | 0.200 | -- | 1.73 | 0.869 | -- | |
| 179601-23-1 | p/m-Xylene | 1.62 | 0.400 | -- | 7.04 | 1.74 | -- | |
| 75-25-2 | Bromoform | ND | 0.200 | -- | ND | 2.07 | -- | U |
| 100-42-5 | Styrene | 0.233 | 0.200 | -- | 0.992 | 0.852 | -- | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.200 | -- | ND | 1.37 | -- | U |
| 95-47-6 | o-Xylene | 0.482 | 0.200 | -- | 2.09 | 0.869 | -- | |
| 622-96-8 | 4-Ethyltoluene | ND | 0.200 | -- | ND | 0.983 | -- | U |

MM 5/7/25

# Results Summary
# Form 1
# Volatile Organics in Air

4

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-04 | Date Collected | : 04/13/25 16:10 |
| Client ID | : IA-3 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 01:50 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748426 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | 0.200 | -- | ND | 0.983 | -- | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.212 | 0.200 | -- | 1.04 | 0.983 | -- | |
| 100-44-7 | Benzyl chloride | ND | 0.200 | -- | ND | 1.04 | -- | U |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 0.200 | -- | ND | 1.48 | -- | U |
| 91-20-3 | Naphthalene | ND | 0.190 | -- | ND | 0.996 | -- | U |
| 87-68-3 | Hexachlorobutadiene | ND | 0.200 | -- | ND | 2.13 | -- | U |

MD 5/7/25

5

# Results Summary
# Form 1
# Volatile Organics in Air

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-05 | Date Collected | : 04/13/25 15:02 |
| Client ID | : IA-4 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 02:28 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748427 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-71-8 | Dichlorodifluoromethane | 0.477 | 0.200 | -- | 2.36 | 0.989 | -- | |
| 74-87-3 | Chloromethane | 0.560 | 0.200 | -- | 1.16 | 0.413 | -- | |
| 76-14-2 | Freon-114 | ND | 0.200 | -- | ND | 1.40 | -- | U |
| 106-99-0 | 1,3-Butadiene | ND | 0.200 | -- | ND | 0.442 | -- | U |
| 74-83-9 | Bromomethane | ND | 0.200 | -- | ND | 0.777 | -- | U |
| 75-00-3 | Chloroethane | ND | 0.200 | -- | ND | 0.528 | -- | U |
| 64-17-5 | Ethanol | 12.1 | 5.00 | -- | 22.8 | 9.42 | -- | |
| 593-60-2 | Vinyl bromide | ND | 0.200 | -- | ND | 0.874 | -- | U |
| 67-64-1 | Acetone | 18.2 | 1.00 | -- | 43.2 | 2.38 | -- | |
| 75-69-4 | Trichlorofluoromethane | ND | 0.200 | -- | ND | 1.12 | -- | U |
| 67-63-0 | Isopropanol | 3.08 | 1.00 | -- | 7.57 | 2.46 | -- | |
| 75-65-0 | Tertiary butyl Alcohol | ND | 0.500 | -- | ND | 1.52 | -- | U |
| 75-09-2 | Methylene chloride | ND | 0.500 | -- | ND | 1.74 | -- | U |
| 107-05-1 | 3-Chloropropene | ND | 0.200 | -- | ND | 0.626 | -- | U |
| 75-15-0 | Carbon disulfide | ND | 0.200 | -- | ND | 0.623 | -- | U |
| 76-13-1 | Freon-113 | ND | 0.200 | -- | ND | 1.53 | -- | U |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 0.200 | -- | ND | 0.793 | -- | U |
| 75-34-3 | 1,1-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |
| 1634-04-4 | Methyl tert butyl ether | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 78-93-3 | 2-Butanone | 0.611 | 0.500 | -- | 1.80 | 1.47 | -- | |
| 141-78-6 | Ethyl Acetate | 1.09 | 0.500 | -- | 3.93 | 1.80 | -- | |
| 67-66-3 | Chloroform | ND | 0.200 | -- | ND | 0.977 | -- | U |
| 109-99-9 | Tetrahydrofuran | 1.03 | 0.500 | -- | 3.04 | 1.47 | -- | |
| 107-06-2 | 1,2-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |

Pace

mw 5/7/25

5

# Results Summary
# Form 1
# Volatile Organics in Air

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-05 | Date Collected | : 04/13/25 15:02 |
| Client ID | : IA-4 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 02:28 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748427 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 110-54-3 | n-Hexane | 1.21 | 0.200 | -- | 4.26 | 0.705 | -- | |
| 71-43-2 | Benzene | ND | 0.200 | -- | ND | 0.639 | -- | U |
| 110-82-7 | Cyclohexane | 0.330 | 0.200 | -- | 1.14 | 0.688 | -- | |
| 78-87-5 | 1,2-Dichloropropane | ND | 0.200 | -- | ND | 0.924 | -- | U |
| 75-27-4 | Bromodichloromethane | ND | 0.200 | -- | ND | 1.34 | -- | U |
| 123-91-1 | 1,4-Dioxane | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | 0.200 | -- | ND | 0.934 | -- | U |
| 142-82-5 | Heptane | ND | 0.200 | -- | ND | 0.820 | -- | U |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 108-10-1 | 4-Methyl-2-pentanone | ND | 0.500 | -- | ND | 2.05 | -- | U |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 0.200 | -- | ND | 1.09 | -- | U |
| 108-88-3 | Toluene | 2.44 | 0.200 | -- | 9.20 | 0.754 | -- | |
| 591-78-6 | 2-Hexanone | ND | 0.200 | -- | ND | 0.820 | -- | U |
| 124-48-1 | Dibromochloromethane | ND | 0.200 | -- | ND | 1.70 | -- | U |
| 106-93-4 | 1,2-Dibromoethane | ND | 0.200 | -- | ND | 1.54 | -- | U |
| 108-90-7 | Chlorobenzene | ND | 0.200 | -- | ND | 0.921 | -- | U |
| 100-41-4 | Ethylbenzene | 0.307 | 0.200 | -- | 1.33 | 0.869 | -- | |
| 179601-23-1 | p/m-Xylene | 1.26 | 0.400 | -- | 5.47 | 1.74 | -- | |
| 75-25-2 | Bromoform | ND | 0.200 | -- | ND | 2.07 | -- | U |
| 100-42-5 | Styrene | 0.229 | 0.200 | -- | 0.975 | 0.852 | -- | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.200 | -- | ND | 1.37 | -- | U |
| 95-47-6 | o-Xylene | 0.364 | 0.200 | -- | 1.58 | 0.869 | -- | |
| 622-96-8 | 4-Ethyltoluene | ND | 0.200 | -- | ND | 0.983 | -- | U |

Pace

Nu 5/7/25

5

# Results Summary
# Form 1
# Volatile Organics in Air

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-05 | Date Collected | : 04/13/25 15:02 |
| Client ID | : IA-4 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 02:28 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748427 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | 0.200 | -- | ND | 0.983 | -- | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | 0.200 | -- | ND | 0.983 | -- | U |
| 100-44-7 | Benzyl chloride | ND | 0.200 | -- | ND | 1.04 | -- | U |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 0.200 | -- | ND | 1.48 | -- | U |
| 91-20-3 | Naphthalene | ND | 0.190 | -- | ND | 0.996 | -- | U |
| 87-68-3 | Hexachlorobutadiene | ND | 0.200 | -- | ND | 2.13 | -- | U |

MW SI 7125

# Results Summary
# Form 1
# Volatile Organics in Air

6

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-06 | Date Collected | : 04/13/25 14:43 |
| Client ID | : IA-5 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 03:06 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748428 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-71-8 | Dichlorodifluoromethane | 0.468 | 0.200 | -- | 2.31 | 0.989 | -- | |
| 74-87-3 | Chloromethane | 0.584 | 0.200 | -- | 1.21 | 0.413 | -- | |
| 76-14-2 | Freon-114 | ND | 0.200 | -- | ND | 1.40 | -- | U |
| 106-99-0 | 1,3-Butadiene | ND | 0.200 | -- | ND | 0.442 | -- | U |
| 74-83-9 | Bromomethane | ND | 0.200 | -- | ND | 0.777 | -- | U |
| 75-00-3 | Chloroethane | ND | 0.200 | -- | ND | 0.528 | -- | U |
| 64-17-5 | Ethanol | 23.6 | 5.00 | -- | 44.5 | 9.42 | -- | |
| 593-60-2 | Vinyl bromide | ND | 0.200 | -- | ND | 0.874 | -- | U |
| 67-64-1 | Acetone | 51.3 | 1.00 | -- | 122 | 2.38 | -- | |
| 75-69-4 | Trichlorofluoromethane | ND | 0.200 | -- | ND | 1.12 | -- | U |
| 67-63-0 | Isopropanol | 4.67 | 1.00 | -- | 11.5 | 2.46 | -- | |
| 75-65-0 | Tertiary butyl Alcohol | ND | 0.500 | -- | ND | 1.52 | -- | U |
| 75-09-2 | Methylene chloride | 0.878 | 0.500 | -- | 3.05 | 1.74 | -- | |
| 107-05-1 | 3-Chloropropene | ND | 0.200 | -- | ND | 0.626 | -- | U |
| 75-15-0 | Carbon disulfide | ND | 0.200 | -- | ND | 0.623 | -- | U |
| 76-13-1 | Freon-113 | ND | 0.200 | -- | ND | 1.53 | -- | U |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 0.200 | -- | ND | 0.793 | -- | U |
| 75-34-3 | 1,1-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |
| 1634-04-4 | Methyl tert butyl ether | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 78-93-3 | 2-Butanone | 0.966 | 0.500 | -- | 2.85 | 1.47 | -- | |
| 141-78-6 | Ethyl Acetate | ND | 0.500 | -- | ND | 1.80 | -- | U |
| 67-66-3 | Chloroform | ND | 0.200 | -- | ND | 0.977 | -- | U |
| 109-99-9 | Tetrahydrofuran | 0.605 | 0.500 | -- | 1.78 | 1.47 | -- | |
| 107-06-2 | 1,2-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |

MW 5/7/25

# Results Summary
# Form 1
# Volatile Organics in Air

6

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-06 | Date Collected | : 04/13/25 14:43 |
| Client ID | : IA-5 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 03:06 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748428 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 110-54-3 | n-Hexane | 1.14 | 0.200 | -- | 4.02 | 0.705 | -- | |
| 71-43-2 | Benzene | ND | 0.200 | -- | ND | 0.639 | -- | U |
| 110-82-7 | Cyclohexane | 1.27 | 0.200 | -- | 4.37 | 0.688 | -- | |
| 78-87-5 | 1,2-Dichloropropane | ND | 0.200 | -- | ND | 0.924 | -- | U |
| 75-27-4 | Bromodichloromethane | ND | 0.200 | -- | ND | 1.34 | -- | U |
| 123-91-1 | 1,4-Dioxane | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | 0.200 | -- | ND | 0.934 | -- | U |
| 142-82-5 | Heptane | ND | 0.200 | -- | ND | 0.820 | -- | U |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 108-10-1 | 4-Methyl-2-pentanone | ND | 0.500 | -- | ND | 2.05 | -- | U |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 0.200 | -- | ND | 1.09 | -- | U |
| 108-88-3 | Toluene | 5.23 | 0.200 | -- | 19.7 | 0.754 | -- | |
| 591-78-6 | 2-Hexanone | ND | 0.200 | -- | ND | 0.820 | -- | U |
| 124-48-1 | Dibromochloromethane | ND | 0.200 | -- | ND | 1.70 | -- | U |
| 106-93-4 | 1,2-Dibromoethane | ND | 0.200 | -- | ND | 1.54 | -- | U |
| 108-90-7 | Chlorobenzene | ND | 0.200 | -- | ND | 0.921 | -- | U |
| 100-41-4 | Ethylbenzene | 0.403 | 0.200 | -- | 1.75 | 0.869 | -- | |
| 179601-23-1 | p/m-Xylene | 1.64 | 0.400 | -- | 7.12 | 1.74 | -- | |
| 75-25-2 | Bromoform | ND | 0.200 | -- | ND | 2.07 | -- | U |
| 100-42-5 | Styrene | 0.309 | 0.200 | -- | 1.32 | 0.852 | -- | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.200 | -- | ND | 1.37 | -- | U |
| 95-47-6 | o-Xylene | 0.436 | 0.200 | -- | 1.89 | 0.869 | -- | |
| 622-96-8 | 4-Ethyltoluene | ND | 0.200 | -- | ND | 0.983 | -- | U |

MJ 5/7/25

# Results Summary
# Form 1
# Volatile Organics in Air

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-06 | Date Collected | : 04/13/25 14:43 |
| Client ID | : IA-5 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 03:06 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748428 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | 0.200 | -- | ND | 0.983 | -- | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | 0.200 | -- | ND | 0.983 | -- | U |
| 100-44-7 | Benzyl chloride | ND | 0.200 | -- | ND | 1.04 | -- | U |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 0.200 | -- | ND | 1.48 | -- | U |
| 91-20-3 | Naphthalene | ND | 0.190 | -- | ND | 0.996 | -- | U |
| 87-68-3 | Hexachlorobutadiene | ND | 0.200 | -- | ND | 2.13 | -- | U |

# Results Summary
# Form 1
# Volatile Organics in Air

7

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-07 | Date Collected | : 04/13/25 14:47 |
| Client ID | : IA-6 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 03:43 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748429 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-71-8 | Dichlorodifluoromethane | 0.482 | 0.200 | -- | 2.38 | 0.989 | -- | |
| 74-87-3 | Chloromethane | 0.578 | 0.200 | -- | 1.19 | 0.413 | -- | |
| 76-14-2 | Freon-114 | ND | 0.200 | -- | ND | 1.40 | -- | U |
| 106-99-0 | 1,3-Butadiene | ND | 0.200 | -- | ND | 0.442 | -- | U |
| 74-83-9 | Bromomethane | ND | 0.200 | -- | ND | 0.777 | -- | U |
| 75-00-3 | Chloroethane | ND | 0.200 | -- | ND | 0.528 | -- | U |
| 64-17-5 | Ethanol | 18.9 | 5.00 | -- | 35.6 | 9.42 | -- | |
| 593-60-2 | Vinyl bromide | ND | 0.200 | -- | ND | 0.874 | -- | U |
| 67-64-1 | Acetone | 47.4 | 1.00 | -- | 113 | 2.38 | -- | |
| 75-69-4 | Trichlorofluoromethane | ND | 0.200 | -- | ND | 1.12 | -- | U |
| 67-63-0 | Isopropanol | 18.2 | 1.00 | -- | 44.7 | 2.46 | -- | |
| 75-65-0 | Tertiary butyl Alcohol | ND | 0.500 | -- | ND | 1.52 | -- | U |
| 75-09-2 | Methylene chloride | ND | 0.500 | -- | ND | 1.74 | -- | U |
| 107-05-1 | 3-Chloropropene | ND | 0.200 | -- | ND | 0.626 | -- | U |
| 75-15-0 | Carbon disulfide | ND | 0.200 | -- | ND | 0.623 | -- | U |
| 76-13-1 | Freon-113 | ND | 0.200 | -- | ND | 1.53 | -- | U |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 0.200 | -- | ND | 0.793 | -- | U |
| 75-34-3 | 1,1-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |
| 1634-04-4 | Methyl tert butyl ether | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 78-93-3 | 2-Butanone | 4.64 | 0.500 | -- | 13.7 | 1.47 | -- | |
| 141-78-6 | Ethyl Acetate | 1.42 | 0.500 | -- | 5.12 | 1.80 | -- | |
| 67-66-3 | Chloroform | ND | 0.200 | -- | ND | 0.977 | -- | U |
| 109-99-9 | Tetrahydrofuran | 3.74 | 0.500 | -- | 11.0 | 1.47 | -- | |
| 107-06-2 | 1,2-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |

MW 5/7/25

# Results Summary
# Form 1
# Volatile Organics in Air

7

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-07 | Date Collected | : 04/13/25 14:47 |
| Client ID | : IA-6 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 03:43 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748429 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 110-54-3 | n-Hexane | 0.772 | 0.200 | -- | 2.72 | 0.705 | -- | |
| 71-43-2 | Benzene | ND | 0.200 | -- | ND | 0.639 | -- | U |
| 110-82-7 | Cyclohexane | 0.756 | 0.200 | -- | 2.60 | 0.688 | -- | |
| 78-87-5 | 1,2-Dichloropropane | ND | 0.200 | -- | ND | 0.924 | -- | U |
| 75-27-4 | Bromodichloromethane | ND | 0.200 | -- | ND | 1.34 | -- | U |
| 123-91-1 | 1,4-Dioxane | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | 0.200 | -- | ND | 0.934 | -- | U |
| 142-82-5 | Heptane | 0.348 | 0.200 | -- | 1.43 | 0.820 | -- | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 108-10-1 | 4-Methyl-2-pentanone | 4.49 | 0.500 | -- | 18.4 | 2.05 | -- | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 0.200 | -- | ND | 1.09 | -- | U |
| 108-88-3 | Toluene | 43.8 | 0.200 | -- | 165 | 0.754 | -- | |
| 591-78-6 | 2-Hexanone | ND | 0.200 | -- | ND | 0.820 | -- | U |
| 124-48-1 | Dibromochloromethane | ND | 0.200 | -- | ND | 1.70 | -- | U |
| 106-93-4 | 1,2-Dibromoethane | ND | 0.200 | -- | ND | 1.54 | -- | U |
| 108-90-7 | Chlorobenzene | ND | 0.200 | -- | ND | 0.921 | -- | U |
| 100-41-4 | Ethylbenzene | 2.64 | 0.200 | -- | 11.5 | 0.869 | -- | |
| 179601-23-1 | p/m-Xylene | 13.7 | 0.400 | -- | 59.5 | 1.74 | -- | |
| 75-25-2 | Bromoform | ND | 0.200 | -- | ND | 2.07 | -- | U |
| 100-42-5 | Styrene | 0.441 | 0.200 | -- | 1.88 | 0.852 | -- | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.200 | -- | ND | 1.37 | -- | U |
| 95-47-6 | o-Xylene | 3.42 | 0.200 | -- | 14.9 | 0.869 | -- | |
| 622-96-8 | 4-Ethyltoluene | 0.246 | 0.200 | -- | 1.21 | 0.983 | -- | |

MW 5/7/25

# Results Summary
# Form 1
# Volatile Organics in Air

7

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-07 | Date Collected | : 04/13/25 14:47 |
| Client ID | : IA-6 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 03:43 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748429 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.291 | 0.200 | -- | 1.43 | 0.983 | -- | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1.09 | 0.200 | -- | 5.36 | 0.983 | -- | |
| 100-44-7 | Benzyl chloride | ND | 0.200 | -- | ND | 1.04 | -- | U |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 0.200 | -- | ND | 1.48 | -- | U |
| 91-20-3 | Naphthalene | ND | 0.190 | -- | ND | 0.996 | -- | U |
| 87-68-3 | Hexachlorobutadiene | ND | 0.200 | -- | ND | 2.13 | -- | U |

MW 5/7/25

# Results Summary
# Form 1
# Volatile Organics in Air

8

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-08 | Date Collected | : 04/13/25 14:50 |
| Client ID | : IA-7 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 08:48 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748437 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-71-8 | Dichlorodifluoromethane | 0.503 | 0.200 | -- | 2.49 | 0.989 | -- | |
| 74-87-3 | Chloromethane | 0.573 | 0.200 | -- | 1.18 | 0.413 | -- | |
| 76-14-2 | Freon-114 | ND | 0.200 | -- | ND | 1.40 | -- | U |
| 106-99-0 | 1,3-Butadiene | ND | 0.200 | -- | ND | 0.442 | -- | U |
| 74-83-9 | Bromomethane | ND | 0.200 | -- | ND | 0.777 | -- | U |
| 75-00-3 | Chloroethane | ND | 0.200 | -- | ND | 0.528 | -- | U |
| 64-17-5 | Ethanol | 13.8 | 5.00 | -- | 26.0 | 9.42 | -- | |
| 593-60-2 | Vinyl bromide | ND | 0.200 | -- | ND | 0.874 | -- | U |
| 67-64-1 | Acetone | 29.8 | 1.00 | -- | 70.8 | 2.38 | -- | |
| 75-69-4 | Trichlorofluoromethane | ND | 0.200 | -- | ND | 1.12 | -- | U |
| 67-63-0 | Isopropanol | 20.9 | 1.00 | -- | 51.4 | 2.46 | -- | |
| 75-65-0 | Tertiary butyl Alcohol | ND | 0.500 | -- | ND | 1.52 | -- | U |
| 75-09-2 | Methylene chloride | ND | 0.500 | -- | ND | 1.74 | -- | U |
| 107-05-1 | 3-Chloropropene | ND | 0.200 | -- | ND | 0.626 | -- | U |
| 75-15-0 | Carbon disulfide | ND | 0.200 | -- | ND | 0.623 | -- | U |
| 76-13-1 | Freon-113 | ND | 0.200 | -- | ND | 1.53 | -- | U |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 0.200 | -- | ND | 0.793 | -- | U |
| 75-34-3 | 1,1-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |
| 1634-04-4 | Methyl tert butyl ether | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 78-93-3 | 2-Butanone | 5.72 | 0.500 | -- | 16.9 | 1.47 | -- | |
| 141-78-6 | Ethyl Acetate | 1.50 | 0.500 | -- | 5.41 | 1.80 | -- | |
| 67-66-3 | Chloroform | ND | 0.200 | -- | ND | 0.977 | -- | U |
| 109-99-9 | Tetrahydrofuran | ND | 0.500 | -- | ND | 1.47 | -- | U |
| 107-06-2 | 1,2-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |

rev 5171 25

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# Results Summary
# Form 1
# Volatile Organics in Air

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-08 | Date Collected | : 04/13/25 14:50 |
| Client ID | : IA-7 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 08:48 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748437 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 110-54-3 | n-Hexane | 0.307 | 0.200 | -- | 1.08 | 0.705 | -- | |
| 71-43-2 | Benzene | ND | 0.200 | -- | ND | 0.639 | -- | U |
| 110-82-7 | Cyclohexane | ND | 0.200 | -- | ND | 0.688 | -- | U |
| 78-87-5 | 1,2-Dichloropropane | ND | 0.200 | -- | ND | 0.924 | -- | U |
| 75-27-4 | Bromodichloromethane | ND | 0.200 | -- | ND | 1.34 | -- | U |
| 123-91-1 | 1,4-Dioxane | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | 0.200 | -- | ND | 0.934 | -- | U |
| 142-82-5 | Heptane | ND | 0.200 | -- | ND | 0.820 | -- | U |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 108-10-1 | 4-Methyl-2-pentanone | 3.40 | 0.500 | -- | 13.9 | 2.05 | -- | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 0.200 | -- | ND | 1.09 | -- | U |
| 108-88-3 | Toluene | 16.2 | 0.200 | -- | 61.0 | 0.754 | -- | |
| 591-78-6 | 2-Hexanone | ND | 0.200 | -- | ND | 0.820 | -- | U |
| 124-48-1 | Dibromochloromethane | ND | 0.200 | -- | ND | 1.70 | -- | U |
| 106-93-4 | 1,2-Dibromoethane | ND | 0.200 | -- | ND | 1.54 | -- | U |
| 108-90-7 | Chlorobenzene | ND | 0.200 | -- | ND | 0.921 | -- | U |
| 100-41-4 | Ethylbenzene | 1.54 | 0.200 | -- | 6.69 | 0.869 | -- | |
| 179601-23-1 | p/m-Xylene | 8.23 | 0.400 | -- | 35.7 | 1.74 | -- | |
| 75-25-2 | Bromoform | ND | 0.200 | -- | ND | 2.07 | -- | U |
| 100-42-5 | Styrene | ND | 0.200 | -- | ND | 0.852 | -- | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.200 | -- | ND | 1.37 | -- | U |
| 95-47-6 | o-Xylene | 2.01 | 0.200 | -- | 8.73 | 0.869 | -- | |
| 622-96-8 | 4-Ethyltoluene | ND | 0.200 | -- | ND | 0.983 | -- | U |

Mw 517125

# Results Summary
# Form 1
# Volatile Organics in Air

8

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-08 | Date Collected | : 04/13/25 14:50 |
| Client ID | : IA-7 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 08:48 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748437 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | 0.200 | -- | ND | 0.983 | -- | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.780 | 0.200 | -- | 3.83 | 0.983 | -- | |
| 100-44-7 | Benzyl chloride | ND | 0.200 | -- | ND | 1.04 | -- | U |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 0.200 | -- | ND | 1.48 | -- | U |
| 91-20-3 | Naphthalene | ND | 0.190 | -- | ND | 0.996 | -- | U |
| 87-68-3 | Hexachlorobutadiene | ND | 0.200 | -- | ND | 2.13 | -- | U |

Mw 517.25

# Results Summary
# Form 1
# Volatile Organics in Air

9

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-09 | Date Collected | : 04/13/25 14:31 |
| Client ID | : IA-8 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 09:27 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748438 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-71-8 | Dichlorodifluoromethane | 0.505 | 0.200 | -- | 2.50 | 0.989 | -- | |
| 74-87-3 | Chloromethane | 0.604 | 0.200 | -- | 1.25 | 0.413 | -- | |
| 76-14-2 | Freon-114 | ND | 0.200 | -- | ND | 1.40 | -- | U |
| 106-99-0 | 1,3-Butadiene | ND | 0.200 | -- | ND | 0.442 | -- | U |
| 74-83-9 | Bromomethane | 1.93 | 0.200 | -- | 7.49 | 0.777 | -- | |
| 75-00-3 | Chloroethane | ND | 0.200 | -- | ND | 0.528 | -- | U |
| 64-17-5 | Ethanol | 6.03 | 5.00 | -- | 11.4 | 9.42 | -- | |
| 593-60-2 | Vinyl bromide | ND | 0.200 | -- | ND | 0.874 | -- | U |
| 67-64-1 | Acetone | 2.10 | 1.00 | -- | 4.99 | 2.38 | -- | |
| 75-69-4 | Trichlorofluoromethane | 0.231 | 0.200 | -- | 1.30 | 1.12 | -- | |
| 67-63-0 | Isopropanol | 1.11 | 1.00 | -- | 2.73 | 2.46 | -- | |
| 75-65-0 | Tertiary butyl Alcohol | ND | 0.500 | -- | ND | 1.52 | -- | U |
| 75-09-2 | Methylene chloride | ND | 0.500 | -- | ND | 1.74 | -- | U |
| 107-05-1 | 3-Chloropropene | ND | 0.200 | -- | ND | 0.626 | -- | U |
| 75-15-0 | Carbon disulfide | ND | 0.200 | -- | ND | 0.623 | -- | U |
| 76-13-1 | Freon-113 | ND | 0.200 | -- | ND | 1.53 | -- | U |
| 156-60-5 | trans-1,2-Dichloroethene | 18.6 | 0.200 | -- | 73.7 | 0.793 | -- | |
| 75-34-3 | 1,1-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |
| 1634-04-4 | Methyl tert butyl ether | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 78-93-3 | 2-Butanone | ND | 0.500 | -- | ND | 1.47 | -- | U |
| 141-78-6 | Ethyl Acetate | ND | 0.500 | -- | ND | 1.80 | -- | U |
| 67-66-3 | Chloroform | ND | 0.200 | -- | ND | 0.977 | -- | U |
| 109-99-9 | Tetrahydrofuran | ND | 0.500 | -- | ND | 1.47 | -- | U |
| 107-06-2 | 1,2-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |

MW 5/2/25

9

# Results Summary
# Form 1
# Volatile Organics in Air

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-09 | Date Collected | : 04/13/25 14:31 |
| Client ID | : IA-8 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 09:27 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748438 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 110-54-3 | n-Hexane | 0.240 | 0.200 | -- | 0.846 | 0.705 | -- | |
| 71-43-2 | Benzene | ND | 0.200 | -- | ND | 0.639 | -- | U |
| 110-82-7 | Cyclohexane | ND | 0.200 | -- | ND | 0.688 | -- | U |
| 78-87-5 | 1,2-Dichloropropane | ND | 0.200 | -- | ND | 0.924 | -- | U |
| 75-27-4 | Bromodichloromethane | ND | 0.200 | -- | ND | 1.34 | -- | U |
| 123-91-1 | 1,4-Dioxane | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | 0.200 | -- | ND | 0.934 | -- | U |
| 142-82-5 | Heptane | ND | 0.200 | -- | ND | 0.820 | -- | U |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 108-10-1 | 4-Methyl-2-pentanone | ND | 0.500 | -- | ND | 2.05 | -- | U |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 0.200 | -- | ND | 1.09 | -- | U |
| 108-88-3 | Toluene | ND | 0.200 | -- | ND | 0.754 | -- | U |
| 591-78-6 | 2-Hexanone | ND | 0.200 | -- | ND | 0.820 | -- | U |
| 124-48-1 | Dibromochloromethane | ND | 0.200 | -- | ND | 1.70 | -- | U |
| 106-93-4 | 1,2-Dibromoethane | ND | 0.200 | -- | ND | 1.54 | -- | U |
| 108-90-7 | Chlorobenzene | ND | 0.200 | -- | ND | 0.921 | -- | U |
| 100-41-4 | Ethylbenzene | ND | 0.200 | -- | ND | 0.869 | -- | U |
| 179601-23-1 | p/m-Xylene | ND | 0.400 | -- | ND | 1.74 | -- | U |
| 75-25-2 | Bromoform | ND | 0.200 | -- | ND | 2.07 | -- | U |
| 100-42-5 | Styrene | ND | 0.200 | -- | ND | 0.852 | -- | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.200 | -- | ND | 1.37 | -- | U |
| 95-47-6 | o-Xylene | ND | 0.200 | -- | ND | 0.869 | -- | U |
| 622-96-8 | 4-Ethyltoluene | ND | 0.200 | -- | ND | 0.983 | -- | U |

pw 5/7/25

# Results Summary
# Form 1
# Volatile Organics in Air

9

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-09 | Date Collected | : 04/13/25 14:31 |
| Client ID | : IA-8 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 09:27 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748438 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | 0.200 | -- | ND | 0.983 | -- | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | 0.200 | -- | ND | 0.983 | -- | U |
| 100-44-7 | Benzyl chloride | ND | 0.200 | -- | ND | 1.04 | -- | U |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 0.200 | -- | ND | 1.48 | -- | U |
| 91-20-3 | Naphthalene | ND | 0.190 | -- | ND | 0.996 | -- | U |
| 87-68-3 | Hexachlorobutadiene | ND | 0.200 | -- | ND | 2.13 | -- | U |

Pace

# Results Summary
# Form 1
# Volatile Organics in Air

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-10 | Date Collected | : 04/13/25 19:20 |
| Client ID | : OA-1 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/15/25 23:18 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748422 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-71-8 | Dichlorodifluoromethane | 0.504 | 0.200 | -- | 2.49 | 0.989 | -- | |
| 74-87-3 | Chloromethane | 0.595 | 0.200 | -- | 1.23 | 0.413 | -- | |
| 76-14-2 | Freon-114 | ND | 0.200 | -- | ND | 1.40 | -- | U |
| 106-99-0 | 1,3-Butadiene | ND | 0.200 | -- | ND | 0.442 | -- | U |
| 74-83-9 | Bromomethane | ND | 0.200 | -- | ND | 0.777 | -- | U |
| 75-00-3 | Chloroethane | ND | 0.200 | -- | ND | 0.528 | -- | U |
| 64-17-5 | Ethanol | ND | 5.00 | -- | ND | 9.42 | -- | U |
| 593-60-2 | Vinyl bromide | ND | 0.200 | -- | ND | 0.874 | -- | U |
| 67-64-1 | Acetone | 3.14 | 1.00 | -- | 7.46 | 2.38 | -- | |
| 75-69-4 | Trichlorofluoromethane | ND | 0.200 | -- | ND | 1.12 | -- | U |
| 67-63-0 | Isopropanol | 2.01 | 1.00 | -- | 4.94 | 2.46 | -- | |
| 75-65-0 | Tertiary butyl Alcohol | ND | 0.500 | -- | ND | 1.52 | -- | U |
| 75-09-2 | Methylene chloride | ND | 0.500 | -- | ND | 1.74 | -- | U |
| 107-05-1 | 3-Chloropropene | ND | 0.200 | -- | ND | 0.626 | -- | U |
| 75-15-0 | Carbon disulfide | ND | 0.200 | -- | ND | 0.623 | -- | U |
| 76-13-1 | Freon-113 | ND | 0.200 | -- | ND | 1.53 | -- | U |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 0.200 | -- | ND | 0.793 | -- | U |
| 75-34-3 | 1,1-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |
| 1634-04-4 | Methyl tert butyl ether | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 78-93-3 | 2-Butanone | ND | 0.500 | -- | ND | 1.47 | -- | U |
| 141-78-6 | Ethyl Acetate | ND | 0.500 | -- | ND | 1.80 | -- | U |
| 67-66-3 | Chloroform | ND | 0.200 | -- | ND | 0.977 | -- | U |
| 109-99-9 | Tetrahydrofuran | ND | 0.500 | -- | ND | 1.47 | -- | U |
| 107-06-2 | 1,2-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | U |

Pace

10

# Results Summary
# Form 1
# Volatile Organics in Air

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-10 | Date Collected | : 04/13/25 19:20 |
| Client ID | : OA-1 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/15/25 23:18 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748422 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 110-54-3 | n-Hexane | 0.276 | 0.200 | -- | 0.973 | 0.705 | -- | |
| 71-43-2 | Benzene | ND | 0.200 | -- | ND | 0.639 | -- | U |
| 110-82-7 | Cyclohexane | ND | 0.200 | -- | ND | 0.688 | -- | U |
| 78-87-5 | 1,2-Dichloropropane | ND | 0.200 | -- | ND | 0.924 | -- | U |
| 75-27-4 | Bromodichloromethane | ND | 0.200 | -- | ND | 1.34 | -- | U |
| 123-91-1 | 1,4-Dioxane | ND | 0.200 | -- | ND | 0.721 | -- | U |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | 0.200 | -- | ND | 0.934 | -- | U |
| 142-82-5 | Heptane | ND | 0.200 | -- | ND | 0.820 | -- | U |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 108-10-1 | 4-Methyl-2-pentanone | ND | 0.500 | -- | ND | 2.05 | -- | U |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | U |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 0.200 | -- | ND | 1.09 | -- | U |
| 108-88-3 | Toluene | ND | 0.200 | -- | ND | 0.754 | -- | U |
| 591-78-6 | 2-Hexanone | ND | 0.200 | -- | ND | 0.820 | -- | U |
| 124-48-1 | Dibromochloromethane | ND | 0.200 | -- | ND | 1.70 | -- | U |
| 106-93-4 | 1,2-Dibromoethane | ND | 0.200 | -- | ND | 1.54 | -- | U |
| 108-90-7 | Chlorobenzene | ND | 0.200 | -- | ND | 0.921 | -- | U |
| 100-41-4 | Ethylbenzene | ND | 0.200 | -- | ND | 0.869 | -- | U |
| 179601-23-1 | p/m-Xylene | ND | 0.400 | -- | ND | 1.74 | -- | U |
| 75-25-2 | Bromoform | ND | 0.200 | -- | ND | 2.07 | -- | U |
| 100-42-5 | Styrene | ND | 0.200 | -- | ND | 0.852 | -- | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 0.200 | -- | ND | 1.37 | -- | U |
| 95-47-6 | o-Xylene | ND | 0.200 | -- | ND | 0.869 | -- | U |
| 622-96-8 | 4-Ethyltoluene | ND | 0.200 | -- | ND | 0.983 | -- | U |

NJ 17125

# Results Summary
# Form 1
# Volatile Organics in Air

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| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-10 | Date Collected | : 04/13/25 19:20 |
| Client ID | : OA-1 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/15/25 23:18 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15 | Analyst | : KJD |
| Lab File ID | : R1748422 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | 0.200 | -- | ND | 0.983 | -- | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | 0.200 | -- | ND | 0.983 | -- | U |
| 100-44-7 | Benzyl chloride | ND | 0.200 | -- | ND | 1.04 | -- | U |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 0.200 | -- | ND | 1.48 | -- | U |
| 91-20-3 | Naphthalene | ND | 0.190 | -- | ND | 0.996 | -- | U |
| 87-68-3 | Hexachlorobutadiene | ND | 0.200 | -- | ND | 2.13 | -- | U |

AL 5/7/25

# Results Summary
# Form 1
# Volatile Organics in Air by SIM

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-01 | Date Collected | : 04/13/25 15:06 |
| Client ID | : IA-1 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/15/25 23:56 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15-SIM | Analyst | : KJD |
| Lab File ID | : R1748423_EV2 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-01-4 | Vinyl chloride | ND | 0.020 | -- | ND | 0.051 | -- | U |
| 75-35-4 | 1,1-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 0.020 | -- | ND | 0.109 | -- | U |
| 56-23-5 | Carbon tetrachloride | 0.081 | 0.020 | -- | 0.510 | 0.126 | -- | |
| 79-01-6 | Trichloroethene | 0.030 | 0.020 | -- | 0.161 | 0.107 | -- | |
| 127-18-4 | Tetrachloroethene | 0.066 | 0.020 | -- | 0.448 | 0.136 | -- | |

Nw 5/7/25

2

# Results Summary
# Form 1
# Volatile Organics in Air by SIM

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-02 | Date Collected | : 04/13/25 15:06 |
| Client ID | : DUP | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 00:34 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15-SIM | Analyst | : KJD |
| Lab File ID | : R1748424_EV2 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-01-4 | Vinyl chloride | ND | 0.020 | -- | ND | 0.051 | -- | U |
| 75-35-4 | 1,1-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 0.020 | -- | ND | 0.109 | -- | U |
| 56-23-5 | Carbon tetrachloride | 0.073 | 0.020 | -- | 0.459 | 0.126 | -- | |
| 79-01-6 | Trichloroethene | 0.030 | 0.020 | -- | 0.161 | 0.107 | -- | |
| 127-18-4 | Tetrachloroethene | 0.073 | 0.020 | -- | 0.495 | 0.136 | -- | |

MW 5/7/25

3

# Results Summary
# Form 1
# Volatile Organics in Air by SIM

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-03 | Date Collected | : 04/13/25 14:20 |
| Client ID | : IA-2 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 01:12 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15-SIM | Analyst | : KJD |
| Lab File ID | : R1748425_EV2 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-01-4 | Vinyl chloride | ND | 0.020 | -- | ND | 0.051 | -- | U |
| 75-35-4 | 1,1-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 0.020 | -- | ND | 0.109 | -- | U |
| 56-23-5 | Carbon tetrachloride | 0.069 | 0.020 | -- | 0.434 | 0.126 | -- | |
| 79-01-6 | Trichloroethene | 0.027 | 0.020 | -- | 0.145 | 0.107 | -- | |
| 127-18-4 | Tetrachloroethene | 0.071 | 0.020 | -- | 0.481 | 0.136 | -- | |

MW 5/7/25

4

# Results Summary
# Form 1
# Volatile Organics in Air by SIM

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-04 | Date Collected | : 04/13/25 16:10 |
| Client ID | : IA-3 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 01:50 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15-SIM | Analyst | : KJD |
| Lab File ID | : R1748426_EV2 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-01-4 | Vinyl chloride | ND | 0.020 | -- | ND | 0.051 | -- | U |
| 75-35-4 | 1,1-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 0.020 | -- | ND | 0.109 | -- | U |
| 56-23-5 | Carbon tetrachloride | 0.058 | 0.020 | -- | 0.365 | 0.126 | -- | |
| 79-01-6 | Trichloroethene | 0.028 | 0.020 | -- | 0.150 | 0.107 | -- | |
| 127-18-4 | Tetrachloroethene | 0.289 | 0.020 | -- | 1.96 | 0.136 | -- | |

NW 5/7/25

5

# Results Summary
# Form 1
# Volatile Organics in Air by SIM

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-05 | Date Collected | : 04/13/25 15:02 |
| Client ID | : IA-4 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 02:28 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15-SIM | Analyst | : KJD |
| Lab File ID | : R1748427_EV2 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-01-4 | Vinyl chloride | ND | 0.020 | -- | ND | 0.051 | -- | U |
| 75-35-4 | 1,1-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 0.020 | -- | ND | 0.109 | -- | U |
| 56-23-5 | Carbon tetrachloride | 0.067 | 0.020 | -- | 0.421 | 0.126 | -- | |
| 79-01-6 | Trichloroethene | 0.027 | 0.020 | -- | 0.145 | 0.107 | -- | |
| 127-18-4 | Tetrachloroethene | 0.327 | 0.020 | -- | 2.22 | 0.136 | -- | |

MW 5/7/25

6

# Results Summary
# Form 1
# Volatile Organics in Air by SIM

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-06 | Date Collected | : 04/13/25 14:43 |
| Client ID | : IA-5 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 03:06 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15-SIM | Analyst | : KJD |
| Lab File ID | : R1748428_EV2 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-01-4 | Vinyl chloride | ND | 0.020 | -- | ND | 0.051 | -- | U |
| 75-35-4 | 1,1-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 0.020 | -- | ND | 0.109 | -- | U |
| 56-23-5 | Carbon tetrachloride | 0.049 | 0.020 | -- | 0.308 | 0.126 | -- | |
| 79-01-6 | Trichloroethene | 0.026 | 0.020 | -- | 0.140 | 0.107 | -- | |
| 127-18-4 | Tetrachloroethene | 0.114 | 0.020 | -- | 0.773 | 0.136 | -- | |

Pace

7

# Results Summary
# Form 1
# Volatile Organics in Air by SIM

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-07 | Date Collected | : 04/13/25 14:47 |
| Client ID | : IA-6 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 03:43 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15-SIM | Analyst | : KJD |
| Lab File ID | : R1748429_EV2 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-01-4 | Vinyl chloride | ND | 0.020 | -- | ND | 0.051 | -- | U |
| 75-35-4 | 1,1-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 0.020 | -- | ND | 0.109 | -- | U |
| 56-23-5 | Carbon tetrachloride | 0.062 | 0.020 | -- | 0.390 | 0.126 | -- | |
| 79-01-6 | Trichloroethene | 0.027 | 0.020 | -- | 0.145 | 0.107 | -- | |
| 127-18-4 | Tetrachloroethene | 0.046 | 0.020 | -- | 0.312 | 0.136 | -- | |

Mw 5/7/25

8

# Results Summary
# Form 1
# Volatile Organics in Air by SIM

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-08 | Date Collected | : 04/13/25 14:50 |
| Client ID | : IA-7 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 08:48 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15-SIM | Analyst | : KJD |
| Lab File ID | : R1748437_EV2 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-01-4 | Vinyl chloride | ND | 0.020 | -- | ND | 0.051 | -- | U |
| 75-35-4 | 1,1-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 0.020 | -- | ND | 0.109 | -- | U |
| 56-23-5 | Carbon tetrachloride | 0.061 | 0.020 | -- | 0.384 | 0.126 | -- | |
| 79-01-6 | Trichloroethene | 0.025 | 0.020 | -- | 0.134 | 0.107 | -- | |
| 127-18-4 | Tetrachloroethene | 0.209 | 0.020 | -- | 1.42 | 0.136 | -- | |

Mw 5/7/25

# Results Summary
# Form 1
# Volatile Organics in Air by SIM

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-09 | Date Collected | : 04/13/25 14:31 |
| Client ID | : IA-8 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/16/25 09:27 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15-SIM | Analyst | : KJD |
| Lab File ID | : R1748438_EV2 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-01-4 | Vinyl chloride | ND | 0.020 | -- | ND | 0.051 | -- | U |
| 75-35-4 | 1,1-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 0.020 | -- | ND | 0.109 | -- | U |
| 56-23-5 | Carbon tetrachloride | 0.063 | 0.020 | -- | 0.396 | 0.126 | -- | |
| 79-01-6 | Trichloroethene | ND | 0.020 | -- | ND | 0.107 | -- | U |
| 127-18-4 | Tetrachloroethene | ND | 0.020 | -- | ND | 0.136 | -- | U |

MW 5/7/25

# Results Summary
# Form 1
# Volatile Organics in Air by SIM

| | | | |
|---|---|---|---|
| Client | : Envirotrac Ltd. | Lab Number | : L2522877 |
| Project Name | : FAR ROCKAWAY | Project Number | : |
| Lab ID | : L2522877-10 | Date Collected | : 04/13/25 19:20 |
| Client ID | : OA-1 | Date Received | : 04/14/25 |
| Sample Location | : 350 BEACH 79TH ST FAR ROCKAWAY NY 11693 | Date Analyzed | : 04/15/25 23:18 |
| Sample Matrix | : AIR | Dilution Factor | : 1 |
| Analytical Method | : 48,TO-15-SIM | Analyst | : KJD |
| Lab File ID | : R1748422_EV2 | Instrument ID | : AIRLAB17 |
| Sample Amount | : 250 ml | GC Column | : RTX-1 |

| | | ppbV | | | ug/m3 | | | |
|---|---|---|---|---|---|---|---|---|
| CAS NO. | Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier |
| 75-01-4 | Vinyl chloride | ND | 0.020 | -- | ND | 0.051 | -- | U |
| 75-35-4 | 1,1-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 0.020 | -- | ND | 0.079 | -- | U |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 0.020 | -- | ND | 0.109 | -- | U |
| 56-23-5 | Carbon tetrachloride | 0.065 | 0.020 | -- | 0.409 | 0.126 | -- | |
| 79-01-6 | Trichloroethene | ND | 0.020 | -- | ND | 0.107 | -- | U |
| 127-18-4 | Tetrachloroethene | ND | 0.020 | -- | ND | 0.136 | -- | U |

Rev 5/7/25

ENVIRONMENTAL
Data Services, Inc.

# DATA USABILITY SUMMARY REPORT
# 350 BEACH 79th STREET, BROOKLYN, NEW YORK

Client: EnviroTrac Ltd., Yaphank, New York
SDG: L2570722
Laboratory: Pace Analytical Services, Mansfield, Massachusetts
Site: 350 Beach 79th Street, Brooklyn, New York
Date: November 19, 2025

| EDS ID | Client ID | Laboratory ID | Matrix |
|---|---|---|---|
| 1 | IA-8 | L2570722-01 | Air |
| 2 | DUPLICATE | L2570722-02 | Air |

A Data Usability Summary Review was performed on the analytical data for two air samples collected on November 3, 2025 by EnviroTrac at the 350 Beach 79th Street site in Brooklyn, New York. The samples were analyzed under "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition January 1999, EPA/625/R-96/010B", Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)".

Specific method references are as follows:

| *Analysis* | *Method References* |
|---|---|
| VOC | USEPA Method TO-15 |

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods and the USEPA Region II Data Review Standard Operating Procedures (SOPs) as follows:

- SOP Number HW-31, Revision 6, September 2016: Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15.

The following items/criteria were reviewed for this report:

## *Organics*

- Data Completeness
- Cover letter, Narrative, and Data Reporting Forms
- Canister Certification Blanks
- Canister Certification Pressures Differences
- Chains-of-Custody and Traffic Reports
- Holding Times and sample preservation
- Laboratory Control Sample (LCS) recoveries

- GC/MS Tuning
- Method Blank Contamination
- Initial and Continuing Calibration Summaries
- Compound Quantitation
- Internal Standard (IS) Area Performance
- Field Duplicate Sample Precision

## Data Usability Assessment

There were no rejections of data.

The data are acceptable for the intended purposes. There were no qualifications.

## Data Completeness

- The data is a complete Category B data package as defined under the requirements for the NYS Department of Environmental Conservation Analytical Services Protocol.

## Volatile Organic Compounds (VOC)

### Cover letter, Narrative, and Data Reporting Forms

- All criteria were met.

### Canister Certification Blanks

- The batch blank checks were non-detect or < RL.

### Canister Certification Pressures Differences

- All criteria were met.

### Chains-of-Custody and Traffic Reports

- All criteria were met.

### Holding Times

- All samples were analyzed within 30 days for air samples.

## GC/MS Tuning

- All criteria were met.

## Initial Calibration

- Not provided.

## Continuing Calibration

- Not provided.

## Method Blank

- The method blanks were free of contamination.

## Laboratory Control Samples

- The LCS samples exhibited acceptable percent recoveries (%R).

## Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

## Compound Quantitation

- All criteria were met.

## Field Duplicate Sample Precision

- Field duplicate samples are summarized below. The precision was acceptable.

| Compound | IA-8 ug/m³ | DUPLICATE ug/m³ | RPD | Qualifier |
|---|---|---|---|---|
| Dichlorodifluoromethane | 2.20 | 2.12 | 4% | None |
| Chloromethane | 1.12 | 1.02 | 9% | |
| Ethanol | 24.1 | 22.4 | 7% | |
| Acetone | 9.07 | 8.62 | 5% | |
| Isopropanol | 4.25 | 4.08 | 4% | |
| trans-1,2-Dichloroethene | 6.58 | 6.42 | 2% | |
| Ethyl Acetate | 3.45 | 3.25 | 6% | |
| Tetrahydrofuran | ND | 2.11 | NC | |

| Compound | IA-8 ug/m³ | DUPLICATE ug/m³ | RPD | Qualifier |
|---|---|---|---|---|
| n-Hexane | 1.10 | 1.07 | 3% | None |
| Benzene | 1.01 | 1.07 | 6% | |
| 2,2,4-Trimethylpentane | 3.97 | 4.10 | 3% | |
| Heptane | ND | 1.29 | NC | |
| Toluene | 5.13 | 5.54 | 8% | |
| 1,2,4-Trimethylbenzene | 1.37 | 1.28 | 7% | |

Please contact the undersigned at (561) 475-2000 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 11/20/25

Nancy Weaver
Senior Chemist

| Data Qualifier | Definition |
|---|---|
| U | The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit. |
| J | The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. |
| NJ | The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise. |
| R | The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples. |

**Project Name:** 350 BEACH 79TH ST
**Project Number:** Not Specified

**Lab Number:** L2570722
**Report Date:** 11/11/25

## SAMPLE RESULTS

Lab ID: L2570722-01
Client ID: IA-8
Sample Location:

Date Collected: 11/03/25 15:00
Date Received: 11/04/25
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 11/07/25 18:27
Analyst: TPH

| | ppbV | | | ug/m3 | | | | |
|---|---|---|---|---|---|---|---|---|
| Parameter | Results | RL | MDL | Results | RL | MDL | Qualifier | Dilution Factor |
| **Volatile Organics in Air - Mansfield Air Lab** | | | | | | | | |
| Dichlorodifluoromethane | 0.445 | 0.200 | -- | 2.20 | 0.989 | -- | | 1 |
| Chloromethane | 0.543 | 0.200 | -- | 1.12 | 0.413 | -- | | 1 |
| Freon-114 | ND | 0.200 | -- | ND | 1.40 | -- | | 1 |
| Vinyl chloride | ND | 0.200 | -- | ND | 0.511 | -- | | 1 |
| 1,3-Butadiene | ND | 0.200 | -- | ND | 0.442 | -- | | 1 |
| Bromomethane | ND | 0.200 | -- | ND | 0.777 | -- | | 1 |
| Chloroethane | ND | 0.200 | -- | ND | 0.528 | -- | | 1 |
| Ethanol | 12.8 | 5.00 | -- | 24.1 | 9.42 | -- | | 1 |
| Vinyl bromide | ND | 0.200 | -- | ND | 0.874 | -- | | 1 |
| Acetone | 3.82 | 1.00 | -- | 9.07 | 2.38 | -- | | 1 |
| Trichlorofluoromethane | ND | 0.200 | -- | ND | 1.12 | -- | | 1 |
| Isopropanol | 1.73 | 1.00 | -- | 4.25 | 2.46 | -- | | 1 |
| 1,1-Dichloroethene | ND | 0.200 | -- | ND | 0.793 | -- | | 1 |
| Tertiary butyl Alcohol | ND | 0.500 | -- | ND | 1.52 | -- | | 1 |
| Methylene chloride | ND | 0.500 | -- | ND | 1.74 | -- | | 1 |
| 3-Chloropropene | ND | 0.200 | -- | ND | 0.626 | -- | | 1 |
| Carbon disulfide | ND | 0.200 | -- | ND | 0.623 | -- | | 1 |
| Freon-113 | ND | 0.200 | -- | ND | 1.53 | -- | | 1 |
| trans-1,2-Dichloroethene | 1.66 | 0.200 | -- | 6.58 | 0.793 | -- | | 1 |
| 1,1-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | | 1 |
| Methyl tert butyl ether | ND | 0.200 | -- | ND | 0.721 | -- | | 1 |
| 2-Butanone | ND | 0.500 | -- | ND | 1.47 | -- | | 1 |
| cis-1,2-Dichloroethene | ND | 0.200 | -- | ND | 0.793 | -- | | 1 |



MT 11/13/25

**Project Name:** 350 BEACH 79TH ST
**Project Number:** Not Specified

**Lab Number:** L2570722
**Report Date:** 11/11/25

## SAMPLE RESULTS

Lab ID: L2570722-01
Client ID: IA-8
Sample Location:

Date Collected: 11/03/25 15:00
Date Received: 11/04/25
Field Prep: Not Specified

Sample Depth:

| Parameter | ppbV Results | ppbV RL | ppbV MDL | ug/m3 Results | ug/m3 RL | ug/m3 MDL | Qualifier | Dilution Factor |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organics in Air - Mansfield Air Lab** | | | | | | | | |
| Ethyl Acetate | 0.956 | 0.500 | -- | 3.45 | 1.80 | -- | | 1 |
| Chloroform | ND | 0.200 | -- | ND | 0.977 | -- | | 1 |
| Tetrahydrofuran | ND | 0.500 | -- | ND | 1.47 | -- | | 1 |
| 1,2-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | | 1 |
| n-Hexane | 0.312 | 0.200 | -- | 1.10 | 0.705 | -- | | 1 |
| 1,1,1-Trichloroethane | ND | 0.200 | -- | ND | 1.09 | -- | | 1 |
| Benzene | 0.317 | 0.200 | -- | 1.01 | 0.639 | -- | | 1 |
| Carbon tetrachloride | ND | 0.200 | -- | ND | 1.26 | -- | | 1 |
| Cyclohexane | ND | 0.200 | -- | ND | 0.688 | -- | | 1 |
| 1,2-Dichloropropane | ND | 0.200 | -- | ND | 0.924 | -- | | 1 |
| Bromodichloromethane | ND | 0.200 | -- | ND | 1.34 | -- | | 1 |
| 1,4-Dioxane | ND | 0.200 | -- | ND | 0.721 | -- | | 1 |
| Trichloroethene | ND | 0.200 | -- | ND | 1.07 | -- | | 1 |
| 2,2,4-Trimethylpentane | 0.850 | 0.200 | -- | 3.97 | 0.934 | -- | | 1 |
| Heptane | ND | 0.200 | -- | ND | 0.820 | -- | | 1 |
| cis-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | | 1 |
| 4-Methyl-2-pentanone | ND | 0.500 | -- | ND | 2.05 | -- | | 1 |
| trans-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | | 1 |
| 1,1,2-Trichloroethane | ND | 0.200 | -- | ND | 1.09 | -- | | 1 |
| Toluene | 1.36 | 0.200 | -- | 5.13 | 0.754 | -- | | 1 |
| 2-Hexanone | ND | 0.200 | -- | ND | 0.820 | -- | | 1 |
| Dibromochloromethane | ND | 0.200 | -- | ND | 1.70 | -- | | 1 |
| 1,2-Dibromoethane | ND | 0.200 | -- | ND | 1.54 | -- | | 1 |
| Tetrachloroethene | ND | 0.200 | -- | ND | 1.36 | -- | | 1 |
| Chlorobenzene | ND | 0.200 | -- | ND | 0.921 | -- | | 1 |
| Ethylbenzene | ND | 0.200 | -- | ND | 0.869 | -- | | 1 |



MF 11/19/25

**Project Name:** 350 BEACH 79TH ST
**Project Number:** Not Specified

**Lab Number:** L2570722
**Report Date:** 11/11/25

## SAMPLE RESULTS

Lab ID: L2570722-01
Client ID: IA-8
Sample Location:

Date Collected: 11/03/25 15:00
Date Received: 11/04/25
Field Prep: Not Specified

Sample Depth:

| Parameter | ppbV Results | ppbV RL | ppbV MDL | ug/m3 Results | ug/m3 RL | ug/m3 MDL | Qualifier | Dilution Factor |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organics in Air - Mansfield Air Lab** | | | | | | | | |
| p/m-Xylene | ND | 0.400 | -- | ND | 1.74 | -- | | 1 |
| Bromoform | ND | 0.200 | -- | ND | 2.07 | -- | | 1 |
| Styrene | ND | 0.200 | -- | ND | 0.852 | -- | | 1 |
| 1,1,2,2-Tetrachloroethane | ND | 0.200 | -- | ND | 1.37 | -- | | 1 |
| o-Xylene | ND | 0.200 | -- | ND | 0.869 | -- | | 1 |
| 4-Ethyltoluene | ND | 0.200 | -- | ND | 0.983 | -- | | 1 |
| 1,3,5-Trimethylbenzene | ND | 0.200 | -- | ND | 0.983 | -- | | 1 |
| 1,2,4-Trimethylbenzene | 0.278 | 0.200 | -- | 1.37 | 0.983 | -- | | 1 |
| Benzyl chloride | ND | 0.200 | -- | ND | 1.04 | -- | | 1 |
| 1,3-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | | 1 |
| 1,4-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | | 1 |
| 1,2-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | | 1 |
| 1,2,4-Trichlorobenzene | ND | 0.200 | -- | ND | 1.48 | -- | | 1 |
| Hexachlorobutadiene | ND | 0.200 | -- | ND | 2.13 | -- | | 1 |

| Internal Standard | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,4-Difluorobenzene | 93 | | 60-140 |
| Bromochloromethane | 96 | | 60-140 |
| chlorobenzene-d5 | 94 | | 60-140 |



MT 11/19/25

**Project Name:** 350 BEACH 79TH ST
**Project Number:** Not Specified

**Lab Number:** L2570722
**Report Date:** 11/11/25

## SAMPLE RESULTS

Lab ID: L2570722-01
Client ID: IA-8
Sample Location:

Date Collected: 11/03/25 15:00
Date Received: 11/04/25
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 11/10/25 20:57
Analyst: TPH

| Parameter | ppbV Results | ppbV RL | ppbV MDL | ug/m3 Results | ug/m3 RL | ug/m3 MDL | Qualifier | Dilution Factor |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organics in Air - Mansfield Air Lab** | | | | | | | | |
| Naphthalene | ND | 0.190 | -- | ND | 0.996 | -- | | 1 |

| Internal Standard | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,4-Difluorobenzene | 111 | | 60-140 |
| Bromochloromethane | 104 | | 60-140 |
| chlorobenzene-d5 | 103 | | 60-140 |



MT 11/12/25

**Project Name:** 350 BEACH 79TH ST
**Project Number:** Not Specified

**Lab Number:** L2570722
**Report Date:** 11/11/25

2

## SAMPLE RESULTS

Lab ID: L2570722-02
Client ID: DUPLICATE
Sample Location:

Date Collected: 11/03/25 15:00
Date Received: 11/04/25
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 11/07/25 19:07
Analyst: TPH

| Parameter | ppbV Results | ppbV RL | ppbV MDL | ug/m3 Results | ug/m3 RL | ug/m3 MDL | Qualifier | Dilution Factor |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organics in Air - Mansfield Air Lab** | | | | | | | | |
| Dichlorodifluoromethane | 0.429 | 0.200 | -- | 2.12 | 0.989 | -- | | 1 |
| Chloromethane | 0.492 | 0.200 | -- | 1.02 | 0.413 | -- | | 1 |
| Freon-114 | ND | 0.200 | -- | ND | 1.40 | -- | | 1 |
| Vinyl chloride | ND | 0.200 | -- | ND | 0.511 | -- | | 1 |
| 1,3-Butadiene | ND | 0.200 | -- | ND | 0.442 | -- | | 1 |
| Bromomethane | ND | 0.200 | -- | ND | 0.777 | -- | | 1 |
| Chloroethane | ND | 0.200 | -- | ND | 0.528 | -- | | 1 |
| Ethanol | 11.9 | 5.00 | -- | 22.4 | 9.42 | -- | | 1 |
| Vinyl bromide | ND | 0.200 | -- | ND | 0.874 | -- | | 1 |
| Acetone | 3.63 | 1.00 | -- | 8.62 | 2.38 | -- | | 1 |
| Trichlorofluoromethane | ND | 0.200 | -- | ND | 1.12 | -- | | 1 |
| Isopropanol | 1.66 | 1.00 | -- | 4.08 | 2.46 | -- | | 1 |
| 1,1-Dichloroethene | ND | 0.200 | -- | ND | 0.793 | -- | | 1 |
| Tertiary butyl Alcohol | ND | 0.500 | -- | ND | 1.52 | -- | | 1 |
| Methylene chloride | ND | 0.500 | -- | ND | 1.74 | -- | | 1 |
| 3-Chloropropene | ND | 0.200 | -- | ND | 0.626 | -- | | 1 |
| Carbon disulfide | ND | 0.200 | -- | ND | 0.623 | -- | | 1 |
| Freon-113 | ND | 0.200 | -- | ND | 1.53 | -- | | 1 |
| trans-1,2-Dichloroethene | 1.62 | 0.200 | -- | 6.42 | 0.793 | -- | | 1 |
| 1,1-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | | 1 |
| Methyl tert butyl ether | ND | 0.200 | -- | ND | 0.721 | -- | | 1 |
| 2-Butanone | ND | 0.500 | -- | ND | 1.47 | -- | | 1 |
| cis-1,2-Dichloroethene | ND | 0.200 | -- | ND | 0.793 | -- | | 1 |



MT 11/19/25

2

**Project Name:** 350 BEACH 79TH ST
**Project Number:** Not Specified

**Lab Number:** L2570722
**Report Date:** 11/11/25

## SAMPLE RESULTS

Lab ID: L2570722-02
Client ID: DUPLICATE
Sample Location:

Date Collected: 11/03/25 15:00
Date Received: 11/04/25
Field Prep: Not Specified

Sample Depth:

| Parameter | ppbV Results | ppbV RL | ppbV MDL | ug/m3 Results | ug/m3 RL | ug/m3 MDL | Qualifier | Dilution Factor |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organics in Air - Mansfield Air Lab** | | | | | | | | |
| Ethyl Acetate | 0.903 | 0.500 | -- | 3.25 | 1.80 | -- | | 1 |
| Chloroform | ND | 0.200 | -- | ND | 0.977 | -- | | 1 |
| Tetrahydrofuran | 0.714 | 0.500 | -- | 2.11 | 1.47 | -- | | 1 |
| 1,2-Dichloroethane | ND | 0.200 | -- | ND | 0.809 | -- | | 1 |
| n-Hexane | 0.304 | 0.200 | -- | 1.07 | 0.705 | -- | | 1 |
| 1,1,1-Trichloroethane | ND | 0.200 | -- | ND | 1.09 | -- | | 1 |
| Benzene | 0.334 | 0.200 | -- | 1.07 | 0.639 | -- | | 1 |
| Carbon tetrachloride | ND | 0.200 | -- | ND | 1.26 | -- | | 1 |
| Cyclohexane | ND | 0.200 | -- | ND | 0.688 | -- | | 1 |
| 1,2-Dichloropropane | ND | 0.200 | -- | ND | 0.924 | -- | | 1 |
| Bromodichloromethane | ND | 0.200 | -- | ND | 1.34 | -- | | 1 |
| 1,4-Dioxane | ND | 0.200 | -- | ND | 0.721 | -- | | 1 |
| Trichloroethene | ND | 0.200 | -- | ND | 1.07 | -- | | 1 |
| 2,2,4-Trimethylpentane | 0.878 | 0.200 | -- | 4.10 | 0.934 | -- | | 1 |
| Heptane | 0.314 | 0.200 | -- | 1.29 | 0.820 | -- | | 1 |
| cis-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | | 1 |
| 4-Methyl-2-pentanone | ND | 0.500 | -- | ND | 2.05 | -- | | 1 |
| trans-1,3-Dichloropropene | ND | 0.200 | -- | ND | 0.908 | -- | | 1 |
| 1,1,2-Trichloroethane | ND | 0.200 | -- | ND | 1.09 | -- | | 1 |
| Toluene | 1.47 | 0.200 | -- | 5.54 | 0.754 | -- | | 1 |
| 2-Hexanone | ND | 0.200 | -- | ND | 0.820 | -- | | 1 |
| Dibromochloromethane | ND | 0.200 | -- | ND | 1.70 | -- | | 1 |
| 1,2-Dibromoethane | ND | 0.200 | -- | ND | 1.54 | -- | | 1 |
| Tetrachloroethene | ND | 0.200 | -- | ND | 1.36 | -- | | 1 |
| Chlorobenzene | ND | 0.200 | -- | ND | 0.921 | -- | | 1 |
| Ethylbenzene | ND | 0.200 | -- | ND | 0.869 | -- | | 1 |



MT 11/19/25

2

**Project Name:** 350 BEACH 79TH ST
**Project Number:** Not Specified

**Lab Number:** L2570722
**Report Date:** 11/11/25

## SAMPLE RESULTS

Lab ID: L2570722-02
Client ID: DUPLICATE
Sample Location:

Date Collected: 11/03/25 15:00
Date Received: 11/04/25
Field Prep: Not Specified

Sample Depth:

| Parameter | ppbV Results | ppbV RL | ppbV MDL | ug/m3 Results | ug/m3 RL | ug/m3 MDL | Qualifier | Dilution Factor |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organics in Air - Mansfield Air Lab** | | | | | | | | |
| p/m-Xylene | ND | 0.400 | -- | ND | 1.74 | -- | | 1 |
| Bromoform | ND | 0.200 | -- | ND | 2.07 | -- | | 1 |
| Styrene | ND | 0.200 | -- | ND | 0.852 | -- | | 1 |
| 1,1,2,2-Tetrachloroethane | ND | 0.200 | -- | ND | 1.37 | -- | | 1 |
| o-Xylene | ND | 0.200 | -- | ND | 0.869 | -- | | 1 |
| 4-Ethyltoluene | ND | 0.200 | -- | ND | 0.983 | -- | | 1 |
| 1,3,5-Trimethylbenzene | ND | 0.200 | -- | ND | 0.983 | -- | | 1 |
| 1,2,4-Trimethylbenzene | 0.261 | 0.200 | -- | 1.28 | 0.983 | -- | | 1 |
| Benzyl chloride | ND | 0.200 | -- | ND | 1.04 | -- | | 1 |
| 1,3-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | | 1 |
| 1,4-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | | 1 |
| 1,2-Dichlorobenzene | ND | 0.200 | -- | ND | 1.20 | -- | | 1 |
| 1,2,4-Trichlorobenzene | ND | 0.200 | -- | ND | 1.48 | -- | | 1 |
| Hexachlorobutadiene | ND | 0.200 | -- | ND | 2.13 | -- | | 1 |

| Internal Standard | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,4-Difluorobenzene | 93 | | 60-140 |
| Bromochloromethane | 95 | | 60-140 |
| chlorobenzene-d5 | 93 | | 60-140 |



MT 11/19/25

2

**Project Name:** 350 BEACH 79TH ST
**Project Number:** Not Specified

**Lab Number:** L2570722
**Report Date:** 11/11/25

## SAMPLE RESULTS

Lab ID: L2570722-02
Client ID: DUPLICATE
Sample Location:

Date Collected: 11/03/25 15:00
Date Received: 11/04/25
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 11/10/25 21:42
Analyst: TPH

| Parameter | ppbV Results | ppbV RL | ppbV MDL | ug/m3 Results | ug/m3 RL | ug/m3 MDL | Qualifier | Dilution Factor |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organics in Air - Mansfield Air Lab** | | | | | | | | |
| Naphthalene | ND | 0.190 | -- | ND | 0.996 | -- | | 1 |

| Internal Standard | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,4-Difluorobenzene | 114 | | 60-140 |
| Bromochloromethane | 103 | | 60-140 |
| chlorobenzene-d5 | 109 | | 60-140 |



MT 11/19/25

# APPENDIX H – GENERIC HEALTH AND SAFETY PLAN

**September 2025**

**350 Beach 79th Street**

**QUEENS COUNTY**

**FAR ROCKAWAY, NEW YORK**

# Appendix G
# Generic Health and Safety Plan

**BCP Site No. C241207-04-18**

**Prepared for:**

79 Arverne Development LLC

220-46 73rd Avenue

Bayside, New York 11364

Long Island City, New York 11105-2048

**Prepared by:**

Anchor QEA Engineering, PLLC

54 Genesee St

Suite 100A

Camillus, NY 13031

**September 2025**

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## Attachments

1 Safety Data Sheets for Chemicals of Concern
2 Example Activity Hazard Analysis Forms
3 Utility Clearance Process for Intrusive Activities

## List of Acronyms

| | |
|---|---|
| AED | Automated External Defibrillator |
| AHA | Activity Hazard Analysis |
| ANSI | American National Standards Institute |
| ASTM | American Society for Testing and Materials |
| BTEX | benzene, ethylbenzene, toluene, and xylenes |
| CAMP | Community Air Monitoring Program |
| CDC | Centers for Disease Control |
| CFR | Code of Federal Regulations |
| CHSM | Corporate Health and Safety Manager |
| COC | contaminants of concern |
| CPR | cardiopulmonary resuscitation |
| CRZ | Contamination Reduction Zone |
| dbA | A-weighted decibels |
| DEET | N,N-diethyl-meta-toluamide |
| DNAPL | dense non-aqueous phase liquid |
| DOT | U.S. Department of Transportation |
| DPT | Direct Push Technology |
| EPA | U.S. Environmental Protection Agency |
| EZ | Exclusion Zone/Hot Zone |
| FDR Drive | Franklin D. Roosevelt East River Drive |
| GFCI | Ground-fault Circuit Interrupter |
| GPR | ground penetrating radar |
| HASP | Health and Safety Plan |
| HAZWOPER | Hazardous Waste Operations and Emergency Response |
| HEPA | High Efficiency Particulate Air |
| IDLH | Immediately Dangerous to Life and Health |
| IDW | Investigation Derived Waste |
| kPa | kilopascal |
| LEL | lower exposure limit |
| LNAPL | light non-aqueous phase liquid |
| LO/TO | lock out/tag out |
| $mg/m^3$ | milligrams per cubic meter |
| MGP | manufactured gas plant |
| MHR | maximum heart rate |
| NAPL | nonaqueous phase liquid |

| | |
|---|---|
| NEC | National Electrical Code |
| NIOSH | National Institute for Occupational Safety and Health |
| NRR | Noise Reduction Rating |
| NYSDEC | New York State Department of Environmental Conservation |
| OSHA | Occupational Safety and Health Administration |
| OU | Operable Unit |
| PAH | Polychlorinated aromatic hydrocarbon |
| PEL | Permissible Exposure Limit |
| PFD | personal floatation device |
| PID | Photo Ionization Detector |
| PPE | Personal Protective Equipment |
| ppm | parts per million |
| PRCS | Permit-Required Confined Spaces |
| SDS | Safety Data Sheet |
| Site | Beach 79th Street site located at Block 16100, Lot 18, in Far Rockaway, Queens County, New York |
| SMP | Site Management Plan |
| SMP Entity/Entities or Party/Parties | 79 Averne LLC, Abingdon Capital, contractors, subcontractors, or other municipal/utilities workers |
| STEL | Short Term Exposure Limit |
| SVOC | semivolatile organic compound |
| SC | Support Zone/Clean Zone |
| TBD | To Be Determined |
| TBD | to be determined |
| TLV | Threshold Limit Value |
| tsf | Tons per square foot |
| TWA | total weight average |
| USCG | U.S. Coast Guard |
| UST | underground storage tanks |
| UV | Ultraviolet Radiation |
| VOC | Volatile Organic Compounds |
| WBGT | wet bulb globe temperature |

# 1. INTRODUCTION

This Generic Health and Safety Plan (HASP) has been developed to provide guidance for any future parties performing intrusive work at the 350 Beach 79th Street site located in Far Rockaway, Queens County, New York (hereinafter referred to as the "Site") pursuant to the site-specific *Site Management Plan* (SMP). The objective of this Generic HASP is to provide a mechanism for establishing safe working conditions at the Site and within the SMP area (as defined in the SMP).

This Generic HASP serves as a template to be used to prepare a site-specific HASP by any parties performing work at the Site and provides guidance for potential hazards that may be encountered during intrusive activities that involve disturbing the soil, conducting groundwater sampling, or conducting indoor air monitoring located within the SMP area[1] by 79 Arverne Development LLC, Abingdon Capital, contractors, subcontractors, or other municipal/utilities workers, collectively referred to as SMP Entities or Parties. Intrusive activities may include, but are not limited to: excavation, fence post installation, regrading of the property, installation or maintenance of subsurface utilities, or conduit at any depth below grade. Normal lawn care or other aboveground landscaping are not considered intrusive activities that will require implementation of this SMP.

SMP entities proposing to conduct such work will prepare and implement a site-specific HASP that meets the requirements of this Generic HASP and all applicable Occupational Safety and Health Administration (OSHA) regulations. The site-specific HASP will cover all personnel employed by the SMP Entity to perform work within the SMP area, including direct employees and subcontractors. If the SMP Entity does not wish to include subcontractors under their HASP, the subcontractor will be responsible for developing and implementing their own HASP that meets the applicable requirements.

The site-specific HASP will include information regarding activities anticipated to be conducted within the SMP area. All SMP entities that may come into contact with impacted environmental media (soil, groundwater, and soil vapor) will follow the site-specific HASP, detailing the procedures to be utilized for compliance with applicable regulations. These procedures may include wearing adequate Personal Protective Equipment (PPE), performing appropriate air monitoring, and implementing other engineering controls, as necessary, to mitigate potential ingestion, inhalation, or contact with residual constituents in the impacted environmental media.

The SMP Entity has the sole responsibility for confirming that the worksite is safe, neat, and maintained in an orderly condition, and is free from hazards. The SMP Entity is also solely responsible by law for compliance, and regulatory reporting requirements, for all workplace and employee safety issues.

[1] The SMP area covers the entirety of Tax Parcel Block 16100, Lots 14 and 18 bounded by Barbadoes Basin to the north, Beach Channel Drive to the south, a bin block wall to the east, and Beach 79th to the west.

Significant operational changes that could affect the health and safety of personnel, the community, or the environment will require that this HASP template be updated (typically by addenda) and approved by the SMP Entity's qualified representative(s). Each member of the project team must read, understand, and implement the site-specific HASP and any addenda. Each member of the project team will endorse the signature page of the site-specific HASP indicating they understand and agree to abide by the health and safety requirements for the Site. An example signature page is included for reference in **Exhibit 1-1**, below. For each new task, a project kick-off meeting will be conducted to review the site-specific HASP(s) and discuss the Scope of Work and planned activities for the day.

**Exhibit 1-1: Example HASP Acknowledgement Form**

Project Number: _____

Project Name: _____

My signature below certifies that I have read and understand the policies and procedures specified in this HASP.

| Date | Name (print) | Signature | Company |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Date | Name (print) | Signature | Company |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

# 2. STATEMENT OF HEALTH AND SAFETY POLICY

This section will be updated with a company-specific statement of health and safety policy by the SMP Entity performing the work prior to commencement of any intrusive field activities at the Site. This section should also include the SMP Entity's Stop Work Authority Policy and Procedures

# 3. SITE BACKGROUND INFORMATION

## 3.1 Site Location and Description

The Site is located in Far Rockaway, Queens County, New York, and is identified as Tax Parcel Block 16100, Lot 18 on the Queens County Tax Map. The Site is an approximately 1.228-acre area and is bounded by Barbadoes Basin to the north, Beach Channel Drive to the south, a bin-block wall to the east, and Beach 79th Street to the west.

The Site consists of the following: a parcel of vacant land currently being redeveloped as a mini-storage facility. The Site is zoned M1-1, manufacturing use, industrial, etc., and is currently under redevelopment for use as a mini-storage facility. There are no current Site occupants. Following the redevelopment activities, the Site will include a parking area and a multi-story mini-storage building.

The properties adjoining the Site and in the surrounding neighborhood primarily include light manufacturing and storage-related properties. The properties immediately south of the Site include an elevated railroad and an at-grade roadway; immediately south of the railroad tracks is a vacant parcel of land with asphalt surface that appears to be used for construction-related equipment and vehicle storage. The properties immediately north of the Site include Barbadoes Basin, and immediately north of Barbadoes Basin a vacant parcel that appears to have historically been used for industrial purposes and for offloading of boats from Barbadoes Basin; the properties immediately east of the Site include vehicle and tractor-trailer storage; and the properties to the west of the Site include a leased building used for light manufacturing and equipment storage.

## 3.2 Site History

Historical uses of the Site from prior to 1894 to present included an ice factory, coal yard, bicycle manufacturing corporation, solid waste management and various manufacturing businesses. A gasoline tank was shown on the western portion of the Site in the 1933 Sanborn Fire Insurance Map when the Site was utilized as a coal yard. The Site is an inactive NYSDEC solid waste management facility that was used for processing of construction and demolition debris. Refer to the RI Report (Gallagher Bassett, 2020) for additional Site background and history.

## 3.3 Nature and Extent of Constituent of Interest

Based on previous site investigation activities, the following chlorinated compounds were identified as the primary constituents of concern (COCs):

**Table 1-1**
**Constituents of Concern – Protection of Groundwater**

| Constituent | Protection of Groundwater SCOs (milligrams per kilogram) |
|---|---|
| Tetrachloroethylene (PCE) | 1.3 |
| cis-1,2-Dichloroethylene (cis-1,2-DCE) | 0.25 |
| trans-1,2-Dichloroethylene (trans-1,2-DCE) | 0.19 |
| Trichloroethylene (TCE) | 0.47 |
| Vinyl Chloride (VC) | 0.02 |

**Notes:**

1. SCO – soil cleanup objective.

SCOs per NYSDEC's 6 NYCRR PART 375 Environmental Remediation Programs Table 375-6.8: Restricted Use Soil Cleanup Objectives.

Two separate areas were identified by previous investigation activities as containing chlorinated volatile organic compounds (CVOCs) at concentrations exceeding protection of groundwater soil cleanup objectives (SCOs). A relatively small area in the northwest corner and a larger area in the central portion of the site. In general, the CVOCs were identified in soil above and just into the confining clay unit.

Remedial activities were implemented, consisting of the following:

- Excavating approximately 2,600 cubic yards (CY) of impacted soil to the top of the clay unit from 34 "Cells" and approximately six inches into clay in three cells (Cells 3, 17, and 31) using slide rail shoring systems as excavation support.
- Excavating approximately 1,600 CY of surface soil to facilitate soil cover installation outside of the proposed new building footprint.
- Conducting enhanced in-situ anaerobic bioremediation (EISAB) by placing CarBstrate™ (from ETEC, Inc. Advanced Bioremediation Systems [ETEC]) in the excavation cells prior to backfill placement.
- Dewatering soils and adding cementitious material (e.g., Calciment® lime kiln dust) as needed to stabilize excavated soils.
- Installing a site-wide cover system to prevent exposures to remaining impacted soil. The cover system components would consist of:
- The new structure concrete/asphalt grade-level paved parking area.
- Exterior parking lot and driveway constructed using a permeable paver system.
- Imported clean soil (meeting all NYSDEC requirements) to facilitate wetland restoration plantings and peripheral landscaping.

- Installing an SSDS below the existing building on the adjacent parcel (Block 16100, Lot 14).

- Restoring a 50-foot buffer marine wetlands area between the new building and Barbadoes Basin.

- Preparing and implementing an SMP including on-going SSDS monitoring and maintenance and groundwater sampling

Documentation samples from the terminal ends (i.e., excavation cell bottoms and sidewalls not abutting other excavation cells) of each excavation cell. A total of 62 samples (not including quality assurance/quality control [QA/QC] samples) were collected from 28 cells and submitted to Eurofins for laboratory analysis. Analytical results received for the analysis of the documentation samples indicated the following:

- Over 60% (38 out of 62) of the documentation samples contained CVOCs at concentrations that were the same order of magnitude as or did not exceed the protection of groundwater SCOs.

- A total of nine cells (Cells 11, 12, 16 through 18, 20 through 22, and 39) had at least one sample containing CVOCs at concentrations exceeding protection of groundwater SCOs by two orders of magnitude.

- Cells 9, 10, 15, 23, and 38 had at least one documentation sample containing CVOCs at concentrations exceeding protection of groundwater SCOs by three or four orders of magnitude. Of the eight samples that fit this category, four of them were collected from the bottom of the excavation (i.e., top of clay), two of them were collected from the western terminal wall (Cells 9 and 10), one was collected from the southern terminal wall (Cell 23), and one from the eastern wall (Cell 23).

SMP Figure 2-2 shows the documentation sample locations and soil analytical results exceeding the protection of groundwater SCOs, and Table 2-2 presents the documentation sampling results.

# 4. SCOPE OF WORK EVALUATION

This Section will be updated with an evaluation of potential intrusive Scope of Work activities that may encounter remaining contamination at the Site. Potential intrusive Scope of Work tasks described in the SMP may include, but are not limited to: excavation, fence post installation, regrading of the property, and installation or maintenance of subsurface utilities or conduit at any depth below grade. Normal lawn care or other aboveground landscaping are not considered intrusive activities that will require implementation of this HASP template. In addition, SMP Entities may perform monitoring, operation, and maintenance requirements pursuant to the site-specific SMP. It will be the responsibility of the SMP Entity to evaluate the planned Scope of Work activities and determine if intrusive work is expected to be conducted at depths where impacted soil or groundwater is anticipated. It will then be the responsibility of the SMP Entity conducting the intrusive activities to prepare a site-specific, activity-specific HASP that meets the requirements of 29 Code of Federal Regulations (CFR) 1910 and 29 CFR 1926 and that details the procedures that will be utilized to comply with applicable regulations and mitigate potential exposures.

# 5. HAZARD/RISK/EXPOSURE ASSESSMENT

A site- and task-specific risk analysis will be conducted before commencing any potentially intrusive work activities at the Site. An example of a site-specific risk review checklist is included as **Exhibit 5-1** below, which must be modified by the Project Manager of the party performing work at the Site and as related to the specific planned work activities. This checklist documents potential existing exposures that may impact the work, surrounding facilities, equipment, workers, or the public at large. The analysis includes locating, documenting, and/or photographing items such as:

- Overhead and underground utilities, including electrical power
- Sewer, water, and communications utilities
- Overhead and underground steam, fuel oil, and/or natural gas pipelines
- Existing building interferences (including foundations, footers, or other associated structures)
- Traffic
- Security
- Fences
- Water hazards
- Existing geographical and environmental conditions
- Investigation Derived Waste (IDW) Disposal

Upon completion of the site-specific risk analysis, personnel must identify and control work-related hazards and propose controls and mitigation strategies for high-risk activities. This step is further detailed in the remaining sections of this HASP template.

## Exhibit 5-1: Example Site-Specific Risk Review Checklist

| Date: | Project or Location: | |
|---|---|---|
| **Risk/Hazard** | **Detail** | **Present?** |
| Employee Exposure | Hazardous Chemicals | |
| | Overhead and underground utilities | |
| | Heavy equipment | |
| | Traffic | |
| | | |
| | Airborne contaminants (dust, mists, fumes) | |
| | Other (specify): | |
| Hazardous Waste | Handling, removal or storage of hazardous | |
| Crane Work | Mobile cranes | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Drilling/ Sampling | Drill rig hazards | |
| | Grab Sampling | |
| Electrical | Staging area | |
| | | |
| Personal Protective Equipment | Work activities or work site requires hearing protection | |
| | | |
| | Work activities or location requires special protective clothing | |
| Public Exposure | Work activities or location requires special precautions to protect the public | |
| Permits | Required | |
| | Hot permit | |
| Other Exposures | Other exposure or high-risk activities (list): | |
| | | |
| | | |

# 6. AUTHORITY AND RESPONSIBILITIES OF KEY PERSONNEL

This section describes the authority and responsibilities of key project personnel and will be updated as applicable.

## 6.1 Key Project Personnel

The SMP Entity performing the work will be listed in the below table:

| **SMP Entity:** | **TBD** | |
|---|---|---|
| Address: | TBD | |
| Telephone: | TBD | Email: TBD |
| Company Executive responsible for project: TBD | | Contact No. TBD |
| Project Manager/Superintendent: TBD | | Contact No. TBD |
| Health and Safety Representative/Manager: TBD | | Contact No. TBD |
| Key Foreperson or forepersons: TBD | | Contact No. TBD |
| Project Manager: TBD | | Contact No. TBD |

All key contractors (if any) associated with the project will be listed in the table below:

| **Contractor:** | **TBD** | |
|---|---|---|
| Address: | TBD | |
| Telephone: | TBD | Email: TBD |
| Company Executive responsible for project: TBD | | Contact No. TBD |
| Manager/Superintendent: TBD | | Contact No. TBD |
| Health and Safety Representative/Manager: TBD | | Contact No. TBD |
| Key Foreperson or forepersons: TBD | | Contact No. TBD |

All key engineer/consultant/client representative party(s) (if any) associated with the project will be listed in the below table:

| **Engineer/Consultant/Client Representative:** | **TBD** | |
|---|---|---|
| Address: | TBD | |
| Telephone: | TBD | Email: TBD |
| Company Executive responsible for project: TBD | | Contact No. TBD |
| Manager/Superintendent: TBD | | Contact No. TBD |
| Health and Safety Representative/Manager: TBD | | Contact No. TBD |
| Key Foreperson or forepersons: TBD | | Contact No. TBD |

## 6.2 Authorities and Responsibilities of Key Personnel

### *6.2.1 All Personnel*

All project personnel have responsibility for accident prevention and compliance with corporate, regulatory, and client requirements. No person may work in a manner that conflicts with these procedures. Prior to initiating site activities, all project personnel and subcontractor personnel will receive training in accordance with applicable regulations and be familiar with the requirements and standards referenced in the site-specific HASP. In addition, all personnel will attend daily safety meetings (tailgate meetings) to discuss site-specific hazards prior to beginning each day's work. Every employee, subcontractor, and client representative at the site has the responsibility to stop or suspend work if conditions arise that pose an unacceptable health and safety risk to the field crew or environment, or if conditions arise that warrant revision or amendment of the site-specific HASP.

### *6.2.2 Project Executive*

The project executive is responsible for providing resources so that the project activities are completed in accordance with the site-specific HASP and for meeting all regulatory and contractual requirements.

### *6.2.3 Project Manager/Superintendent*

The Project Manager/Superintendent provides overall direction for the project. They are responsible for ensuring that the project meets the client's objectives in a safe and timely manner. The Project Manager/Superintendent is responsible for providing qualified staff for the project and adequate resources and budget for the health and safety staff to carry out their responsibilities during the field work. The Project Manager will be in regular contact with the Key Forepersons and health and safety representatives to ensure that appropriate health and safety procedures are implemented into each project task.

The Project Manager/Superintendent has authority to direct response operations; the Project Manager/Superintendent assumes total control over project activities but may assign responsibility for aspects of the project to others. In addition, the Project Manager/Superintendent performs the following tasks:

- Oversees the preparation and organization of background review of the project, the work plan, and the field team.
- Ensures that the team obtains permission for site access and coordinates activities with appropriate officials.
- Briefs the Key Forepersons and field personnel on specific assignments.
- Together with the Key Forepersons, sees that health and safety requirements are met.

- Consults with the Health and Safety Representative(s) regarding unsafe conditions, incidents, or changes in site conditions or the Scope of Work.

### *6.2.4 Health and Safety Representative/Manager*

The Health and Safety Representative/Manager (or his/her designee) will be responsible for managing on-site health and safety activities and will provide support to the Project Manager/Superintendent and Key Forepersons on health and safety issues. The following are specific duties of the health and safety manager:

- Provide technical input into the design and implementation of the site-specific HASP, as well as review and approval of changes or addenda to the HASP.

- Advise on the potential for occupational exposure to project hazards, along with appropriate methods and/or controls to eliminate site hazards.

- Ensure that a hazard assessment has been performed and that the adequacy of the PPE selected was evaluated as required by 29 CFR 1910.132(d), 1910.134, 1926.25, and 1926.55, and is duly noted by the signatures and date appearing on the Certification Page of the site-specific HASP.

- Consult with the forepersons on matters relating to suspending site activities in the event of an emergency.

- Verify that all on-site personnel have read and signed the HASP Acknowledgement Form (provided as an example in **Exhibit 1-1**.

- Verify that corrective actions resulting from deficiencies identified by audit and observations are implemented and effective.

The Health and Safety Representative/Manager or his/her designee will ensure that field staff have completed required training as applicable (e.g., OSHA training, U.S. Department of Transportation [DOT] training, first aid and cardiopulmonary resuscitation [CPR] training, etc.).

### *6.2.5 Key Foreperson or Forepersons*

The Key Foreperson or Forepersons report to the Project Manager/Superintendent, has authority to direct response operations, and assumes control over on-site activities. The Key Foreperson will direct field activities, will coordinate the technical and health and safety components of the field program, and is responsible in general for enforcing the site-specific HASP and Corporate Health and Safety Program requirements. The Key Foreperson will be the primary point of contact for all field personnel and visitors and has direct responsibility for implementation and administration of the site-specific HASP. The Key Foreperson and any other member of the field crew have STOP WORK AUTHORITY—the authority to stop or suspend work in the event of an emergency, if conditions arise that pose an unacceptable health and safety risk to the field crew or

environment, or if conditions arise that warrant revision or amendment of this HASP. It is critical that both the Key Foreperson, Project Manager/Superintendent, and Health and Safety Representative communicate regularly to proactively identify and address any safety-related concerns that may arise. The following include, but are not necessarily limited to, the functions of the Key Foreperson related to the health and safety program:

- Conduct and document daily safety meetings or designate an alternate representative in his or her absence.
- Execute the work plan and schedule.
- Conduct periodic field health and safety inspections to ensure compliance with the site-specific HASP.
- Oversee implementation of safety procedures.
- Implement worker protection levels.
- Enforce site control measures to help ensure that only authorized personnel are allowed on site.
- After coordinating with the Project Manager/Superintendent, notify (when necessary) local public emergency officials.
- Follow up on incident reports to the Project Manager/Superintendent.
- Periodically inspect protective clothing and equipment for adequacy and safety compliance.
- Ensure that protective clothing and equipment are properly stored and maintained.
- Perform or oversee air monitoring (if required) in accordance with this HASP.
- Maintain and oversee the monitoring equipment operation and data interpretation.
- Monitor workers for signs of stress, including heat stress, overexertion, cold exposure, and fatigue.
- Require participants to use the “buddy” system in performing tasks.
- Provide (via implementation of the site-specific HASP) emergency procedures, evacuation routes, and telephone numbers for the local hospital, poison control center, fire department, and police department.
- Communicate incidents promptly to the Project Manager/Superintendent.

- Maintain communication with the Health and Safety Representative on site activities.
- If applicable, ensure that decontamination and disposal procedures are followed.
- Maintain the availability of required safety equipment.
- Advise appropriate health services and medical personnel of potential exposures.
- Notify emergency response personnel in the event of an emergency and coordinate emergency medical care.

The Key Foreperson will record health-and-safety-related details of the project in the field logbook. At a minimum, each day's entries must include the following information:

- Project name or location
- Names of all on-site personnel
- Level of PPE worn and any other specifics regarding PPE
- Weather conditions
- Type of field work being performed

### *6.2.6 Subcontractors*

Subcontractors and their personnel must understand and comply with the requirements established in the site-specific HASP. Subcontractors may prepare their own task-specific HASPs, which must be consistent with the requirements of the site-specific HASP. Subcontractor personnel must attend and participate in the daily safety meetings and all other Site safety meetings.

### *6.2.7 Site Visitors*

All visitors must read and acknowledge their understanding of the site-specific HASP, abide by the requirements of the plan, and cooperate with Site supervisors to provide for a safe work Site. All Site personnel, including visitors, will immediately report any issues, accidents, or unsafe situations to the Site supervisors.

# 7. POTENTIAL CHEMICALS OF CONCERN AND GENERAL SITE CONTROL MEASURES

## 7.1 General

The following sections discuss the potential chemicals of concern that may be encountered during intrusive activities at the Site and general site control measures to mitigate the potential hazards.

## 7.2 Potential Chemicals of Concern

**Table 7-1** provides a summary of potential chemicals of concern that may be encountered during intrusive activities at the Site. The list is not all-inclusive and will be reviewed and modified by the SMP Entity, as required based on Site conditions.

These chemicals can be encountered during subsurface and intrusive investigation in and around the Site. Both real-time breathing zone air-monitoring for onsite workers and a Community Air Monitoring Program (CAMP) should be performed by the responsible field investigator, using a photoionization detector and a dust monitor in accordance with applicable regulations. The real-time data will be recorded in the field book by the field investigator/site health and safety representative, following each observation, during intrusive activities and sampling activities. All air monitoring data will be downloaded daily and kept as an electronic file. Requirements for real-time breathing zone air monitoring are presented in Section 10. Requirements for CAMP monitoring are described in **Appendix E** to the SMP (Excavation Work Plan). Safety Data Sheets (SDSs) for potential chemicals of concern are presented in **Attachment 1**.

**Table 7-1: Relevant Properties of Known or Suspected VOCs and SVOCs**

| Compound (synonym) | OSHA PEL (ppm or as otherwise noted)[1] | IDLH (ppm) | LEL (%) | Odor Threshold[2] (ppm) | Odor Character | Vapor Pressure (mm Hg @25°C) | Physical State at STP | Detectible w/ 10.6 eV lamp PID (I.P. eV) |
|---|---|---|---|---|---|---|---|---|
| cis-1,2 DCE | 200 (ceiling) | 300 | 9.7 | ~200 | Sweet, chloroform -like | ~225 | Liquid | Yes (9.65) |
| trans-1,2-DCE | 200 (ceiling) | 300 | 9.7 | ~200 | Sweet, chloroform -like | ~400 | Liquid | Yes (9.7) |
| PCE | 100 | 150 | 9.8 | 1-2 ppm | Mild, chloroform -like, sweet | ~18.5 | Liquid | Yes (9.32) |

| Compound (synonym) | OSHA PEL (ppm or as otherwise noted)(1) | IDLH (ppm) | LEL (%) | Odor Threshold(2) (ppm) | Odor Character | Vapor Pressure (mm Hg @25°C) | Physical State at STP | Detectible w/ 10.6 eV lamp PID (I.P. eV) |
|---|---|---|---|---|---|---|---|---|
| TCE | 100<br>300 (ceiling) | 1,000 | 8.0 | 28 | Sweet, chloroform -like | ~58 | Liquid | Yes (9.45) |
| Vinyl Chloride (A1) | 1<br>5 (ceiling) | 500 | 3.6 | 260-4,000 | Sweet | ~2,600 | Gas | Yes (9.99) |

Notes:

1. 29 CFR 1910, June 30, 1993 (8-hour time-weighted average unless otherwise specified.). These values may be modified by OSHA. The values should be checked and updated, as necessary, prior to commencing work activities.
2. ACGIH 1989 Highest reported value of acceptable odor threshold range. These values may be modified by ACGIH. The values should be checked and updated, as necessary, prior to commencing work activities.

A1: ACGIH Confirmed Human Carcinogen
ACGIH: American Conference of Governmental Industrial Hygienists
ceiling: Ceiling Limit - not to exceeded at any time during a work day
IDLH: Immediately dangerous to life or health
I.P.: ionization potential
LEL: lower exposure limit
PEL: Permissible Exposure Limit
PID: Photoionization Detector
ppm: parts per million
STP: Standard Temperature and Pressure
TWA: Time-Weighted Average

## 7.3 Possible Exposure Routes

Possible routes of exposure to the chemicals potentially encountered on this project include inhalation, dermal contact, and ingestion of dust, mist, gas, vapor, or liquid. Exposure will be minimized by using engineering controls, safe work practices and by wearing the appropriate PPE. Further discussion of PPE requirements is presented in Section 9.

### *7.3.1 Inhalation*

Inhalation of particulates, dust, mist, gas, or vapor during field activities is possible. Whenever possible, work activities will be oriented, so personnel are upwind of the sampling location. Section 10 describes air monitoring requirements and associated action levels.

### *7.3.2 Dermal Contact*

Dermal contact with potentially contaminated materials, soil, sediment, or groundwater during field activities is possible. Direct contact will be minimized through appropriate PPE, engineering controls, real-time air monitoring (particulates), and decontamination procedures.

### *7.3.3 Ingestion*

Direct ingestion of contaminants can occur by inhaling airborne dust, mist, or vapors, or by swallowing contaminants that are trapped in the upper respiratory tract. Indirect ingestion can occur by introducing the contaminants into the mouth by way of food, tobacco, fingers, or other carriers. Although ingestion of contaminants can occur, proper hygiene, real-time air monitoring (particulates), decontamination, and contamination-reduction procedures should reduce the probability of this route of exposure.

## 7.4 General Site Control Measures

The primary purposes for site controls are to establish the Exclusion Zone perimeter, reduce migration of contaminants into clean areas by using a Contamination Reduction Zone, and prevent unauthorized access or exposure to hazardous materials by site personnel and the public. Site control is especially important in emergency situations.

### *7.4.1 General Site Control Safety Procedures*

The following standard safe work practices apply to all site personnel and shall be discussed in the safety briefing prior to initiating work on the site:

- Eating, drinking, chewing gum or tobacco, and smoking are prohibited on site, except in designated areas.
- Hands and faces must be washed upon leaving the work area and before eating, drinking, chewing gum or tobacco, and smoking.
- A buddy system shall be used. Radio, cell phone, or hand signals will be established to maintain communication.
- During site operations, each worker will consider himself/herself as a safety backup to his/her partner.
- Visual contact will be maintained between buddies on site when performing potentially hazardous duties.
- No personnel will be admitted to the site without the proper safety equipment, training, and (if required) medical surveillance certification.
- All personnel must comply with established safety procedures. Any staff member who does not comply with safety policy as established in this HASP may be subject to corrective action, potentially including reprimanded or immediate dismissal.
- Proper decontamination procedures must be followed before leaving a contaminated work area.

### *7.4.2 Work Area Access Control*

If work is performed in public areas, the following precautions shall be taken to protect the workers and the public. Access control to the work area will be accomplished by the use of a combination of the following devices and/or methods:

- Fences and/or barricades
- Traffic-control devices and/or use of flaggers
- Caution tape
- Other methods to keep the site secure and provide a visual barrier to help keep unauthorized personnel from entering the site and active work areas

### *7.4.3 Hazardous Waste Site Work Control Procedures*

To prevent contamination from migrating from personnel and equipment, work areas will be clearly specified as an Exclusion Zone/Hot Zone (EZ), Contamination Reduction Zone (CRZ), or Support Zone/Clean Zone (SZ) prior to beginning operations. Each work area will be clearly identified using signs or physical barriers. At the end of each workday, the site should be secured and/or guarded to prevent unauthorized entry.

Site work zones will include:

- **Exclusion Zone/Hot Zone**. The EZ will be the "hot zone" or contaminated area inside the site perimeter. The EZ is the defined area where potential respiratory and/or health hazards exist. All personnel entering the EZ must use the required PPE, as set forth in the site-specific HASP, and meet the appropriate training and medical clearance. Entry to and exit from this zone will be made through a designated point. Appropriate warning signs to identify the EZ should be posted (e.g., DANGER, AUTHORIZED PERSONNEL ONLY, PROTECTIVE EQUIPMENT REQUIRED BEYOND THIS POINT). Personnel and equipment decontamination must be performed upon exiting the EZ.

- **Contamination Reduction Zone**. The CRZ, also known as the "warm zone," is a transitional zone between the EZ and the SZ (also known as the "cold zone" or "clean zone"). The CRZ provides a location for removal and decontamination of PPE and tools leaving the EZ. A separate decontamination area will be established for heavy equipment. All personnel and equipment must exit via the CRZ. If the CRZ is compromised at any time, a new CRZ will be established.

- **Support Zone/Clean Zone**. This uncontaminated zone will be the area outside the EZ and CRZ and within the geographic perimeters of the site (including sample processing and analysis areas). The SZ is used for support personnel; staging materials; parking vehicles; office, laboratory, and sanitation facilities;

and receiving deliveries. Personnel entering this zone may include delivery personnel, visitors, security guards, and others who will not necessarily be permitted in the EZ or CRZ.

A log of all personnel (including subcontractors) visiting, entering, or working on the site shall be maintained by the Key Foreperson. No personnel (or subcontractors) will be allowed in the EZ without showing proof of training and medical certification, per 29 CFR 1910.120(e), (f) (and 29 CFR 1926.1101(k)(9), (m) if appropriate).

## 7.5 Activity Hazard Analysis

The party performing the work and their subcontractors are required to conduct an Activity Hazard Analyses (AHA) for all aspects of the work activities. The AHA consists of the following three steps:

1) Identify the task and break it down into steps.

2) Identify the hazards associated with each step.

3) Identify the specific hazard control measure(s) (e.g., engineering controls, administrative controls, and/or PPE) that will be used to ensure these tasks are conducted in a safe manner.

The U.S. Army Corp of Engineers website (http://www.usace.army.mil/Safety-and-Occupational-Health/Activity-Hazard-Analysis/) contains a library of sample AHAs that may be useful. The Project Managers may use the following list as a guide in determining the AHAs for various high-hazard operations and critical tasks for a typical intrusive project:

- **Pre-Mobilization Inspection.** Conduct an initial site inspection for pre-job planning. The inspection should cover potential exposures such as the location of electrical lines, underground utilities, nearby structures, traffic conditions, site security needs, public exposures general liability, and other potential exposures.

- **Traffic Controls.** Control measures include warning signs, flagmen, traffic stoppage and control, and unloading procedures. Internal traffic-control plans should include ways to restrict the number of vehicles on site, the flow of vehicles accessing the site and driving through the site, merging of site traffic with local vehicle traffic, pedestrian controls in traffic zones, access by emergency and rescue vehicles, and operator controls.

- **Vehicle Operation.** Although driving a vehicle may be second nature to many individuals, there are many hazards and controls that need to be identified. Fatigue and distractions are two hazards that many individuals do not think about on a regular basis.

- **Field Activities.** Many different types of activities occur in the field from excavations, soil sampling, and monitoring. A variety of hazards could be incurred with each activity such as biological, slip/trips/falls, and lacerations. An AHA is required for each different field activity to identify the hazards and controls.

- **Field Visit**. When a field visit occurs, it may be before any field activities are taking place. However, there may still be hazards present such as walking or driving in fields with uneven terrain. Although PPE such as a hard hat and safety glasses may not be needed, sturdy work boots, long pants, and sunscreen may be necessary.

- **Mobilization/Demobilization.** Conduct an initial site inspection for pre-job planning. The inspection should cover potential exposures such as the location of electrical lines, underground utilities, nearby structures, traffic conditions, site security needs, public exposures general liability, and other potential exposures.

- **Heavy equipment controls.** Evaluate the use of heavy equipment in operations such as site clearing, grading, drilling and excavation or lifting. Controls should include equipment alarms, use of qualified operators, pre-use inspections, and any specific OSHA regulatory requirements.

- **Portable hand and power tools.** Evaluate the tools to be used and the ways that workers are protected from the hazards associated with the use of tools. Consider tool maintenance requirements; electrical requirements; the use of ground fault circuit interrupters, grounding, extension cords, and tool inspection procedures; and employee training and PPE requirements.

**Exhibit 7-1** shows an example AHA form. **Exhibit 7-2** shows a training record to be completed and kept on file for each AHA. Example AHAs can be found in **Attachment 2**. The intent of an AHA is to identify the steps, hazards, and control measures involved with performing a specific task. The AHAs included in this HASP template are not inclusive of all activities that may be performed at the site, and may not include all of the steps, hazards, or control measures required to safely complete a task. Any individual given a work assignment shall review the corresponding AHA prior to commencing work activities to determine whether the AHA needs to be modified for site-specific conditions or if an additional AHA should be developed.

## Exhibit 7-1: Example Activity Hazards Analysis Form

### Job Safety Analysis

ANCHOR QEA

**Topic**

| | | | |
|---|---|---|---|
| **Project Name:** Fill in | **Project Number:** Fill in | **JSA Number:** 0XX | **Issue Date:** Fill in |
| **Location:** Fill in | **Contractor:** Anchor QEA, LLC | **Analysis by:** Fill in | **Analysis Date:** Fill in |
| **Work Operation:** Fill in—same as Topic | **Superintendent/Competent Person:** Fill in | **Revised by:** Fill in | **Revised Date:** Fill in |
| **Required Personal Protective Equipment (PPE):** • • • | | **Reviewed by:** Fill in | **Reviewed Date:** Fill in |
| | | **Approved by:** Fill in | **Approved Date:** Fill in |

| Work Activity | Potential Hazards | Preventive or Corrective Measures | Inspection Requirements |
|---|---|---|---|
| | | • • • | • |
| | | • • • | • |

**Training Requirements:**

- 
- 
- 

## Exhibit 7-2: Example Activity Hazards Analysis Training Record

JOB NUMBER _____
AHA NUMBER _____
JOB LOCATION _____
DATE: _____

NAME OF TRAINER: _____
SUBJECTS COVERED: _____

TRAINING AIDS USED: _____

ATTENDEES (PLEASE SIGN NAME LEGIBLY):

| | |
|---|---|
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(Use additional sheets if necessary)

# 8. HEALTH AND SAFETY TRAINING, INFORMATIONAL, AND COMMUNICATION PROGRAMS

## 8.1 General

This section describes the health and safety training and informational programs with which all project site personnel must comply. All certifications required in this section will be kept on the internal file.

The SMP Entity performing the work and/or their subcontractors must, as applicable, identify OSHA-regulated and certified competent persons for work or tasks requiring that level of training and/or supervision. It is the full responsibility of each SMP Entity and their subcontractors to review and adhere to all applicable local, state, and federal training and certification requirements associated with planned work at the Site. The project personnel listed below will be assigned to the project and have the designated certifications.

This section will be updated by the party performing the work prior to the commencement of work at the Site.

| Name | Job Title | 40-hour HAZWOPER | 8-hour HAZWOPER Supervisor | 8-hour HAZWOPER Refresher Expires | Other Training (i.e., excavation, confined space, first aid, CPR) |
|---|---|---|---|---|---|
| TBD | - | - | - | - | - |

## 8.2 Initial Project Site Orientation

Work on the project site will require participation in an initial health and safety orientation presented by the Project Manager/Superintendent or Key Foreperson that will consist of, at a minimum, the following topics:

- A review of the contents of the site-specific HASP, including the Scope of Work and associated site hazards, control methods, and procedures.
- The provisions of this plan are mandatory for all personnel assigned to the project.
- Subcontractors are also expected to follow the provisions of this plan unless they have their own HASP that covers their specific activities related to this project and includes the minimum requirements of the site-specific HASP.
- All visitors to the work site will also be required to abide by the requirements of this plan.

- Personnel assigned to perform work at the project site, working under the provisions of the site-specific HASP, will be required to read the plan and must sign the Health and Safety Plan Acknowledgement Form to confirm that they understand and agree to abide by the provisions of the plan. Personnel not directly affiliated with the project (i.e., visitors) may also be required to sign a Liability Waiver (prepared on behalf of the SMP Entity).

## 8.3 Daily Safety Meetings

Daily safety meetings ("tailgate meetings") make accident prevention a top priority for everyone and reinforce awareness of important accident-prevention techniques. The following daily safety meeting procedures and practices are required:

- Daily safety meetings will be held each morning prior to conducting site activities.

- The example Daily Safety Briefing form shown in **Exhibit 8-1** below will be used (at a minimum) to document each meeting.

- Copies of the completed Daily Safety Briefing forms will be maintained on site while the project.

**Exhibit 8-1: Example Pre-Field Work Safety Meeting (Daily Safety Meeting)**

Notes: _____

_____

Reviewed by: Title:_____Date:_____

| | | | |
|---|---|---|---|
| Date: | | Project/Location: | |
| Subcontractor Representative: | | Project Manager (Party performing Work): | |
| Phone: | | Phone: | |
| Subcontractor Safety Representative: | | Safety Manager (Party performing Work): | |
| Phone: | | Phone: | |

The following items were identified and reviewed:

| **Health and Safety** | |
|---|---|
| Site-Specific Safety Plans/Model Program | |
| Competent/Qualified Person Documentation | |
| Safety Audits/Inspections | |
| Subcontractor Responsibilities | |
| Site Orientation Requirements | |
| Pre-mobilization Safety Meeting/Date | |
| Crane Inspection Certification | |
| Personal Protective Equipment (PPE) | |
| Environmental Hazards | |
| Other: | |
| **Medical** | |
| Emergency Procedures | |
| Site Security | |
| Smoking Policy | |
| Medical Services Requirements | |
| Treatment Locations/Addresses/Phone | |
| Other | |

Additional Notes/Comments:

_____

_____

## 8.4 Hazardous Waste Operations Training

Personnel working on project sites that present a potential exposure to hazardous wastes or other hazardous substances shall be trained in accordance with the requirements of the 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response (HAZWOPER) regulation. Training requirements will consist of the following:

- Field personnel must complete a minimum of 40 hours of hazardous waste activity instruction.
- Field personnel must complete a minimum of 3 days of supervised field instruction.
- Field personnel assigned to the site will also have received 8 hours of refresher training if the time lapse since their previous training has exceeded 1 year.
- On-site managers and supervisors directly responsible for employees engaged in hazardous waste operations will receive an additional 8 hours of supervisory training.
- Field personnel shall be current in first aid/CPR training offered by the American Red Cross or equivalent.
- Other training may be required depending on the task to be performed (e.g., confined space, excavation/trenching, underground storage tank removal, fall protection, lock out/tag out (LO/TO), respiratory protection, and hazard communication).

## 8.5 Hazard Communication Program

The purpose of hazard communication (Employee Right-to-Know) is to ensure that the hazards of all chemicals located at the field project site are communicated to all project personnel and subcontractors according to 29 CFR 1926.59. The SMP Entity may have specific Hazard Communication Program documents for additional information, which should also be detailed as necessary.

Every container of hazardous materials must be labeled by the manufacturer, who must also provide an SDS upon initial order of the product and upon request thereafter. The actual format may differ from company to company (e.g., National Fire Protection Association, Hazardous Material Information System, or other), but the labels must contain similar types of information. Maintain manufacturer labels if possible. The label may use words or symbols to communicate the following:

- Introduction
- Hazard(s) identification
- Composition/information on ingredients
- First-aid measures
- Fire-fighting measures
- Accidental release response measures

- Handling and storage
- Exposure controls/personal protection
- Physical and chemical properties
- Stability and reactivity properties
- Toxicological properties
- Ecological properties
- Disposal considerations
- Transport considerations
- Regulatory information
- Other information, including at a minimum, label preparation or last revision date

SDS for all chemicals brought onto the site or anticipated to be used on site shall be provided in an appendix of the site-specific HASP. It will be the responsibility of the SMP Entity to ensure that SDSs for all chemicals brought onto the site or anticipated to be used will be included in the site-specific HASP. SDSs for potential chemicals of concern are presented in **Attachment 1**. These SDS shall be readily available for reference by site personnel and emergency response personnel.

Hazardous materials received without proper labels shall be set aside and not distributed for use until properly labeled.

If a hazardous chemical is transferred into a portable container (approved safety can), even if for immediate use only, the contents (e.g., acetone or gasoline) of the portable container must be identified.

## 8.6 Employee Communication System and Policy

An open, two-way communication between management and staff on health and safety issues is essential to an injury-free, productive workplace. The following system of communication is designed to facilitate a continuous flow of health and safety information between management and staff in a form that is readily understandable and consists of one or more of the following checked items:

- New worker orientation, including a discussion of health and safety policies and procedures.
- Workplace health and safety training programs.

- Regular weekly and daily safety meetings.
- Effective communication of health and safety concerns between workers and supervisors, including translation where appropriate.
- Posted or distributed safety information.
- A system for workers to anonymously inform management about workplace hazards.
- A labor/management health and safety committee that meets regularly, prepares written records of the health and safety committees meetings, reviews results of the periodic scheduled inspections, reviews investigations of accidents and exposures and makes suggestions to management for the prevention of future incidents, reviews investigations of alleged hazardous conditions, and submits recommendations to assist in the evaluation of employee safety suggestion.

## 8.7 Medical Surveillance Program

All personnel who are potentially exposed to Site contaminants must participate in a medical surveillance program as defined by OSHA at 29 CFR 1910.120.

### *8.7.1 Pre-Placement Medical Examination*

All potentially exposed personnel must have completed a comprehensive medical examination prior to assignment on the project, and periodically thereafter as defined by applicable OSHA regulations. The examining physician will provide the employee with a letter summarizing his or her findings and recommendations, confirming the worker's fitness for work and ability to wear a respirator. Documentation of medical clearance will be available for each employee during all project Site work.

Subcontractors will certify that all their employees have successfully completed a physical examination by a qualified physician. The physical examinations must meet the requirements defined by OSHA at 29 CFR 1910.120 and 29 CFR 1910.134. Subcontractors will supply copies of the medical clearance for each employee at the project Site.

### *8.7.2 Other Medical Examination*

In addition to pre-employment, annual, and exit physicals, personnel may also be examined:

- At employee request after known or suspected exposure to toxic or hazardous materials.
- At the discretion of the client, project health and safety professional, or occupational physician in anticipation of, or after known or suspected exposure to toxic or hazardous materials.

- At the discretion of the physician.

### *8.7.3 Periodic Exam*

When the examining physician identifies a need to restrict work activity, the employee's supervisor must communicate the restriction to the employee and the project health and safety professional. The terms of the restriction will be discussed with the employee and their supervisor.

# 9. GENERAL PPE REQUIREMENTS

The minimum level of PPE should be selected according to the hazards that may be encountered during Site activities in accordance with established U.S. Environmental Protection Agency (EPA) levels of protection (D and C). Only PPE that meets American National Standards Institute (ANSI) standards shall be worn. Workers must maintain proficiency in the use and care of PPE. Damaged or defective PPE must be replaced and may not be used. The SMP Entity will provide all necessary PPE for its employees as described in the site-specific HASP.

## 9.1 Minimum Requirements – Level D Protection

The minimum level of protection will be Level D protection, which consists of the following equipment:

- Standard work uniform/coveralls
- Work boots with safety toe conforming to American Society for Testing and Materials (ASTM) F2412-05/ASTM F2413-05
- Approved safety glasses or goggles (meets ANSI Z87.1 – 2010 requirements for eye protection)
- Hard hat (meets ANSI Z89.1 – 1986 requirements for head protection)
- Traffic safety vest
- Hearing protection when there are high noise levels
- Disposable boot covers

Level D protection will be used only when:

- The atmosphere contains no known hazards
- Work functions preclude splashes, immersions, generation of dust particulates or the potential for unexpected inhalation of, or contact with, hazardous concentrations of chemicals
- Atmospheric concentrations of contaminants are less than the Permissible Exposure Limit (PEL) and/or Threshold Limit Value (TLV)

### *9.1.1 Modified Level D Protection Requirements*

Depending on the Scope of Work and the potential hazards to be encountered, Level D protection shall be modified to include additional protective equipment such as face

shields/goggles, chemical-resistant clothing (i.e., Tyvek), and disposable gloves of varying materials depending on the chemical substances involved. An upgrade to Modified Level D occurs when there is a possibility that contaminated media can contact the skin or work uniform, or if unique, site-specific hazards exist.

Initially at portions of the site where remaining contaminants may be encountered based on the site-specific SMP, work will start in Modified Level D (including Tyvek and disposable gloves).

## 9.2 Respiratory Protection Requirements

Respiratory protection devices may potentially be used for protection against particulates and potential site-specific contaminants during the course of an intrusive field project. The need for respiratory protection will be determined by air monitoring results and site conditions. However, engineering and administrative controls must first be evaluated for use as the primary controls for protection against site respiratory hazards. In the event that engineering and administrative controls are deemed not feasible, respiratory protection will be required.

### *9.2.1 Level C Protection Requirements*

An upgrade to Level C protection occurs when the results of air monitoring reveal that action levels have been exceeded.

Level C protection, in addition to Level D equipment, involves the use of full-face and/or half-face air-purifying respirators equipped with P-100/organic vapor or P-100/mercury vapor or equivalent (OSHA/National Institute for Occupational Safety and Health [NIOSH] approved) as applicable based on air monitoring. For this site, the potential for particulate and organic vapor action level exceedances exists.

Level C protection shall be used in the following situations:

- When there is a recognized need for protection against particulates, organic vapors, or other airborne contaminants during the course of the project.
- During activities where product odors or exposure symptoms are noted.

If, during the use of respiratory protection, any unusual odors or other evidence of elevated concentrations of chemicals in the workers' breathing zone is noted, the work shall be stopped, workers shall exit the work area, and the Project Manager/Superintendent and Health and Safety Representative shall be contacted for instructions.

This HASP template has not provided requirements for upgrade to Level B protection. If the SMP Entity believes that a potential upgrade to Level B protection may be necessary, the SMP Entity shall include appropriate requirements in their site-specific HASP.

### *9.2.2 Cartridge Change-out Schedule*

Field personnel must understand the limitations of air-purifying respirators and the End-of-Service Life cartridge change-out schedule for the particular type of respirator that will be used. Manufacturer's data for the type of respirators and cartridges will be evaluated on a case-by-case basis.

The SMP Entity should prepare a cartridge change-out schedule based on the type of equipment used and include this information in the site-specific HASP. Cartridges will be changed immediately if breakthrough, a chemical warning property (e.g., eye, nose, or throat irritation or odor), or cartridge end-of-life indicator activation occurs. All workers will use the buddy system when using respirators and periodically check all end-of-life indicators on the cartridges of all other workers (every 30 minutes at a minimum). The Key Foreperson will review this requirement after monitoring the employee's breathing zone for site contaminants and will revise this schedule as may be necessary to avoid overexposure.

### *9.2.3 Respirator Fit Testing*

All project personnel who may be required to wear an air-supplied, or negative-pressure, air-purifying respirator in the performance of their work duties at the site shall be quantitatively fit-tested on an annual basis. Employees who wear a respirator for more than 30 days per year shall be enrolled in a medical surveillance program as pursuant to the SMP Entity's policies and applicable regulations. Employees shall have the opportunity to handle the respirators and wear them in normal air for a familiarity period prior to fit testing. On each occasion that employees don a respirator for work purposes, they shall test the piece-to-face seal by use of the following positive and negative pressure tests:

- Positive Pressure Test: With the exhaust port(s) blocked, the positive pressure of slight exhalation should remain consistent for several seconds.

- Negative Pressure Test: With the intake ports blocked, the negative pressure of slight inhalation should remain constant for several seconds.

Air-purifying respirators shall not be worn when conditions prevent a seal of the respirator to the wearer. Such conditions may be the growth of a beard, sideburns, a skull cap that projects under the face piece, or temple pieces on glasses. No employee may wear a beard if it interferes with the fit of the respirator. Also, the absence of one or both dentures can seriously affect the fit of a face piece, and should be worn at all times when respirators are being used.

### *9.2.4 Respirator Cleaning, Maintenance, and Inspection*

All respirators used on site shall be cleaned and maintained in the following manner:

- Remove filters and cartridges.

- Visually inspect face piece and parts, discard faulty items.
- Remove all elastic headbands.
- Remove exhalation cover and inhalation valves.
- Wash, sanitize, and rinse face piece. Wash any parts that were removed separately.
- Dry the mask. Wipe face pieces and valves.
- Disassemble and clean the exhalation valve.
- Visually inspect face piece and all parts for deterioration, distortion, or other faults that might affect the performance of the respirator.
- Replace any questionable or faulty parts.
- Reassemble mask and visually inspect completed assembly.
- Seal mask in plastic bag.

# 10. GENERAL AIR MONITORING REQUIREMENTS

## 10.1 General Requirements

In general, air monitoring shall be conducted when the possibility of hazardous atmospheres, chemical volatilization, or contaminated airborne dust exists (e.g., from intrusive activities involving contaminated soils or groundwater, confined space entry, or others). The SMP Entity shall determine if the planned activities at the site require air monitoring activities and develop a site-specific air monitoring program as part of the site-specific HASP. Typically, air monitoring will be conducted, as necessary, during implementation of all intrusive work activities at the Site (including activities when staging/handling waste materials with potential contamination). The monitoring devices to be used, at a minimum, are a MiniRAM (or equivalent) dust particulate monitor capable of measuring particulate matter less than 10 micrometers in size (PM10) and a RAE Systems MultiRAE (or equivalent) photoionization detector that measures organic vapors, oxygen, combustible gases, carbon monoxide, and hydrogen sulfide.

## 10.2 Typical Air Monitoring Action Levels

Typical air monitoring action levels for a site with remaining MGP-related contaminants are provided as a reference in **Table 10-1** below. It shall be the responsibility of the SMP Entity performing the work to review, update, and issue appropriate air monitoring requirements in accordance with all local, state, and federal regulations. All air monitoring results shall be documented in the field logbook or similar form.

**Table 10-1: Typical Air Monitoring Action Levels**

| Contaminant / Instrument[1] | Job Tasks/Functions | Measurement | Monitoring Schedule[2] | Actions[3] |
|---|---|---|---|---|
| Total Organic Vapors (using Photoionization Detector with 10.6 eV Lamp) | Conduct air monitoring for organic vapors during intrusive activities. Monitor in the workers' breathing zone. | 0 to 1 ppm above background | Every 15 minutes | Acceptable, continue work. |
| | | 1 to 40 ppm above background (sustained for 2 minutes) | Continuous | Begin engineering controls. If the PID continues greater than 5 ppm, then use colorimetric tubes to monitor for benzene and hydrogen sulfide. |
| | | > 40 ppm above background | Stop Work. | Stop work, investigate cause of reading, consult with Project Manager and Qualified Health and Safety Representative to determine PPE, mechanical ventilation, or possible changes in work task. |

| Contaminant / Instrument[1] | Job Tasks/Functions | Measurement | Monitoring Schedule[2] | Actions[3] |
|---|---|---|---|---|
| Hydrogen Sulfide Real-Time Gas Monitor<br>Carbon Monoxide Meter | Conduct air monitoring for benzene during activities where contaminated media are present and/or PID readings require colorimetric detector tube sampling. Monitor in the workers' breathing zone.<br>Conduct air monitoring for carbon monoxide during activities. Monitor in the workers' breathing zone. | < 1 ppm hydrogen sulfide | If PID greater than 5 ppm sustained, periodically (every 15 minutes) | Acceptable, continue work. |
| | | ≥ 1 ppm hydrogen sulfide | Stop Work | Stop work, investigate cause of reading, consult with Project Manager and Qualified Health and Safety Representative to determine PPE, mechanical ventilation, or possible changes in work task. |
| | | < 10 ppm | Continuous in areas carbon monoxide may be present | Acceptable, continue work. |
| Hydrogen Sulfide Real-Time Gas Monitor<br>Oxygen ($O_2$)<br>Multi-Gas Meter | Conduct air monitoring for benzene during activities where contaminated media are present and/or PID readings require colorimetric detector tube sampling. Monitor in the workers' breathing zone.<br>Conduct air monitoring for $O_2$ in work area. Monitor in the workers' breathing zone. | ≥ 10 ppm | If PID greater than 5 ppm sustained, periodically (every 15 minutes) | Stop work required.[4] Leave work area and contact Project Manager and Qualified Health and Safety Representative to determine PPE, mechanical ventilation, or possible changes in work task. |
| | | 19.5% to 23.5% | Continuous in areas where $O_2$ may be out of normal range | Acceptable, continue work. |
| Carbon Monoxide Meter<br>Lower Explosive Limit (LEL)<br>Multi-Gas Meter | Conduct air monitoring for carbon monoxide during activities. Monitor in the workers' breathing zone.<br>Conduct air monitoring in work area. Monitor in the workers' breathing zone. | < 19.5%, >23.5% | Continuous in areas carbon monoxide may be present<br>Continuous | Stop work required. Leave work area and contact Project Manager and Qualified Health and Safety Representative for guidance. |
| | | ≤ 5% | | Acceptable, continue work. |
| Oxygen ($O_2$)<br>Multi-Gas Meter | Conduct air monitoring for $O_2$ in work area. Monitor in the | > 5% to 10% | Continuous in areas where $O_2$ may be out of normal range | Stop work required. Contact Project Manager and Qualified Health and Safety Representative. |

| Contaminant / Instrument[1] | Job Tasks/Functions | Measurement | Monitoring Schedule[2] | Actions[3] |
|---|---|---|---|---|
| | workers' breathing zone. | | | Implement engineering controls following consult with Project Manager and Qualified Health and Safety Representative. |
| | | > 10% | | Stop work and evacuate. |
| Dust Monitor (respirable fraction as Portland Cement) | Conduct air monitoring for particulates during intrusive activities. Monitor in the workers' breathing zone. | < 0.1 mg/m3 | Continuous during intrusive activities | Acceptable, continue work. |
| | | ≥0.1 mg/m3, or visible airborne dust | Continuous during intrusive activities<br>Continuous | Initiate wetting work area to control dusts. Upgrade to Level C if dust control measures do not control dust within 15 minutes, monitor downwind impacts. |
| | | ≥ 0.15 mg/m3 in worker breathing zone or at downwind perimeter of work area | | Stop Work. Upgrade to Level C. Implement engineering controls following consult with Project Manager and Qualified Health and Safety Representative. |

Notes:

1. Instruments must be calibrated according to manufacturer's recommendations.
2. Monitoring frequency is from the beginning of each task and at specified intervals thereafter, or when detectable contamination is encountered (as indicated by strong, sustained odor; visual evidence of product; or discolored sampling matrices).
3. For VOCs, a sustained reading for greater than 2 minutes in excess of the action level will trigger a protective measure.
4. Personnel working must have passed a quantitative fit test with their respirator to continue working with respirator on.
5. In the event that work at the site is being performed within negative air containments, the air monitoring action levels may be revised based on review of the work conditions, review of the containment/negative air design, and review/approval by the qualified Health and Safety Representative and Project Manager.

$mg/m^3$: milligrams per cubic meter
eV – instrument photon energy
PID: Photo Ionization Detector
ppm: parts per million

## 10.3 Equipment Calibration and Maintenance

Calibration and maintenance of all air monitoring equipment shall follow manufacturer specifications and must be documented. Recalibration and adjustment of air monitoring equipment shall be completed as site conditions and equipment operation warrant. Record all air monitoring equipment calibration and adjustment information in the field logbook.

## 10.4 Air Monitoring Frequency Guidelines

In general, periodic air monitoring will be conducted during all intrusive activities and when:

- It is possible that an immediately dangerous to life or health condition or a flammable atmosphere has developed (e.g., confined space entry or intrusive activities)

- There is an indication that exposures may have risen over established action levels, PELs, or published exposure levels since the last monitoring. Look for a possible rise in exposures associated with the following situations:
    - Change in site area – Work begins on a different section of the Site.
    - Change in on-Site activity – One operation ends and another begins.
    - Change in contaminants – Handling contaminants other than those first identified.
    - Visible signs of particulate exposure from intrusive activities such as drilling, boring, or excavation.
    - Perceptible chemical odors or symptoms of exposure.
    - Handling leaking drums or containers.
    - Working with obvious liquid contamination (e.g., a spill or lagoon).
    - Conduct air monitoring when the possibility of volatilization exists (such as with a new monitoring well or a well containing known contaminants of concern [COCs]).

# 11. GENERAL HEALTH AND SAFETY PROCEDURES AND PRACTICES

In addition to the Activity Hazard Analyses forms presented in Appendix B of this HASP, this section lists general health and safety procedures and practices applicable to this project. For additional information, consult with the Project Manager. The SMP Entity shall review these procedures and incorporate company-specific and additional procedures, as necessary, to the site-specific HASP.

## 11.1 Physical Hazards

Physical hazards that may be encountered include but are not limited to heat stress, cold related illness, ultra-violet radiation, working on or adjacent to a waterway, and noise hazards.

### *11.1.1 General Site Activities*

Observe the following general procedures and practices to prevent physical hazards:

- Legible and understandable precautionary labels shall be affixed prominently to containers of potentially contaminated soil, sediment, water, and clothing.
- No food or beverages shall be present or consumed in areas that have the potential to contain COCs and/or contaminated materials or equipment.
- No tobacco products or cosmetics shall be present or used in areas that have the potential to contain COCs and/or contaminated materials or equipment.
- An emergency eyewash unit shall be located immediately adjacent to employees who handle hazardous or corrosive materials, including decontamination fluids. All operations involving the potential for eye injury or splash must have approved eyewash units locally available capable of delivering at least 0.4 gallons per minute for at least 15 minutes.
- Personnel working within 10 feet of bodies of water shall wear U.S. Coast Guard (USCG)-approved personal floatation devices (PFDs).
- Certain project sites may have newly finished work (e.g., concrete, paving, framing, habitat reconstruction, or sediment caps) that may be damaged by unnecessary contact, or that could cause dangerous conditions for personnel (e.g., slipping, sinking, or tripping). Personnel working in or around these areas shall communicate with the Project Manager, Field Leader, and property owner as needed to prevent damaging new work or entering dangerous conditions.

- Generally, all on-site activities will be conducted during daylight hours. If work after dusk is planned or becomes necessary due to an emergency, adequate lighting must be provided.

- Hazardous work, such as handling hazardous materials and heavy loads and operating equipment, should not be conducted during severe storms.

- All temporary electrical power must have a Ground-fault Circuit Interrupter (GFCI) as part of its circuit if the circuit is not part of permanent wiring. All equipment must be suitable and approved for the class of hazard present.

### *11.1.2 Slips, Trips, and Falls*

Observe the following procedures and practices to prevent slips, trips, and falls:

- Inspect each work area for slip, trip, and fall potential prior to each work task.

- Slip, trip, and fall hazards identified must be communicated to all personnel. Hazards identified shall be corrected or labeled with warning signs to be avoided.

- All personnel must be aware of their surroundings and maintain constant communication with each other at all times.

### *11.1.3 Ergonomic Considerations*

Certain field tasks may involve workers in fixed positions (e.g., observing subcontractor work) or performing repetitive motions over a period of time (e.g., sediment sample processing). It is important that workers self-monitor for ergonomic fatigue (e.g., soreness, tightness, stiffness, or pain in muscles) and make adjustments to work tasks, body positions, or work areas so that ergonomic stressors are minimized. Suggestions for decreasing the likelihood of ergonomic stress include the following:

- Limit fixed positions. Periodically vary standing and sitting positions, take frequent short walks, and modify observation locations when possible.

- Minimize extreme postures. Conduct work tasks using comfortable postures (particularly if the tasks are repetitive), and use tools or structures to minimize the need to hold or work with materials or access the work area.

- Limit contact stress. Be aware of soft tissue resting on hard surfaces, and limit these occurrences (e.g., use comfortable footwear, and use tools to hold materials).

- Contact the Field Mobilization Team in advance for prolonged field efforts that involve a field trailer. This group can set up field staff with a monitor, mouse, and keyboard so they are not working solely on laptops.

- Take breaks from work tasks, particularly repetitive ones.

- Consider performing stretching exercises before and during work activities, if those tasks are anticipated to be long in duration and/or strenuous.

### *11.1.4 Corrosive Material Handling Procedures*

Corrosive materials include acids and bases. They are extremely corrosive materials with a variety of uses. Acids include hydrochloric, nitric, and sulfuric acids. Bases include sodium hydroxide. Observe the following procedures when working with corrosive materials:

- Wear gloves and eye-splash protection while using acid dispensed from a small dropper bottle during water sampling.

- Wear a full-face, air-purifying respirator equipped with combination cartridges (organic vapor/acid gas) as well as Tyvek coveralls and nitrile gloves for large volume applications.

- Have an eyewash bottle and/or portable eyewash station on site.

- Do not add anything into a virgin chemical drum, including unused product.

- Avoid mixing strong acids and bases. Consult the Health and Safety Representative for task-specific evaluation. If mixing is absolutely necessary, do it slowly. Avoid vapors or fumes that are generated.

- When diluting acids and bases, add the acid or base to water in small quantities and mix cautiously.

### *11.1.5 Underground/Overhead Utility Line Contact Prevention*

Minimum overhead electrical clearances are provided in Table 11-1. As part of the utility clearance activities, an initial geophysical survey followed by a removal of surface covers will be performed. The geophysical survey will include the use of ground penetrating radar (GPR) and electromagnetic utility locating instruments.

The surface cover removal will consist of using power tools to remove concrete and/or asphalt surface covers to expose underlying soil/fill material. Soil/fill material will be removed manually utilizing a decontaminated hand auger or post-hole digger in tandem with a non-conductive probe rod, which can be used to confirm the absence of underground utilities to a minimum depth of 5 feet below the bottom of the interior concrete slab, or vacuum excavation methods.

Saw cutting or coring of concrete or asphalt surfacing will not be conducted directly above any dielectric feeder cables (a.k.a. “pipe-type” feeders), regardless of the dielectric feeder cable depth. Vacuum excavation, for utility clearance test pitting purposes, will be

accomplished with vacuum excavation equipment that is equipped with a manual ("butterfly" valve) or remote (immediate) electronic vacuum cut-off control that is operational.

In addition, the SMP Entity shall observe the following underground/overhead utility line contact prevention procedures and practices:

- Prior to conducting work, the Project Manager/Superintendent shall ensure that all existing underground or overhead utilities in the work area are located per the state or local mark-out methods. Documentation of utility mark-out shall be completed using the Utility Contact Prevention Checklist form (see **Exhibit 11-1**, below). No excavation work is to be performed until all utility mark-outs are verified.

- The Project Manager/Superintendent shall conduct a site survey to search for signs of other buried or overhead utilities. The results of such surveys shall be documented on the Utility Mark-out documentation form.

- The property owner or facility operator shall be consulted on the issue of underground utilities. As-built drawings shall be reviewed, when available, to verify that underground utility locations are consistent with the utility location mark-outs. All knowledge of past and present utilities must be evaluated prior to conducting work.

- If on-site subsurface utility locations are in question, a private locating service shall be contacted to verify locations. If the investigation calls for boreholes in an area not covered by the municipal One-Call system, then a private utility locate firm shall be contacted to determine the location of other underground utilities.

- The Project Manager/Superintendent shall have documented verbal contact and an agreement with the fiber optic company for all work within 50 feet of any fiber optic cables.

- **Only non-destructive excavation, such as hand digging or hydro excavation, is permitted within 5 feet of underground high voltage, product, or gas lines.** Once the line is exposed, heavy equipment can be used, but must remain at least 5 feet from the exposed line.

- Elevated superstructures (e.g., drill rig, backhoe, scaffolding, ladders, and cranes) shall maintain the minimum required clearance/distance from utility lines per **Table 11-1**.

- Overhead utility locations shall be marked with warning tape or flags where equipment has the potential for contacting overhead utilities.

**Table 11-1** shows the minimum clearances required for energized overhead electrical lines.

**Table 11-1: Overhead Utility Clearance Requirements**

| Minimum Clearance from Energized Overhead Electric Lines | |
|---|---|
| **Nominal System Voltage** | **Minimum Required Clearance** |
| 0 to 50 kV | 10 feet |
| 51 to 100 kV | 12 feet |
| 101 to 200 kV | 15 feet |
| 201 to 300 kV | 20 feet |
| 301 to 500 kV | 25 feet |
| 501 to 750 kV | 35 feet |
| 751 to 1000 kV | 45 feet |

Notes:
Whenever equipment operations must be performed closer than 20 feet from overhead power lines, the Field Leader must be notified. When clearance to proceed is received from the Field Leader, the electric utility company must be contacted to turn the power off or physically insulate (protect) the lines if the operation must be performed closer to the power line than is allowed in this table. For voltages not listed on this table, add 0.4 inches per kV to obtain the safe distance between equipment and power lines.
kV: kilovolts

### *11.1.6 Electric Safety*

Observe the following procedures and practices to prevent electric shock:

- General
    - Use only appropriately trained and certified electricians to perform tasks related to electrical equipment. A good rule of thumb is to defer any task that would not normally and reasonably be completed by the average public consumer.
    - Each circuit encountered will be considered live until proven otherwise.
    - Only proper tools will be used to test circuits.
    - No wire will be touched until the circuit is determined to be de-energized.
- Extension Cords
    - All extension cords used on any project will be three-pronged.
    - All extension cords will be in good working order.
    - Each extension cord ground will be tested for continuity on at least a quarterly basis and marked to indicate when the inspection occurred.
    - Each extension cord will be visually inspected before each use.
    - If any extension cord is found in disrepair or fails the continuity test, it will be taken out of service.

- Any extension cord that does not have the grounding pin will be taken out of service and not used.
- Extension cords will not be used in place of fixed wiring.
- Extension cords will not be run through holes in walls, ceilings, or floors.
- Extension cords will not be attached to the surface of any building.
- No extension cord will be of the "flat wire" type. Every extension cord will have each individual wire insulated and further protected by an outside cover.
- Be sure to locate extension cords out of traffic areas or, if this is unavoidable, flag cords and protect workers from tripping over them (i.e., use barricades and tape the cord down).
- Do not stage extension cords or powered equipment in wet areas, to the degree possible. Elevate cords, connections, and equipment out of puddles.

- Power Tools/Plug and Cord Sets
  - Any cord that is cut in a way that exposes insulation will be removed from service.
  - All tools and plug and cord sets will be tested for continuity.
  - If grounding pins are missing, the plug and cord will be removed from service.
  - Any tool or plug and cord set failing the continuity test will be removed from service.
  - All power tools will have three-pronged plugs unless double insulated.

- Ground-fault Circuit Interrupters
  - Each 120-volt electrical wall receptacle providing power to the job site will be protected by a portable GFCI.
  - Each GFCI will be tested quarterly and marked to indicate when the inspection occurred.
  - Each 120-volt, single-phase, 15- and 20-ampere receptacle outlet, including those on generators, will have an approved GFCI.

- GFCIs will be located in line as close to the piece of equipment as possible.

- Specific

  - If unsure if a task requires specific electrical training, err on the side of caution and contact the Project Manager/Superintendent prior to proceeding.

  - If subsurface work is to be performed, follow the guidelines and conduct utility locating prior to work and in accordance with local ordinances. Use of a checklist such as shown in **Exhibit 11-1**, below, is recommended.

  - If LO/TO procedures are required (i.e., de-energizing machinery or equipment so work may be performed), the equipment owner must provide LO/TO procedures and training. By default, the equipment owner should perform any LO/TO. If it becomes necessary for personnel to perform LO/TO tasks, contact the Project Manager/Superintendent prior to doing so.

  - Maintain appropriate distance from overhead utilities.

  - If unexpected electrical equipment is encountered (i.e., buried wire) assume it is live, stop work, and contact the Project Manager/Superintendent immediately.

  - If working in enclosed or restricted areas where electrical hazards may be present, contact a licensed electrician or other suitably trained party to provide barriers, shields, or insulating materials to prevent electric shock.

  - If working in areas where electrical hazards are present, ensure that conductive clothing and jewelry is replaced with non-conductive clothing, or removed.

#### 11.1.6.1 Lockout/Tagout Procedures

Only fully qualified and trained personnel will perform maintenance procedures. Before maintenance begins on energized equipment, lockout/tagout procedures per OSHA 29 CFR 1910.147 and the SMP Entity's company-specific lockout/tagout Policy will be followed.

Lockout is the placement of a device that uses a positive means, such as lock, to hold an energy- or material-isolating device such that the equipment cannot be operated until the lockout device is removed. If a device cannot be locked out, a tagout system must be used. Tagout is the placement of a warning tag on an energy- or material-isolating device to indicate that the equipment controls may not be operated until the tag is removed by the person who attached the tag.

# Exhibit 11-1: Example Utility Contact Prevention Checklist

## Utility Contact Prevention Checklist

*NOTE: Utility mark-out requirements vary from state to state; consult state authorities before beginning work.*

**Purpose:** This form is intended to help the Field Lead confirm that underground or overhead utilities are identified to the extent practicable and consistent with applicable regulations **PRIOR** to site work.

***INVESTIGATIONS MUST NOT OCCUR UNTIL MULTIPLE LINES OF EVIDENCE INDICATE THAT SUBSURFACE OR OVERHEAD UTILITIES ARE NOT PRESENT IN THE WORK AREA***

**Project Name/No:** _____ **Date:** _____

**Field Lead:** _____ **Project Address:** _____

**Project Manager:** _____ **Health & Safety Officer:** _____

**Emergency Contact Information for One Call:** _____

**Duration/Summary of Work to be Performed:** _____

_____

_____

| Consideration | Check | | Explanation | Initial |
|---|---|---|---|---|
| Has the state One Call been contacted? | ☐ Yes | ☐ No | | |
| Has the property owner or client been contacted for local knowledge of utilities, as applicable? | ☐ Yes | ☐ No | | |
| Does the property owner or client have specific utility contact prevention procedures and, if so, have they been completed? | ☐ Yes | ☐ No | | |
| Are any as-built drawings available? If so, do they show any utilities? | ☐ Yes | ☐ No | | |
| Has a visual inspection of the work area(s) been completed? | ☐ Yes | ☐ No | | |
| Has the potential presence of in-water utilities been assessed (shore markers, streets dead-ending at water's edge, etc.) | ☐ Yes | ☐ No | | |
| Is evidence of electrical utilities present? (electric meters on structures, conduits, overhead lines, light poles, etc.) | ☐ Yes | ☐ No | | |
| Is evidence of water/sewer utilities present? (water meter, hydrants, restrooms, grates in ground, etc.) | ☐ Yes | ☐ No | | |
| Is evidence of telecommunications utilities present? (fiber optic warning signs, conduits from utility poles, wall-mounted boxes, etc.) | ☐ Yes | ☐ No | | |
| Is other evidence of utilities present? (unknown ground markings, manholes or valve covers, "Call Before You Dig" signs, linear asphalt or concrete repair characteristics, liner subsidence of ground surface, pin flags or stakes, etc.) | ☐ Yes | ☐ No | | |

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## Utility Contact Prevention Checklist

*NOTE: Utility mark-out requirements vary from state to state; consult state authorities before beginning work.*

| Consideration | Check | | Explanation | Initial |
|---|---|---|---|---|
| Has a private locating service been contacted? | ☐ Yes | ☐ No | | |
| Were any utilities identified and marked out through a private locating service? If so, duplicate mark-outs on site drawings. | ☐ Yes | ☐ No | | |
| Are there any fiber optic cables, fuel lines, or high-pressure lines within 50 feet of work locations? | ☐ Yes | ☐ No | | |
| If fiber optic cables, fuel lines, or high-pressure lines are within 50 feet, has an agreement with the utility owner been established? | ☐ Yes | ☐ No | | |
| Can a test borehole be advanced by hand digging, probing, post hole digging, and/or air knifing to 5 feet below ground surface (bgs)? | ☐ Yes | ☐ No | | |
| If hand digging, probing, post-hole digging, and/or air knifing to 5 feet bgs is not possible, can a non-invasive geophysical investigation be conducted? If not, why? | ☐ Yes | ☐ No | | |
| Other considerations: | | | | |

***NOTE: Please fill in second page and attach additional reports, drawings, or other information, as necessary.***

**Confirmation Number:** _____

**Contact Name:** _____ **Organization:** _____

**Contact Date:** _____ **Contact Time:** _____

**Response:** _____

_____

_____

_____

*Completed by:*

_____ _____ _____
Printed Name Signature Date

*Contractor:*

_____ _____ _____
Printed Name Signature Date

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## *11.1.7 General Falls/Ladders*

Observe the following general falls/ladders procedures and practices:

- Assess work areas for fall hazards. A fall protection system that meets OSHA and ANSI Z3591 standards must be used if work is conducted 6 feet or more above the surface.
- Use ANSI Type 1A rated ladders.
- Ensure that ladders are placed so their rungs, cleats, and steps are parallel, level, and uniformly spaced prior to use.
- Make sure ladder rungs are sturdy and free of cracks.
- Use ladders with secure safety feet.
- Pitch ladders at a 1 horizontal to 4 vertical (1H:4V) ratio.
- Secure ladders at the top or have another person at the bottom to help stabilize it.
- Ladders used to access an upper landing surface shall extend at least 3 feet above the upper landing surface.
- Use non-conductive ladders near electrical wires.
- The top rung of a ladder should not be used as a step.
- Do not carry any object or load that could cause a loss of balance or a fall.
- If a ladder is defective, damaged, or in disrepair (i.e., broken or missing rungs, cleats, or steps; broken or split rails; corroded components; or other faulty or defective components), tag the ladder "Do Not Use" and remove it from service until repaired.

### *11.1.8 Heavy Equipment Operations*

Observe the following heavy equipment operations procedures and practices:

- Wear leather gloves while attaching support members to protect against pinching injuries.
- While working from elevated levels greater than 6 feet, ensure that all employees have fall protection that meets OSHA and ANSI Z3591 standards.
- Do not stand under loads that are being raised or lowered with cranes or aerial lifts.
- The subcontractor or equipment operator must conduct pre-operational inspections of all equipment. In addition, daily inspections will be conducted on the equipment prior to site activities.

- Maintain the appropriate distance from overhead utilities (see **Table 11-1**):
- Always stay out of the swing radius of all heavy equipment. Always use a spotter during movement of equipment. The spotter and others, as appropriate, shall maintain constant communication with the operator.
- All operators must have adequate training and be qualified to operate the particular heavy equipment unit.
- Conduct a site evaluation to determine proper positioning for the unit. Make sure the surface is level. Cordon off holes, drop-offs, bumps, or weak ground surfaces.
- When using a crane, do not use hands when the load is being lifted or lowered. Use non-conductive tag line to help direct and position the load.
- Never climb a raised platform or stand on the mid-rail or top-rail.
- Tools should always be hung or put into a belt whenever possible

### *11.1.9 Drilling with Direct Push Technology*

General rules associated with direct push intrusive activities are as follows:

- Maintain all equipment in a safe condition.
- Keep all guards in place during use.
- Before Direct Push Technology (DPT) sampling is started, ensure that everyone who operates the rig has had adequate training and is thoroughly familiar with the DPT rig, its controls, capabilities, and operating manual.
- Set-up on stable and level terrain.
- Outriggers shall be extended per the manufacturer's specifications.
- Do not place outriggers on underground structures such as vaults, manholes, stormwater inlets, catch basins, or well boxes.
- Use proper dunnage, cribbage, plates, or wooden blocks between outriggers and supporting surfaces.
- The Driller and helper must be present during all active operations and TEST THE TWO KILL SWITCHES DURING EACH STARTUP.
- The DPT rig helper and other site personnel must know the location of the two emergency shutoff switches.

- The area around the drilling operation must be cordoned off/barricaded.
- When hazardous conditions are deemed present, the operation must be shut down.
- Team members shall not wear loose clothing, free long hair, jewelry, or equipment that might become caught in moving machinery. Secure PPE close to the body to avoid getting caught in moving parts.
- Unauthorized personnel must be kept clear of the DPT rig.
- Shut down, lock, and tag out the DPT rig to make repairs or adjustments or to lubricate fittings. Release all pressure on the hydraulic systems, the drilling fluid system, and the air pressure systems of the drill rig prior to performing maintenance.
- Identify and understand parts of the equipment that may cause crushing, pinching, rotating, or similar injuries.
- Neatly stack pipe, rods, or similar on racks or sills to prevent spreading, rolling, or sliding.
- Wear proper work gloves when pinching or other injury may be caused by moving or handling large or heavy objects.
- Establish a system of responsibility for the operator and helpers to follow during various activities, such as connecting and disconnecting sections and inserting and removing the sections.
- Never reach behind or around rotating equipment for any reason.
- Clean equipment only when the DPT rig is in neutral, and the equipment has stopped.
- Do not place hands, feet, and/or limbs into or through openings of equipment frames or structures that were not intended to be used in such a fashion.

### *11.1.10 Drilling with a Hollow Stem Auger Drill Rig*

All operations using powered drilling rigs will follow generally accepted drilling practices. One person will be assigned the responsibility of Lead Driller. Additional personnel will assist with equipment as needed. The Lead Driller will be responsible for operating the drilling rig and ensuring safety.

General rules associated with drilling rig operations will be as follows:

- An EZ will be established around the drilling rig using barricade tape as a physical barrier.

- While drilling, all non-essential personnel shall remain at a distance that is past the radius of the boom, whenever possible. Workers (e.g., drillers, hydrogeologists, etc.) remaining around the drill rig will be kept to a minimum.

- All vehicles and heavy equipment must be parked at least 50 feet from the drill rig when lowering the mast.

- All operators and team members will be familiar with the rig operations and will have received practical training.

- All personnel will be instructed in the use of the emergency kill switch/shutdown on the drill rig.

- Hard-hats, steel-toed boots conforming to ASTM F2412-05/ASTM F2413-05, goggles or safety glasses with side shields, hearing protection, and gloves for hand protection are required.

- As project conditions dictate (i.e., the presence of puncture or crushing risks to the feet), protective shanks and/or metatarsal guards conforming to ASTM F2412-05/ ASTM F2413-05 must be worn.

- No loose-fitting clothing, jewelry, or free long hair is permitted near the drilling rig or moving machinery parts.

- Before leaving the controls, the Lead Driller will shift the transmission controlling the rotary drive into neutral and place the feed level in neutral. Before leaving the vicinity of the drill, the Lead Driller will shut down the drill engine.

- Drilling must cease immediately if combustible gas concentrations greater than 20% of the LEL are detected in the work area.

- A first aid kit and fire extinguisher will be available at all times.

- If lubrication fittings are not accessible with guards in place, machinery must be stopped for oil and greasing.

- The work area around the borehole shall be kept free of obstructions and undue accumulations of oil, water, ice, or circulating fluids.

- No drilling will occur during impending electrical storms or tornadoes, or when rain, ice, snow, or wind conditions create undue potential hazards.

- During freezing weather, do not touch any metal parts of the drill rig with exposed flesh. Freezing of moist skin to metal can occur almost instantaneously.

- The driller will not attempt to reach a well or borehole location in a manner that compromises the safety of the rig or team.

- All well or borehole locations will be inspected by the drill team to ensure that a stable surface exists.

- Before raising the drill mast, the Lead Driller will check for overhead obstructions.

- Before the mast of a drill rig is raised, the drill rig must first be leveled and stabilized with leveling jacks and/or cribbing. Re-level the drill rig if it settles after initial setup. Lower the mast only when the leveling jacks are down, and do not raise the leveling jack pads until the mast is lowered completely.

- The drill rig shall be driven or moved only after the mast has been lowered.

- The leveling jacks shall not be raised until the derrick is lowered.

- Adequately cover or protect all unattended boreholes to prevent drill rig personnel or site visitors from stepping or falling into the borehole.

- Maintain professional behavior at all times in the work area, even when the rig is shut down.

**Rotary Drill Rig Operations:**

- Drillers must never engage the rotary clutch without watching the rotary table and ensuring that it is clear of personnel and equipment.

- Unless the drawworks is equipped with an automatic feed control, the brake must not be left unattended without first being tied down.

- Drillers will not add or remove pipe from the drill stem without assistance from the driller's helper.

- Drill pipe must not be hoisted until the driller is sure that the pipe is latched and the drilling assistant has signaled that he/she may safely hoist the load.

- During instances of unusual loading of the derrick or mast, such as when making an unusually hard pull, only the driller will be on the rig floor and no one will be on the rig or derrick.

- The brakes on the drawworks of every drilling rig must be tested at the beginning of each shift to determine whether they are in good order.

- A hoisting line with a load imposed will not be permitted to be in direct contact with any derrick member or stationary equipment unless it has been specifically designed for line contact.

- Hoisting control stations must be kept clean and controls shall be labeled as to their functions.

- Under no circumstances will personnel be permitted to ride the traveling block or elevators, nor will the cat line be used as a personnel carrier.

### *11.1.11 Working from an Aerial Lift*

Observe the following practices and procedures when working from aerial lift:

- Wear leather gloves while attaching support members to protect against pinching injuries.

- While working from elevated levels greater than 6 feet, ensure that all employees have fall protection that meets OSHA and ANSI Z3591 standards.

- Do not stand under loads that are being raised or lowered with cranes or aerial lifts.

- Conduct a pre-operational inspection of aerial lifts, including the following:

    - Check tire air pressure and hydraulic fluid level and pressure.

    - Make sure pivot pins are secured.

    - Check hoses for worn areas.

    - Check for cracks or deviations in welded parts.

    - Check that the safety limit switch works freely.

    - Check the security of the guardrail system on the platform.

    - Check both ground and platform control functions.

    - Raise and lower each boom system separately, listen for any unusual noises, vibrations, or uneven operations.

Maintain the appropriate distance from overhead utilities (see **Table 11-1**):

- Conduct a site evaluation to determine proper positioning for the unit. Make sure the surface is level. Cordon off holes, drop-offs, bumps, or weak ground surfaces.

- Never climb a raised platform or stand on the mid-rail or top-rail.
- Tools should always be hung or put into a belt whenever possible.
- Specific training must be obtained on the aerial lift to be used.

### *11.1.12 Hand and Power Tools*

Observe the following procedures and practices when working with hand and power tools:

- Keep hand tools sharp, clean, oiled, dressed, and not abused.
- Worn tools are dangerous. For example, the "teeth" in a pipe wrench can slip if worn smooth, an adjustable wrench will slip if the jaws are sprung, and hammerheads can fly off loose handles.
- Tools subject to impact (e.g., chisels, star drills, and caulking irons) tend to "mushroom." Keep them dressed to avoid flying spalls, and use tool holders.
- Do not force tools beyond their capacity.
- Flying objects can result from operating almost any power tool, so always warn people in the vicinity and use proper eye protection.
- Each power tool should be examined before use for damaged parts, loose fittings, and frayed or cut electric cords. Tag and return defective tools for repairs. Ensure that there is adequate lighting, inspect tools for proper lubrication, and relocate tools or material that could "vibrate into trouble."
- Compressed air must be shut off or the electric cord unplugged before making tool adjustments. Air must be "bled down" before replacement or disconnection.
- Proper guards or shields must be installed on all power tools before issue. Do not use improper tools or tools without guards in place.
- Replace all guards before startup. Remove cranks, keys, or wrenches used in service work.

### *11.1.13 Motor Vehicle Operation*

All drivers are required to have a valid driver's license, and all vehicles must have appropriate state vehicle registration and inspection stickers. **It is strongly recommended to prohibit the use of hand-held wireless devices while driving any vehicle for business use at any time, for personal use during business hours, and as defined by law**. Additionally, site-specific motor vehicle requirements must be followed, if any.

When driving to, from, and within the job site, be aware of potential hazards including:

- Vehicle accidents
- Distractions
- Fatigue
- Weather and road conditions

To mitigate these hazards, observe the following procedures and practices regarding motor vehicle operation:

- Before leaving, inspect fuel and fluid levels and air pressure in tires, and adjust mirrors and seat positions appropriately.
- Wear a seat belt at all times and make sure that clothing will not interfere with driving.
- Plan your travel route and check maps for directions or discuss with colleagues.
- Clean windows and mirrors as needed throughout the trip.
- Wear sunglasses as needed.
- Fill up when the fuel level is low (not near empty).
- Follow a vehicle maintenance schedule to reduce the possibility of a breakdown while driving.
- Stop driving the vehicle, regardless of the speed (e.g., even 5 miles per hour) or location (e.g., a private road), when the potential of being distracted by conversation exists.
- Using hand-held communication devices (e.g., cell phones) while operating any motor vehicle is prohibited.
- Get adequate rest prior to driving.
- Periodically change your seat position, stretch, open the window, or turn on the radio to stay alert.
- Pull over and rest if you are experiencing drowsiness.
- Check road and weather conditions prior to driving.
- Be prepared to adjust your driving plans if conditions change.

- Travel in daylight hours, if possible.
- Give yourself plenty of time to allow for slowdowns due to construction, accidents, or other unforeseen circumstances.
- Use lights at night and lights and wipers during inclement weather.

### *11.1.14 Vehicular Traffic*

Observe the following procedures and practices regarding vehicular traffic:

- Wear a traffic safety vest when vehicle hazards exist.
- Use cones, flags, barricades, and caution tape to define the work area.
- Use a vehicle to block the work area (if conditions allow).
- Engage a police detail for high-traffic situations.
- Always use a spotter in tight or congested areas for material deliveries.
- As necessary, develop traffic control plans and train personnel as flaggers in accordance with the DOT MUTCD and/or local requirements.

The work area may be located within or adjacent to a public or private roadway or sidewalk where exposure to vehicular traffic is possible. For work within roadways and sidewalks, a permit will be required, as issued by the New York City Department of Transportation or New York State Department of Transportation, or both organizations, as applicable. Signage and other control measures stipulated by the permitting authority or authorities will be applied during field activities. This may include the closure of a travel lane or lanes or sidewalks, and erection of signs, cones, barricades, or flashing lights, as applicable.

In addition, during activities along or within a roadway, equipment will be aligned parallel to the roadway to the extent feasible, facing into the oncoming traffic so as to place a barrier between the work crew and the oncoming traffic. All crew members must remain behind the equipment and the traffic barrier. Crew members working in or near streets will wear orange reflective traffic safety vests.

The flow of traffic into and out of the adjacent business and other organizations must be assessed, and precautions taken to warn motorists of the presence of workers and equipment. Where possible, vehicles should be aligned to provide physical protection to people and equipment.

## *11.1.15 Working Over or Near Water*

### 11.1.15.1 Personal Flotation Devices

PFDs are not required where employees are continuously protected from the hazard of drowning by railings, nets, safety belts, or other applicable provisions.

Type III, Type V, or better USCG-approved high-visibility PFD shall be provided and properly worn by all personnel in the following circumstances:

- On or within 10 feet of water
- On floating pipelines, pontoons, rafts, or stages
- On structures extending over or next to the water, except where guard rails or safety nets are provided for employees
- Working alone at night where there are drowning hazards, regardless of other safeguards provided
- In skiffs, small boats, or launches, unless in an enclosed cabin or cockpit
- Whenever there is a drowning hazard

The following precautions shall be followed when using PFDs:

- Prior to and after each use, the buoyant work vests or life preservers shall be inspected for defects that would alter their strength or buoyancy. Defective devices or devices with less than 13 pounds buoyancy shall be removed from service.
- All PFDs shall be equipped with reflective tape as specified in 46 CFR 25.25-15.
- Thirty-inch USCG-approved ring buoys with at least 150 feet of 600-pound capacity line shall be provided and readily available for emergency rescue operations. The distance between ring buoys shall not exceed 200 feet.
- PFD lights conforming to 46 CFR 161.012 shall be required whenever there is a potential need for life rings to be used after dark. Onshore installations, at least one life ring, and every third one thereafter, shall have a PFD light attached. PFD lights on life rings are required only in locations where adequate general lighting (e.g., floodlights or light stanchions) is not provided.

### 11.1.15.2 Cold Water Work

When the combined air and water temperature is below 90° F, field personnel working on or near water shall wear either a float coat and bib overalls (e.g., a full two-piece “Mustang”

survival suit or similar) or a one-piece survival suit. Suits or float coats shall be USCG approved. If extremely cold or severe weather conditions are forecast, work activities should be postponed. Work activities will be continually reviewed and adjustments made if wearing a survival suit during work activities potentially poses a hazard due to warm air temperatures, or limited mobility or agility. In addition, proximity of water work to shore and scope/duration/timing of work activities will be considered when stipulating the above requirement. Overall, if water craft will be used during work, or work will be conducted near water, it is imperative that site-specific conditions are considered and evaluated so that proper safeguards and procedures are in place prior to beginning work.

In addition to considering the use of apparel appropriate for anticipated air, weather, and water conditions, field teams shall identify any procedures necessary for cold-water "man-overboard" scenarios. These procedures should be identified in the site-specific HASP, described in the job safety analysis (JSA) used for boating activities and, if prudent, practiced before work.

## *11.1.16 Excavation and Trenching Activities*

Observe the following practices and procedures when performing excavation and trenching work.

The purpose of this procedure is to describe the company requirements for excavation and trenching safety. These requirements are based on the federal OSHA excavation standard found in 29 CFR 1926 Subpart P. Local regulations should also be consulted for the state in which the work is being performed.

With very few exceptions, protective systems must be designed and installed to protect employees who enter excavations of 4 feet or more in depth. Accepted protective systems include sloping, shoring, and shielding.

The protective system must be designed by a registered Professional Engineer (P.E., civil), and plans must be available for inspections on site, under prescribed conditions.

### 11.1.16.1 Definitions

*Angle of Repose* – The greatest angle above the horizontal plane at which a material will lie without sliding.

*Benching* – A method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels of steps, usually with vertical or near-vertical surfaces between levels.

*Competent Person* – An employee who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has the authority to take prompt corrective measures to eliminate them.

*Excavation* – Any man-made cut, cavity, trench, or depression in an earth surface, including its sides, walls, or faces, formed by earth removal.

*Registered Professional Engineer* – An individual currently registered as a P.E. (preferably civil) in the state where work is to be performed.

*Sheeting* – Members of a shoring system that retain the earth in position, and in turn are supported by other members of the shoring system.

*Shield* – A structure that is able to withstand the forces imposed on it by a cave-in and thereby protects employees within the structure. Shields can be permanent structures or can be designed to be portable and moved along as work progresses. Shields may be pre-manufactured or job-built in accordance with 29 CFR 1926.652(c)(3) or (c)(4). Shields used in trenches are usually referred to as "trench boxes" or "trench shields."

*Shoring* – Structure such as a metal hydraulic, mechanical, or timber shoring system that supports the sides of an excavation and that is designed to prevent cave-ins.

*Sloping* – A method of protecting employees from cave-ins by excavating to form sides of a trench that are inclined away from the excavation so as to prevent cave-ins. The angle of incline required to prevent a cave-in varies with differences in such factors as the soil type, environmental conditions of exposure, and application of surcharge loads.

*Support System* – A structure such as underpinning, bracing, or shoring, that provides support to an adjacent structure, underground installation, or the sides of an excavation.

*Trench* – A narrow (in relation to its length) excavation made below the surface of the ground. In general, the depth is greater than the width at the bottom, but the width of a trench at the bottom is not greater than 15 feet.

*Type A Soil* – Cohesive soils with an unconfined compressive strength of 1.5 tons per square foot (tsf) (144 kilopascal [kPa]) or greater. Examples of cohesive soils are: clay, silty clay, sandy clay, clay loam, and, in some cases, silty clay loam and sandy clay loam. Cemented soils such as caliche and hardpan are also considered Type A. However, soil is NOT Type A if:

- The soil is fissured
- The soil is subject to vibration from heavy traffic, pile driving, or similar effects
- The soil has been previously disturbed
- The soil is part of a sloped, layered system where the layers dip into the excavation on a slope of 4H:1V or greater
- The material is subjected to other factors that would require it to be classified as a less stable material

*Type B Soil* – This classification refers to:

- Cohesive soil with an unconfined compressive strength greater than 0.5 tsf (48 kPa), but less than 1.5 tsf (144 kPa)
- Granular, cohesionless soils including angular gravel (similar to crushed rock), silt, silt loam, sandy loam, and, in some cases, silty clay loam and sandy clay loam
- Previously disturbed soils except those that would otherwise be classified as Type C soil
- Soil that meets the unconfined compressive strength or cementation requirements for Type A, but is fissured or subjected to vibration
- Dry rock that is not stable
- Material that is part of a sloped, layered system where the layers dip into the excavation on a slope less steep than 4H:1V, but only if the material would otherwise be classified as Type B

*Type C Soil* – This classification refers to:

- Cohesive soil with an unconfined compressive strength of 0.5 tons per square foot (tsf) (48 kilopascal [kPa]) or less
- Granular soils including gravel, sand, and loamy sand
- Submerged soil or soil from which water is freely seeping
- Submerged rock that is not stable
- Material in a sloped, layered system where the layers dip into the excavation or a slope of 4H:1V or steeper

### 11.1.16.2 Pre-Excavation Requirements

*Underground Installations* – Prior to opening an excavation, the estimated locations of underground utilities such as sewer, telephone, fuel, electric, water, or any other underground installations that may reasonably be expected to be encountered during the excavation work shall be determined.

The property owner and/or utility location service shall be contacted within the established pre-notification time, advised of the proposed work, and asked to delineate the location of all underground utilities. Employees should be careful to protect and preserve the utility markings until they are no longer required for safe excavation. At least 3 feet of clearance between any underground utility and the cutting edge or point of powered excavation

equipment will be maintained until the precise location of the utility is determined. Initial excavation within this 3-foot area will be conducted manually.

*Surface Encumbrances* – All surface encumbrances (e.g., trees, poles, or boulders) that may create a hazard to employees shall be removed or supported.

*Vehicular Traffic* – Employees exposed to vehicular traffic shall be provided with, and shall wear, warning vests or other suitable garments marked with or made of reflectorized or high-visibility material. Traffic control devices (e.g., barricades, signs, cones, or flagpersons) shall be specified and used in accordance with regulations applicable to the roadway or area in which excavation activities are occurring.

### 11.1.16.3 Training

Those who supervise the entry of personnel into an excavation, a "Competent Person," must have completed a training course that included instruction in:

- Types of hazards associated with excavation operations
- Safe work practices and techniques
- A review of applicable federal, state, and local regulations
- A review of this procedure

Employees who enter excavations are required to complete a site-specific training session to enable them to recognize unsafe conditions in and around the excavation. This training can be conducted during a tailgate safety meeting that emphasizes the specific excavation hazards that may be encountered.

Training documentation shall be maintained in the project files. As part of the standard employee supervision process, training shall be complemented with on-the-job instruction and reinforcement of accepted practices to the extent necessary to ensure compliance with this procedure and all other applicable regulations.

### 11.1.16.4 Excavation Work Practices

*General* – Each employee working within an excavation shall be protected from cave-ins by an adequate protective system designed in accordance with 29 CFR 1926 Subpart P, except when the excavation is made entirely in stable rock or when the excavation is less than 4 feet deep and examination of the ground by a competent person provides no indication of a potential cave-in. A competent person shall ensure that protective systems, when required, are installed and maintained per the design specifications. No employees shall be permitted to enter an excavation unless it is absolutely essential to do so and all requirements of this procedure are met.

*Supervision* – Work in an excavation shall be supervised at all times by a competent person. This individual will remain outside of the excavation at all times, and will be responsible

for identifying any unusual developments aboveground that may warn of impending earth movement.

*Soil Classification* – Based on their training, the competent person will classify each soil or rock deposit as stable rock, Type A, Type B, or Type C. When layers of soil or rock exist, the weakest layer will be classified; however, each layer may be classified individually when a more stable layer lies under a less stable layer. If the properties or conditions of a soil or rock deposit change in any way, re-evaluation will be required.

*Access and Egress* – Structural ramps that are used solely by employees as a means of access or egress from excavations shall be designed by a competent person. Structural ramps used for access or egress of equipment shall be designed by a competent person qualified in structural design, and shall be constructed in accordance with the design.

A stairway, ladder, ramp, or other safe means of egress shall be located in trench excavations that are 4 or more feet in depth so as to require no more than 25 feet of lateral travel for employees.

*Protective Systems* – Protective systems shall be designed in accordance with 29 CFR 1926.652(b) or (c) and shall have the capacity to resist, without failure, all loads that are intended or could reasonably be expected to be applied or transmitted to the system.

*Exposure to Falling Loads* – No employees shall be permitted underneath loads handled by lifting or digging equipment. Employees shall be required to stand away from any vehicle being loaded or unloaded to avoid being struck by spillage or falling materials. Operators may remain in the cabs of vehicles being loaded or unloaded provided the vehicles are equipped with a cab shield and/or canopy adequate to protect the operator from shifting or falling materials.

*Warning System for Mobile Equipment* – When mobile equipment is operated adjacent to an excavation, and the operator does not have a clear and direct view of the edge of the excavation, a warning system shall be utilized such as barricades, hand or mechanical signals, or stop logs.

*Hazardous Atmospheres* (see related information in Section 10) – Where an oxygen-deficient (less than 19.5% $O_2$) or hazardous atmosphere exists, or could reasonably be expected to exist, the excavation shall be tested before employees enter. Testing shall be conducted as often as necessary to ensure that the atmosphere remains safe. Some excavations may be considered confined spaces that require compliance with appropriate procedures (see Section 11.1.17). Adequate precautions shall be taken to prevent employee exposure to oxygen-deficient or hazardous atmospheres. As appropriate, ventilation and/or respiratory protective devices shall be used (see Section 10).

*Water Accumulation Hazards* – Employees shall not work in excavations in which there is accumulated water, or in excavations in which water is accumulating, unless adequate precautions have been taken to protect employees against the hazards posed by water accumulation. If water is controlled or prevented from accumulating by the use of water

removal equipment, the process shall be monitored by a competent person to ensure proper operation.

If the excavation work interrupts the natural drainage of surface water (e.g., streams or run-off channels), diversion ditches, dikes, or other suitable means shall be used to prevent surface water from entering the excavation and to provide adequate drainage of the area adjacent to the excavation. Excavations subject to run-off from heavy rains shall be regularly inspected by a competent person.

*Stability of Adjacent Structures* – Structures adjoining an excavation shall be evaluated to assess their stability. Excavation below the level of the base or footing of any foundation or retaining wall that could reasonably be expected to pose a hazard to employees shall only be permitted when:

- A support system (underpinning) is provided to ensure the safety of employees and the stability of the structure
- The excavation is in stable rock
- A registered P.E. has determined that the structure will be unaffected by the excavation
- A registered P.E. has determined that such excavation will not pose a hazard to employees

Sidewalks, pavements, and other surface structures shall not be undermined unless a support system or another method of protection is provided to protect employees from the possible collapse of such structures.

*Protection from Loose Rock or Soil* – Employees shall be protected from loose rock or soil that could fall or roll from the excavation face or edge. Such protection could consist of scaling to remove loose materials, or the installation of protective barriers. All spoil shall be placed at least 2 feet from the edge of the excavation. It is strongly recommended that spoil be placed 4 or more feet from the excavation edge so as not to cover surface indicators of subsidence (such as fissures or cracks).

*Inspections* – A competent person shall make daily inspections of excavations, adjacent areas, and protective systems for evidence of conditions that could result in a cave-in, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions. The inspection shall be made prior to start of work, and as needed throughout the shift. Inspections shall be made after each rainstorm or other hazard-increasing event, and will be documented. Where the inspection finds evidence of any hazardous condition, exposed employees shall immediately be removed from the hazardous area until necessary precautions have been taken.

*Fall Protection* – Where employees or equipment are permitted to cross over excavations, walkways or bridges shall be provided. Standard guard rails shall be provided where walkways are 6 feet or more above lower levels. Adequate barriers or other types of

physical protection shall be provided at all remotely located excavations. All wells, pits, or shafts, shall be barricaded or covered, and shall be backfilled as soon as possible.

## *11.1.17 Confined Space Entry Procedures*

### 11.1.17.1 Purpose and Summary

This procedure describes the requirements for identifying and working within confined spaces. It has been developed to ensure compliance with the OSHA Permit-Required Confined Spaces (PRCS) regulation (29 CFR 1910.146). Key provisions of this procedure include:

- PRCS
- Duties of PRCS Participants
- Permit System
- Training
- Non-Permit-Required Confined Spaces
- Rescue and Emergency Services
- Employee Access to Documentation
- Retention of Inspection and Test Logs
- Program Review

### 11.1.17.2 Definitions

*Acceptable Entry Conditions* – The conditions that must exist in a permit space to allow entry so that employees involved with a PRCS entry can safely enter into and work within the space.

*Attendant* – An individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties described in this procedure.

*Authorized Entrant* – An employee who is authorized to enter a PRCS.

*Blanking or Blinding* – The absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

*Confined Space* – A space that:

- Is large enough and so configured that an employee can bodily enter and perform assigned work

- Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, pits, and excavations

- Is not designed for continuous employee occupancy

*Double Block and Bleed* – The closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

*Engulfment* – The surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

*Entry* – The action by which a person passes through an opening into a PRCS. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

*Entry Permit* – The written or printed document that is provided by the company to allow and control entry into a permit space.

*Entry Supervisor* – The person responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this section. An entry supervisor may also serve as an attendant or as an authorized entrant, as long as that person is trained and equipped for each role he/she fills.

*Hazardous Atmosphere* – An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

- Flammable gas, vapor, or mist in excess of 10% of its LEL.

- Airborne combustible dust at a concentration that meets or exceeds its LEL. NOTE: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet or less.

- Atmospheric oxygen concentration below 19.5% or above 23.5%.

- Atmospheric concentration of any substance for which a dose or a published exposure guideline is available and which could result in employee exposure in excess of its dose or PEL.

- Any other atmospheric condition that is immediately dangerous to life or health (see **Table 7-1**).

*Hot Work Permit* – Written authorization to perform hot operations (for example, riveting, welding, cutting, burning, and heating) capable of providing a source of ignition.

*Immediately Dangerous to Life or Health (IDLH)* – Any condition that poses an immediate or delayed threat to life, would cause irreversible adverse health effects, or would interfere with an individual's ability to escape unaided from a confined space.

*Inerting* – The displacement of the atmosphere in a confined space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.

*Isolation* – The process by which a confined space is removed from service and completely protected against the release of energy and material into the space by such means as blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy, including hydraulic or electric; blocking or disconnecting all mechanical linkages; or physically restraining moving parts.

*Line Breaking* – The intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material; an inert gas; or any fluid at a volume, pressure, or temperature capable of causing injury.

*Non-Permit-Required Confined Space* – A confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

*Oxygen-Deficient Atmosphere* – An atmosphere containing less than 19.5% oxygen by volume.

*Oxygen-Enriched Atmosphere* – An atmosphere containing more than 23.5% oxygen by volume.

*Permit-Required Confined Space (PRCS)* – A confined space that has one or more of the following characteristics:

- Contains or has a potential to contain a hazardous atmosphere
- Contains a material that has the potential for engulfing an entrant
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross section
- Contains any other recognized serious safety or health hazard

*Prohibited Condition* – Any condition in a PRCS that is not allowed by the permit during the period when entry is authorized.

*Rescue Service* – The personnel designated to rescue employees from PRCSs.

*Retrieval System* – The equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from PRCSs.

*Testing* – The process by which the hazards that may confront entrants of a confined space are identified and evaluated. Testing includes specifying the tests that are to be performed in the confined space.

### 11.1.17.3 Permit-Required Confined Spaces

Prior to beginning any PRCS entry operation, a PRCS entry permit will be completed by the entry supervisor. All such entries will be considered permit-required until or unless the space meets the definition of a non-permit-required confined space as previously defined. The following guidelines are to be followed for each PRCS entry:

- Combustible vapors will not exceed 10.0% of the LEL and oxygen levels must be between 19.5% and 23.5% by volume for entry to be allowed. Appropriate toxic gas/vapor action levels will also be established and documented on the permit.

- Lockout, tagout, tryout, and return to service procedures for potential sources of hazardous energy must be completed.

- As necessary, purging, inerting, flushing, or ventilating the space may be used to control hazardous atmospheres. Continuous mechanical ventilation will be used whenever entrants are in PRCSs that have or that can be expected to have a hazardous atmosphere.

- Inspecting, monitoring, and testing the PRCS to verify that acceptable conditions exist prior to and throughout the entry operation must be conducted. This includes:

- Conducting specific atmospheric tests as described on the entry permit. PRCSs will be tested as often as necessary to verify entrant safety, whenever operations or conditions change (e.g., temperature change or product agitation), and no less often than hourly.

- For confined spaces that cannot be completely isolated (e.g., sewers), continuous testing with real-time direct reading instruments is required.

- Testing for oxygen will occur first, followed by combustible gases, then toxic gases and vapors.

- PPE will be used as specified on the entry permit and will include:

    - Type of protective suits, boots, and gloves.

    - Type of face, head, and foot protection.

  - Type of harness (chest or full-body) with approved lifelines at least 1/2-inch in diameter, 2,000 pounds test, and meeting ANSI A10.14 requirements. The lifeline is to be attached at the center of the entrant's back near shoulder level, above the entrant's head, or at another point which presents a profile small enough for the successful removal of the entrant. (NOTE: Wristlets may be used only when a Health and Safety Representative finds that a harness presents a greater hazard to the employee and wristlets are the safest, most effective alternative.) All lifelines will be secured to a mechanical extraction device or fixed point outside the PRCS. Mechanical extraction devices will be used for all vertical entries greater than 5 feet deep.

  - Type of respiratory protection, per the requirements of the site-specific HASP.

- SDS will be readily available and provided to the medical facility when treating injured or exposed entrants.

- Lighting equipment required to safely illuminate the work will be utilized. NOTE: All lighting and electrical equipment used inside a PRCS will be of the appropriate National Electrical Code (NEC) rating. Rating should be Class I, Division I, unless the space specifically meets other rating class requirements.

- Protective barriers will be used to protect entrants from external pedestrian, vehicle, or equipment hazards.

- Ingress and egress equipment such as ladders or mechanical extraction devices will be used as necessary.

- Rescue and emergency services, procedures, and equipment will be determined prior to entry. The permit must specify whether the company or another source will provide these services and equipment, and how to summon them.

- Communication methods will be used that will provide continuous communication between entrants and attendants. This can be done using the standard system of lifeline "tugs" below, so long as the attendants continuously hold the lifelines in their hands:

| Lifeline "Tug" Signals |
|---|
| 1 Tug = Are you OK? |
| 2 Tugs = Yes, I am OK. |
| 3 Tugs = Exit the confined space immediately. |

- An alternative communication system would be to provide all entrants and attendants with an air-powered horn. Substituting horn blasts for tugs, equivalent signals to the lifeline "tug" signals would be used. Any other or uncertain signals would require immediate exit.

- If these methods are not practical or possible, appropriately rated powered communication equipment will be provided.

- The number of attendants and other outside support personnel will be determined prior to entry. Each PRCS being entered will have a minimum of one dedicated attendant and one other support person (who may have other duties) within sight or call.

### 11.1.17.4 Duties of PRCS Participants

*Authorized entrants will:*

- Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of potential exposures.

- Communicate with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space.

- Alert the attendant whenever the entrant recognizes any warning sign or symptom of exposure to a dangerous situation, or if the entrant detects a prohibited condition.

- Exit from the permit space as quickly as possible whenever:

    - An order to evacuate is given by the attendant or the entry supervisor

    - The entrant recognizes any warning sign or symptom of exposure to a dangerous situation

    - The entrant detects a prohibited condition

    - An evacuation alarm is activated

*Attendants will:*

- Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of potential exposures.

- Be cognizant of possible behavioral effects of hazard exposure in authorized entrants.

- Continuously maintain an accurate count of authorized entrants in the PRCS so that the means used to identify authorized entrants accurately identifies who is in the permit space.

- Remain outside the PRCS during entry operations until relieved by another attendant.

- Communicate with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space.

- Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space, and order the authorized entrants to evacuate the PRCS immediately under any of the following conditions:

    - If the attendant detects a prohibited condition

    - If the attendant detects the behavioral effects of hazardous exposure in an authorized entrant

    - If the attendant detects a situation outside the space that could endanger the authorized entrants

    - If the attendant cannot effectively and safely perform all prescribed duties

- Summon rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from the PRCS.

- Take the following actions when unauthorized persons approach or enter a PRCS while entry is underway:

    - Warn the unauthorized persons that they must stay away from the PRCS.

    - Advise the unauthorized persons that they must exit immediately if they have entered the PRCS.

    - Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the PRCS.

- Perform non-entry rescues.

- Perform no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

*Entry supervisors will:*

- Remain immediately available on site throughout entry operations.

- Know the hazards that may be faced during entry, including information on the mode, signs and symptoms, and consequences of potential exposures.

- Verify, by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and that all procedures

and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin.

- Terminate the entry and cancel the permit as required.
- Verify that qualified rescue services are available and that the means for summoning them are operable. Evaluate capabilities of service prior to entry.
- Arrange for the removal of unauthorized individuals who enter or who attempt to enter the PRCS during entry operations.
- Determine when responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space, and that entry operations remain consistent with the terms of the entry permit, and acceptable entry conditions are maintained.
- Document on the entry permit any incidents or circumstances requiring review of the confined space entry program. Such incidents may include:
    - Unauthorized entry
    - The detection of a condition or hazard not authorized by the permit
    - The occurrence of an injury or near-miss during entry
    - A change in use or configuration of the space
    - Employee complaints about the program
- Dictate procedures for coordination of entry when personnel from multiple employers will work simultaneously within a PRCS.

### 11.1.17.5 Permit System

Before entry can be authorized, the entry supervisor must complete and sign an entry permit to document that all pre-entry requirements have been met and that acceptable entry conditions exist. The completed permit will be posted at the primary entrance to the PRCS, and made available to each employee entering the space, or to that employee's authorized representative.

All entry permits are valid for a maximum of one work shift, and will be canceled by the entry supervisor when the shift ends, PRCS operations are complete, or whenever a prohibited condition arises in or near the space. All PRCSs will be securely closed or barricaded whenever the entry permit is canceled.

Supplemental information regarding the location of each entrant will be provided as described below:

- The current entry status of all entrants will be logged, with new entries made whenever the entry status of an entrant changes.

- Each entrant will securely affix a tag bearing their name to the outside lifeline fitting, which is attached to a secure point.

### 11.1.17.6 Training

Prior to assignment to PRCS entry work, all affected employees will receive training in the hazards of confined spaces, work practices to control these hazards, and duties to be performed. Training will consist of a detailed review of this procedure, as well as the hazards inherent with the particular PRCS that will be entered.

Confined space entry training for entrants or attendants can be conducted by a qualified entry supervisor or a Health and Safety Representative. Confined space entry training for entry supervisors must be conducted by a health and safety professional.

The company will maintain confined space entry training records to include employee name and signature, date of training, and signature of the trainer.

### 11.1.17.7 Non-Permit-Required Confined Spaces

All confined spaces initially considered PRCSs can be reclassified as non-permit-required confined spaces by the entry supervisor only under the following conditions:

- All contaminants have been isolated or removed.

- All actual or potential atmospheric hazards have been eliminated, with testing verification.

- Ventilation is not required to maintain control of atmospheric hazards.

- All recognized hazards, including engulfment, within the space have been eliminated.

- The space will be re-evaluated (and reclassified to permit-required, if needed) whenever the use or configuration of the space changes in any way that might increase the hazards to the entrants. All entrants will exit the space immediately when hazards are noted.

- The entry supervisor will make the certification that all hazards have been removed on the entry permit.

- The entry permit will be posted at the entrance to the confined space.

### 11.1.17.8 Rescue and Emergency Services

The company recommends the use of non-company rescue services whenever possible. In certain instances, such as unavailability of a qualified outside provider, company employees can participate in rescues if they have been provided the required equipment and training.

(a) Outside Rescue Services

Prior to designating a non-company rescue service, an evaluation of their capabilities must be conducted. This documented evaluation can be conducted by an entry supervisor or a Health and Safety Representative. The rescue service must be certified by the evaluator as capable of performing rescues prior to being identified as the rescue service provider.

Each selected rescue service will be informed of the hazards they may encounter at the location. They will also be provided access to all PRCSs from which a rescue may be necessary.

(b) Company Rescue Services

Company personnel assigned to provide emergency entry and rescue services will be trained annually in the proper use of PPE and rescue equipment. Such training will include a simulated rescue exercise.

Company rescue services will be evaluated and certified by the evaluator as capable of performing rescues prior to being identified as the rescue service provider.

### 11.1.17.9 Employee Access to Documentation

Each employee participating in a PRCS entry, or that employee's authorized representative, will be allowed to observe all testing and receive a copy of the testing results. Each employee, or that employee's authorized representative, may also request the company to re-evaluate the PRCS because the employee or representative has reason to believe that the evaluation of the space may not have been adequate.

### 11.1.17.10 Retention of Inspection and Test Logs

A copy of all entry permits and other documents related directly to the PRCS entry (e.g., hot work permits, air monitoring records, etc.) will be maintained in project files. If requested, these documents will also be made available to all employees participating in a PRCS entry, or to their authorized representatives.

### 11.1.17.11 Program Review

The Health and Safety Representative responsible for each location performing PRCS operations will review all entry permits for incidents or problems occurring during entry annually. Incidents or problems may include injuries, accidents, unauthorized entries, or any other event that indicates that improvements can be made in the PRCS program.

### *11.1.18 Noise*

Excessive noise is hazardous not only because of its potential to damage hearing, but also because of its potential to disrupt communications and instructions. The following procedures and practices shall be followed to prevent noise-related hazards:

- All employees will have access to ear protection with a Noise Reduction Rating of not less than 30.
- Ear protection must be worn in any environment where site personnel must raise their voices to be heard while standing at a distance of 3 feet or less.
- Ear protection must be worn by any personnel observing or operating concrete cutting or sawing equipment, pile driving, or other loud noise-generating activities.

Hearing protection is required for site personnel operating or working near noisy equipment or operations, where the noise level is greater than 85 A-weighted decibels (dbA) (time-weighted average [TWA]), as well as personnel working around heavy equipment. The Field Leader will determine the need and appropriate testing procedures, (i.e., sound level meter and/or dosimeter) for noise measurement.

When needed, a sound level meter will be used to measure noise levels at selected locations in the work area and on the site perimeter. When used, noise monitoring equipment must be calibrated before and after each shift.

If continuous noise levels are found to exceed 85 dbA at any location within the work area, warning signs will be posted. Site personnel and visitors will be notified that hearing protection is required. Appropriate hearing protection (i.e., ear plugs or ear muffs) will be worn whenever personnel or visitors are working in that location. A supply of ear plugs will be maintained on site.

Action levels in **Table 11-3** will trigger the use of appropriate hearing protection (plugs or muffs). Hearing protection must be able to attenuate noise below 90 dbA (8-hour TWA). Each hearing protection or device has a Noise Reduction Rating (NRR) assigned by EPA. The calculation for a hearing protection device's effectiveness is:

**Equation 1**

Noise reading $dbA - (NNR - 7db) < 90dbA$

where:

| | | |
|---|---|---|
| $dbA$ | = | A-weighted decibel |
| NRR | = | Noise Reduction Rating |

**Table 11-3: Noise Exposure Action Levels**

| Instrument | Measurement | Action |
|---|---|---|
| Type I or Type II Sound Level Meter or Dosimeter | > 80 dbA to 85 dbA | Hearing protection recommended. Limit work duration to 8-hour shifts. |
| | > 85 dbA to 90 dbA | Hearing protection required. Limit work duration to 8-hour shifts. |
| | > 90 dbA to 115 dbA | Hearing protection required. Investigate use of engineering controls. Limit work duration to 8-hour shifts. |
| | > 115 dbA | Stop work. Consult CHSM. |

Notes:
CHSM: Corporate Health and Safety Manager
dBA: A-weighted decibel

### *11.1.19 Lifting and Material Handling*

Observe the following procedures and practices for lifting and material handling:

- Use leather gloves when handling metal, wire rope, sharp debris, or transporting materials (e.g., wood, piping, or drums).
- The size, shape, and weight of the object to be lifted must first be considered. No individual employee is permitted to lift any object that weighs more than 60 pounds. Multiple employees or mechanical lifting devices are required for objects heavier than the 60-pound limit.
- Plan a lift before doing it. Bend at the knees and lift with the legs; maintain the natural curves of the back; do not use back muscles.
- Check the planned route for clearance.
- Use the buddy system when lifting heavy or awkward objects.
- Do not twist your body while lifting.
- Know the capacity of any handling device (e.g., crane, forklift, chain fall, or come-along) that you intend to use.
- Use tag lines to control loads.
- Ensure that your body, material, tools, and equipment are safe from such unexpected movement as falling, slipping, rolling, tripping, bowing, or any other uncontrolled motion.
- Trucks (i.e., flat beds) hauling equipment or materials must not be moved once rigging has been released.
- Chock all material and equipment (such as pipe, drums, tanks, reels, trailers, and wagons) as necessary to prevent rolling.

- Tie down all light, large-surface-area material that might be moved by the wind.
- When working at heights, secure tools, equipment, and wrenches against falling.
- Do not store materials or tools on ducts, lighting fixtures, beam flanges, hung ceilings, or similar elevated locations.
- Fuel-powered tools used inside buildings or enclosures shall be vented and checked for excessive noise.

### *11.1.20 Fire Control*

Observe the following fire control procedures and practices:

- Smoke only in designated areas.
- Keep flammable liquids in closed containers.
- Keep the work site clean; avoid accumulating combustible debris such as paper.
- Obtain and follow property owner hot work safety procedures when welding or performing other activities requiring an open flame.
- Isolate flammable and combustible materials from ignition sources.
- Ensure fire safety integrity of equipment installations according to NEC specifications.

### *11.1.21 Static Electricity and Transfer of Flammable Liquids*

Observe the following procedures and practices regarding static electricity when transferring flammable liquids:

- Electrically bond and ground pumps, transfer vessels, tanks, drums, bailers, and probes when moving flammable liquids.
- Electrically bond and ground vacuum trucks and the tanks they are emptying.
- Do not splash fill containers with flammable liquids.
- Pour flammable liquids slowly and carefully.
- Two fire extinguishers (2A20:BC) must be available, charged, inspected, and readily accessible.

### *11.1.22 Cleaning Equipment*

Observe the following procedures and practices when cleaning equipment:

- Wear appropriate PPE to avoid skin and eye contact with isopropyl alcohol, Alconox®, or other cleaning materials.
- Stand upwind to minimize any potential inhalation exposure.
- Dispose of spent cleaning solutions and rinses accordingly.

## 11.2 Environmental Hazards and Controls

### *11.2.1 Fatigue Management*

Because personnel may be working long hours, and depending on the activity, it is important that all personnel are aware of the hazards related to fatigue. Fatigue can be defined as an increasing difficulty in performing physical or mental activities. Signs of fatigue may include tiredness, changes in behavior, loss of energy, and reduced ability to concentrate. Fatigued site personnel may have a reduced ability to recognize or avoid risks on the work site, which may lead to an increase in the number and severity of injuries and other incidents. Fatigue can occur at any time when working and may cause safety concerns due to decreased manual dexterity, reaction time, and alertness.

Fatigue results from insufficient rest and sleep between activities. Contributing factors to fatigue may include the following:

- The time of day that work takes place
- The length of time spent at work and in work-related duties
- The type and duration of a work task and the environment (e.g., weather conditions and ambient noise) in which it is performed
- The quantity and quality of rest obtained prior to, during, and after a work period
- Non-work activities
- Individual factors such as sleeping disorders, medications, or emotional state

Personnel suffering from fatigue may exhibit both physical and mental effects, such as the following:

- Slower movements
- Poor coordination

- Slower response time to interaction
- Bloodshot eyes
- Slumped or weary appearance
- Nodding off
- Distractedness or poor concentration
- Inability to complete tasks
- Fixed gaze
- Appearing depressed, irritable, frustrated, or disinterested

Employees are strongly encouraged to get sufficient pre-work rest, maintain sufficient nutritional intake during work (i.e., eat and drink at regular intervals), and communicate with team members and leaders if their level of fatigue elevates.

Use the following procedures to help detect and address fatigue-related issues:

- Periodically observe and query coworkers for signs or symptoms of fatigue.
- Site personnel that express concern over their level of fatigue, or that are observed to be fatigued such that elevated worker risk is evident, will be relieved or their work tasks adjusted so that they may rest sufficiently.
- Work schedules will consider fatigue factors and optimize continuous periods available for uninterrupted sleep. The employee is responsible for reporting to work properly rested and fit for duty. In case of an emergency or operational difficulties (e.g., limited access due to water levels or boat repairs), work hours may require adjustment.
- Maintain a routine exercise program and regular sleep schedule as much as possible over the course of the work.
- Avoid heavy meals or caffeine and minimize or eliminate the consumption of alcohol and nicotine before sleeping.

### *11.2.2 Heat Stress*

Observe the following general procedures and practices regarding heat stress:

- Increase the number of rest breaks and/or rotate site personnel in shorter work shifts.
- Watch for signs and symptoms of heat stress and fatigue.

- During hot months, plan work for early morning or evening.
- Use ice vests when necessary.
- Rest in cool, dry areas.
- Ensure that employees have access to potable drinking water and shade.
- During conditions exceeding 95° F, ensure that the following additional procedures are adhered to:
    - Establish effective communication by voice, observation, or electronic means.
    - Observe employees for alertness and signs or symptoms of heat illness.
    - Designate one or more employees on each work site as authorized to call for emergency medical services.
    - Remind employees to drink water throughout the shift.
    - Conduct pre-shift meetings before beginning work to review the high heat procedures, encourage drinking water, and remind employees of their right to take a cool-down rest when necessary.

#### 11.2.2.1 Signs, Symptoms, and Treatment

The Key Foreperson will be trained in heat stress prevention, including the following, prior to supervising employees:

- Procedures to prevent heat illness.
- Procedures to follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.

The information provided below addresses these training requirements.
Adverse climatic conditions are important considerations in planning and conducting site operations. High ambient temperature can result in health effects ranging from transient heat fatigue, physical discomfort, reduced efficiency, personal illness, and increased accident probability to serious illness or death. Heat stress is of particular concern when chemical protective garments are worn because they prevent evaporative body cooling. Wearing PPE places employees at considerable risk of developing heat stress.

Heat stress is caused by a number of interacting factors, including environmental conditions, clothing, workload, and the individual characteristics of the worker. Because heat stress is probably one of the most common (and potentially serious) illnesses, regular monitoring and other preventive precautions are vital.

**Heat Rash.** Heat rash can be caused by continuous exposure to hot and humid air and skin abrasion from sweat-soaked clothing, rubber boots, or impermeable waders. The condition is characterized by a localized red skin rash and reduced sweating. Heat rash reduces the ability to tolerate heat. To treat, keep skin hygienically clean and allow it to dry thoroughly after using chemical protective clothing. Take measures to prevent heat rash by changing clothes often to maximize use of dry garments, or taking frequent breaks to allow doffing of equipment and drying of skin.

**Heat Cramps.** Heat cramps are caused by profuse perspiration with inadequate electrolytic fluid replacement. This often robs the larger muscle groups (stomach and quadriceps) of blood, which can cause painful muscle spasms and pain in the extremities and abdomen. To treat, move the employee to a cool place and give sips of water or an electrolytic drink. Watch for signs of heat exhaustion or heat stroke.

**Heat Exhaustion.** Heat exhaustion is a mild form of shock caused by increased stress on various organs to meet increased demand to cool the body. Onset is gradual and symptoms should subside within 1 hour. Symptoms include a weak pulse; shallow breathing; pale, cool, moist skin; profuse sweating; dizziness; and fatigue. To treat, move the employee to a cool place and remove as much clothing as possible. Give sips of water or electrolytic solution and fan the person continuously to remove heat by convection. Do not allow the affected person to become chilled. Treat for shock if necessary.

**Heat Stroke.** Heat stroke is the most severe form of heat stress; the body must be cooled immediately to prevent severe injury and/or death. ***This is a medical emergency!*** Symptoms include red, hot, dry skin; a body temperature of 105° F or higher; no perspiration; nausea; dizziness and confusion; and a strong, rapid pulse. Because heat stroke is a true medical emergency, transport the patient to a medical facility immediately. Prior to transport, remove as much clothing as possible and wrap the patient in a sheet soaked with water. Fan the patient vigorously while transporting to help reduce body temperature. If available, apply cold packs under the arms, around the neck, or any other place where they can cool large surface blood vessels. If transportation to a medical facility is delayed, reduce body temperature by immersing the patient in a cool-water bath (however, be careful not to over-chill the patient once body temperature is reduced below 102° F). If this is not possible, keep the patient wrapped in a sheet and continuously douse with water and fan.

#### 11.2.2.2 Prevention

The implementation of preventative measures is the most effective way to limit the effects of heat-related illnesses. During periods of high heat, adequate liquids must be provided to replace lost body fluids. Replacement fluids can be a 0.1% saltwater solution, a commercial mix such as Gatorade, or a combination of these with fresh water. The replacement fluid temperature should be kept cool, 50° F to 60° F, and should be placed close to the work area. Employees must be encouraged to drink more than the amount required to satisfy thirst. Employees should also be encouraged to salt their foods more heavily during hot times of the year.

Cooling devices such as vortex tubes or cooling vests can be worn beneath impermeable clothing. If cooling devices are worn, only physiological monitoring will be used to determine work activity.

All site personnel are to rest when any symptoms of heat stress are noticed. Rest breaks are to be taken in a cool, shaded rest area. Employees shall remove chemical protective garments during rest periods and will not be assigned other tasks.

All employees shall be informed of the importance of adequate rest and proper diet, including the harmful effects of excessive alcohol and caffeine consumption.

#### 11.2.2.3 Monitoring

Heat stress monitoring should be performed when employees are working in environments exceeding 90° F ambient air temperature. If employees are wearing impermeable clothing, this monitoring should begin at 77° F. There are two general types of monitoring that the Health and Safety Representative can designate to be used: wet bulb globe temperature (WBGT), and physiological. The Heat Stress Monitoring Record form (see Appendix A) will be used to record the results of heat stress monitoring.

**Wet Bulb Globe Temperature.** The WBGT index is the simplest and most suitable technique to measure the environmental factors that most nearly correlate with core body temperature and other physiological responses to heat. When WBGT exceeds 25° C (77° F), the work regiment in **Table 11-4** should be followed.

**Table 11-4: Permissible Heat Exposure Threshold Limit Values**

| Work/Rest Regimen | Workload | | |
|---|---|---|---|
| | Light | Moderate | Heavy |
| Continuous work | 86° F (30.0° C) | 80° F (26.7° C) | 77° F (25.0° C) |
| 75% work, 25% rest each hour | 87° F (30.6° C) | 82° F (28.0° C) | 78° F (25.9° C) |
| 50% work, 50% rest, each hour | 89° F (31.4° C) | 85° F (29.4° C) | 82° F (27.9° C) |
| 25% work, 75% rest, each hour | 90° F (32.2° C) | 88° F (31.1° C) | 86° F (30.0° C) |
| These TLVs assume that nearly all acclimated, fully-clothed site personnel with adequate water and salt intake should be able to function effectively under the given working conditions without exceeding a deep body temperature of 100.4° F (38° C). | | | |

(From OSHA Technical Manual, Section III: Chapter 4 - Heat Stress)

The TLVs denoted in **Table 11-4** above apply to physically fit and acclimatized individuals wearing light, summer clothing. If heavier clothing that impedes sweat or has a higher insulation value is required, the permissible heat exposure TLVs should be adjusted based on the WBGT Correction Factors in **Table 11-5**, below.

**Table 11-5: WBGT Correction Factors**

| Clothing Type | WBGT Correction |
|---|---|
| Summer lightweight working clothing | 0° F (0° C) |
| Cotton coveralls | -3.6° F (-2° C) |
| Winter work clothing | -7.2° F (-4° C) |
| Water barrier, permeable | -10.8° F (-6° C) |
| Fully encapsulating | -14.4° F (-10° C) |

**Physiological**. Physiological monitoring can be used in lieu of, or in addition to, WBGT. This monitoring can be self-performed once the Health and Safety Representative demonstrates appropriate techniques to affected employees. Because individuals vary in their susceptibility to heat, this type of monitoring has its advantages. The following two parameters are to be monitored at the beginning of each rest period:

- **Heart Rate** – The maximum heart rate (MHR) is the amount of work (beats) per minute a healthy person's heart can be expected to safely deliver. Each individual will count his/her radial (wrist) pulse for 1 minute as early as possible during each rest period. If the heart rate of any individual exceeds 75% of his/her calculated MHR (MHR = 200 - age) at the beginning of the rest period, then the work cycle will be decreased by one-third. The rest period will remain the same. An individual is not permitted to return to work until his/her sustained heart rate is below 75% of his/her calculated MHR.

- **Temperature** – Each individual will measure his/her temperature with a thermometer for 1 minute as early as possible in the first rest period. If the temperature exceeds 99.6° F at the beginning of the rest period, then the work cycle will be decreased by one-third. The rest period will remain the same. An individual is not permitted to return to work if his/her temperature exceeds 100.4° F.

#### 11.2.2.4 Training

Employees potentially exposed to heat stress conditions will be instructed on the contents of this procedure. This training can be conducted during daily tailgate safety meetings.

### *11.2.3 Cold Stress*

Observe the following procedures and practices regarding cold stress:

- Take breaks in heated shelters when working in extremely cold temperatures.

- Upon entering the shelter, remove the outer layer of clothing and loosen other layers to promote evaporation of perspiration.

- Drink warm liquids to reduce the susceptibility to cold stress.

- Be aware of cold stress symptoms, including shivering, numbness in the extremities, and sluggishness.

- Provide adequate insulating dry clothing to maintain warmth if work is performed in air temperature below 40° F. Wind chill cooling rates and the cooling power of air are critical factors. The higher the wind speed and the lower the temperature in the work area, the greater the insulation value of the protective clothing required.

- If the air temperature is 32° F or less, hands should be protected.

- If only light work is involved and if the clothing on the worker may become wet on the job site, the outer layer of the clothing in use should be impermeable to water. With more severe work under such conditions, the outer layer should be water repellent, and the outer wear should be changed as it becomes wetted. The outer garments should include provisions for easy ventilation in order to prevent wetting of the inner layer by sweat.

- If available clothing does not give adequate protection to prevent cold injury, work should be modified or suspended until adequate clothing is made available, or until weather conditions improve.

- Implement a buddy system in which site personnel are responsible for observing fellow workers for early signs and symptoms of cold stress.

#### 11.2.3.1 Signs, Symptoms, and Treatment

Cold stress can range from frostbite to hypothermia. The signs and symptoms of cold stress are listed below. The appropriate guidelines should be followed if any personnel exhibit these symptoms:

**Frostbite.** Frostbite is characterized by pain in the extremities and loss of manual dexterity. "Frostnip," or reddening of the tissue, is accompanied by a tingling or loss of sensation in the extremities and continuous shivering.

**Hypothermia.** Hypothermia is characterized by pain in the extremities and loss of manual dexterity, with severe, uncontrollable shivering, and an inability to maintain the level of activity. Symptoms include excessive fatigue, drowsiness, irritability, or euphoria. Severe hypothermia includes clouded consciousness, low blood pressure, pupil dilation, cessation of shivering, unconsciousness, and possible death.

Move the patient to a warm, dry place. If the patient's clothing is wet, remove it and replace it with dry clothing. Keep the patient warm. Re-warming of the patient should be gradual to avoid stroke symptoms. Dehydration, or the loss of body fluids, may result in a cold injury due to a significant change in blood flow to the extremities. If the patient is conscious and alert, warm sweet liquids should be provided. Coffee and other caffeinated liquids should be avoided because of diuretic and circulatory effects. Extremities affected by

frostbite should be gradually warmed up and returned to normal temperature. Moist compresses should be applied; begin with lukewarm compresses and slowly increase the temperature as changes in skin temperature are detected. Keep the patient warm and calm and move them to a medical facility as soon as possible.

### *11.2.4 Sunlight and Ultraviolet Exposure*

Observe the following procedures and practices regarding ultraviolet (UV) exposure:

- Protect against extended exposure to sunlight with shade, long clothing, sunscreen, and high-SPF, broad-spectrum sunscreen applied frequently.
- Plan work to avoid unnecessary UV exposure (see Section 12.2.4.2).
- During peak daylight months, plan work for early morning or evening.
- Many factors affect the hazards associated with UV exposure, including the following:
    - **Time of day:** UV rays are strongest between 10 am and 4 pm.
    - **Season of the year:** UV rays are stronger during spring and summer months. This is less of a factor near the equator.
    - **Distance from the equator (latitude):** UV exposure goes down as you get farther from the equator.
    - **Altitude:** More UV rays reach the ground at higher elevations.
    - **Cloud cover:** The effect of clouds can vary. Sometimes cloud cover blocks some UV from the sun and lowers UV exposure, while some types of clouds can reflect UV and increase UV exposure. What is important to know is that UV rays can get through, even on a cloudy day.
    - **Reflection off surfaces:** UV rays can bounce off surfaces like water, sand, snow, pavement, or grass, leading to an increase in UV exposure.
- Cloud cover does not necessarily protect from UV exposure. Consider monitoring the UV index for your work area: http://www2.epa.gov/sunwise/uv-index.
- Evaluate site-specific factors affecting UV exposure and address work practices as appropriate.

#### 11.2.4.1 Signs, Symptoms, and Treatment

The best way to treat sunburn is to prevent it using the guidelines listed in the bullets above and in Section 12.2.4.2. Signs of sunburn include the following:

- Pinkness or redness
- Skin that feels warm or hot to the touch
- Pain, tenderness, or itching
- Swelling
- Small, fluid-filled blisters, which may break
- Headache, fever, chills, and fatigue if the sunburn is severe

If signs of sunburn are noticed, avoid further exposure and immediately implement treatment. If the sunburn is blistering *and* covers 15% or more of the body, seek medical attention.

#### 11.2.4.2 Prevention

UV exposure hazards and their impacts on each worksite should be evaluated to determine the best practices for risk mitigation. The most effective way to prevent skin damage from UV exposure is to protect bare skin. This can be accomplished with shade, clothing (e.g., pants, long sleeves, or hats), sunscreen, and sunglasses. Plan work to create shade or take advantage of natural shade, and avoid peak UV times during the day when possible.

### *11.2.5 Inclement Weather*

Observe the following procedures and practices regarding inclement weather:

- Evaluate the worksite for hazards amplified during inclement weather, such as traction issues, ingress and egress, slope stability, or wind-driven hazards (e.g., dust, debris, or falling trees).
- Stop outdoor work during electrical storms (lightning strikes), hailstorms, high winds, and other extreme weather conditions such as extreme heat or cold.
- Take cover indoors or in a vehicle that will provide adequate protection. In some cases, this may require exiting the worksite, such as during windstorms in areas with overhead hazards (e.g., trees or power lines).
- Listen to local forecasts for warnings about specific weather hazards such as tornadoes, hurricanes, and flash floods.

- Verify that on-site equipment and resources are adequately protected from inclement weather.
- If working in an unfamiliar geographic location, consult with local resources for unique weather hazards.

### *11.2.6 Insects/Spiders*

Observe the following general procedures and practices regarding insects/spiders:

- Tuck pants into socks.
- Wear long sleeves.
- Use insect repellent.
- Avoid contact by always looking ahead to where you will be walking, standing, sitting, leaning, grabbing, lifting, or reaching.
- Check for signs of insect/spider bites, such as redness, swelling, and flu-like symptoms.

The most dangerous spiders to humans in North America are black widows and brown spiders (also known as brown recluse or fiddleback spiders). A guide to identifying these spiders is presented in **Table 11-6**.

### Table 11-6: North American Hazardous Spider Identification Guide

| Hazardous Spider Identification Guide | |
|---|---|
| **Black Widow Spider**<br>• Abdomen usually shows hourglass marking<br>• Female is 3 to 4 centimeters in diameter<br>• Have been found in well casings and flush-mount covers<br>• Not aggressive, but more likely to bite if guarding eggs<br>• Light, local swelling and reddening are early signs of a bite, followed by intense muscular pain, rigidity of the abdomen and legs, difficulty breathing, and nausea<br>• If bitten, see a physician as soon as possible | |
| **Brown Spiders (aka Brown Recluse or Fiddleback)**<br>• Found in the central and southern United States, although in some other areas, as well<br>• 1/4-to-1/2-inch-long body, and size of a silver dollar<br>• Hide in baseboards, ceiling cracks, and undisturbed piles of material<br>• Bite may either go unnoticed or may be followed by a severe localized reaction, including scabbing, necrosis of the affected tissue, and very slow healing<br>• If bitten, see a physician as soon as possible | |

## *11.2.7 Bees and Wasps*

Many encounters with bees and wasps occur when nests built in well casings or excavation areas are disturbed. Before opening a well casing, take a few moments to observe whether or not insects are entering or exiting. If they are flying to and from the casing, avoid it if possible. If you must be in an area where disturbing a nest is likely, be sure to wear long pants and a long-sleeved shirt. Stinging insects fly around the top of their target, so if you get into trouble, pull a portion of your shirt over your head and run away.

If you get stung, look for a stinger and, if present, remove it as soon as possible. Several over-the-counter products or a simple cold compress can be used to alleviate the pain of the sting. If the sting is followed by severe symptoms, or if it occurs in the neck or the mouth, seek medical attention immediately because swelling could cause suffocation.

If you need to destroy a nest, consult with the Key Foreman first. Commercially available stinging insect control aerosols are very effective, but could potentially contaminate the well. Once the nest is destroyed, fine mesh may be applied over the exit and entry points of a well casing to prevent re-infestation.

## *11.2.8 Ticks*

Ticks in North America can be carriers of several diseases, including Lyme's Disease, Rocky Mountain Spotted Fever, and ehrlichiosis.

Limiting exposure to ticks reduces the likelihood of infection when exposed to tick-infested habitats. Measures to prevent tick exposure include the following:

- Remove leaf litter and brush in areas where you will be working prior to tick season.
- Wear light-colored clothing so that ticks are visible.
- Tuck your pant legs into your socks.
- Apply repellents to discourage tick attachment.
- Promptly inspect your body and remove crawling or attached ticks when you leave a tick-infested area.
- Conduct tick checks on buddies upon exiting any suspect area (may be needed multiple times per work day).
- Be aware of seasonal activity; ticks are often most active in the spring.

Observe the following procedures and practices if you are bitten by a tick:

- Use fine-tipped tweezers or shield your fingers with tissue, paper towel, or rubber gloves.
- Grasp the tick as close to the skin surface as possible and pull upward with steady, even pressure. Do not twist or jerk the tick; this may cause mouthparts to break off and remain in the skin.
- Do not squeeze, crush, or puncture the body of the tick because its fluids may contain infectious organisms.
- Do not handle the tick with bare hands because infectious agents may enter through mucous membranes or breaks in the skin.
- After removing the tick, thoroughly disinfect the bite site and wash your hands with soap and water.
- You may wish to save the tick for identification in case you become ill within 2 to 3 weeks. Place the tick in a sealed plastic bag in the freezer, and mark the bag with the date of the bite.

### *11.2.9 Mosquitoes*

Mosquitoes in the United States have been known to carry West Nile virus, Zika virus, St. Louis encephalitis, and Dengue fever. Avoid mosquito bites by doing the following:

- Apply insect repellent containing DEET (N,N-diethyl-meta-toluamide) when outdoors. DEET is very effective, but could potentially contaminate samples.

- Read and follow the product directions whenever you use insect repellent.

- Wear long-sleeved clothes and long pants treated with repellent to further reduce your risk, or stay indoors during peak mosquito feeding hours (dusk until dawn).

- Limit the number of places available for mosquitoes to lay their eggs by eliminating standing water sources from around the work area.

- If you need to destroy a nest, consult with the Project Manager and project Field Leader first.

- Check to see if there is an organized mosquito control program near the project site. If no program exists, work with the local government officials to establish a program.

#### 11.2.9.1 Zika Virus

The Zika virus has generated concern starting in 2016 in the southern United States. According to the Centers for Disease Control (CDC),[2] Zika infection during pregnancy can cause a birth defect of the brain called microcephaly and other severe fetal brain defects. There have also been increased reports of Guillain-Barré syndrome, an uncommon sickness of the nervous system, in areas affected by Zika. The practices listed in the bullets above should be followed to avoid mosquito bites and help prevent contraction of the Zika virus. Symptoms of Zika and treatment options are listed below, should you suspect that you or another employee has been in contact with Zika-infected mosquitoes:

- The most common symptoms of Zika (similar to those of Dengue fever) are fever, rash, joint pain, or conjunctivitis (red eyes). Other common symptoms include muscle pain and headache. The incubation period (the time from exposure to symptoms) for Zika virus disease is not known, but is likely to be a few days to a week.

- The illness is usually mild, with symptoms lasting for several days to a week. Severe disease requiring hospitalization is uncommon.

- Call WorkCare or see your healthcare provider if you develop the symptoms described above and have visited an area where Zika is found. If you have recently traveled, tell your healthcare provider when and where you traveled. Your healthcare provider may order blood tests to look for Zika or other similar viruses like Dengue fever.

[2] https://www.cdc.gov/zika/about/overview.html

### *11.2.10 Poisonous Snakes*

Observe the following procedures and practices regarding poisonous snakes:

- Avoid walking in areas where snakes may nest or hide. When walking, always look ahead for signs of snakes.
- Use extreme caution when moving or lifting objects that could be used by snakes as cover.
- Never reach under or behind objects or into other areas where snakes may hide.
- Wear sturdy leather boots.
- Poisonous snakebites are medical emergencies. If bitten by any type of snake, immediately seek medical attention.

### *11.2.11 Bird Droppings*

Large populations of roosting birds may present a disease risk. The most serious health risks arise from disease organisms that grow in the accumulations of bird droppings, feathers, and debris under a roost—especially if roosts have been active for years. Among the fungal diseases associated with bird droppings, the two most common are Histoplasmosis and Cryptococcosis.

If you are working in an area where large quantities of droppings are present, follow certain precautions to minimize the risk from disease organisms in the droppings:

- Wear a respirator that can filter particles as small as 0.3 microns, such as a High Efficiency Particulate Air (HEPA) filter.
- Wear disposable protective gloves, hat, coveralls, and boots if you will be in close contact.
- Wash or shower at the work site after cleanup, if possible.
- If allowable, modify the structure or use methods to prevent birds from re-establishing the roost.

### *11.2.12 Feral Dogs*

Feral (i.e., “wild” or “stray”) dogs have occasionally been observed at job sites. Packs of feral dogs can be dangerous, so if you observe them on the site, call animal control immediately. If a dog approaches you, take the following steps to reduce your chances of being attacked:

- Do not run away or run past the dog.

- Remain calm. If you say anything, speak calmly and firmly. Avoid eye contact. Try to stay still until the dog leaves, or back away slowly until the dog is out of sight. Do not turn and run.

- If you fall to the ground or are knocked down, curl into a ball, placing your hands over your head and neck. Protect your face.

If a dog bites someone, take the following steps:

- Restrain the dog immediately, if it is safe to do so. The dog will have to be quarantined or tested for rabies.

- Check on the victim's condition. Call 911 if a paramedic response is required.

### *11.2.13 Rodent-borne Diseases*

Rodent infestation on a site has the potential to cause serious communicable diseases including hantavirus pulmonary syndrome and bubonic plague. The most common rodent-borne disease is hantavirus, which may infect workers who inhale tiny droplets containing the virus when fresh rodent urine, droppings, or nesting materials are stirred up.

Working conditions that may put workers at risk of hantavirus include:

- Contact with rodent feces or dried urine, which may mobilize particles of these wastes into the air where they may be inhaled

- Entry into rooms or warehouses that have been closed and infested for extended periods

- Activities that stir up dust that may mobilize hantavirus

If working in areas of obvious rodent infestation, the CDC recommends the following precautions:

- Do not enter rooms or warehouses that have been closed unless necessary.

- If work in closed-up areas or areas with rodent infestation is necessary, contact professional exterminators to eliminate the infestation and clean up the location

- If an exterminator is not available or possible, employees should clean up the infested area using the following steps:

    - When going into outbuildings or rooms that have been closed for an extended period, open them up and air them out before cleaning.

    - Don an air-purifying respirator equipped with HEPA P-100 cartridges and nitrile gloves before cleaning.

- Do not stir up dust by sweeping or vacuuming droppings, urine, or nesting materials.
- Thoroughly wet contaminated areas with detergent or liquid to deactivate the virus. Most general-purpose disinfectants and household detergents are effective. However, a hypochlorite solution prepared by mixing 1 and 1/2 cups of household bleach in 1 gallon of water may be used in place of a commercial disinfectant.
- Once everything is wet, pick up contaminated materials with a damp towel, then mop or sponge the area with disinfectant.
- Spray dead rodents with disinfectant and flea repellent (to avoid bubonic plague), then double-bag and dispose of them in an appropriate waste disposal system. Contact the local or state health department for other disposal methods.
- Finally, remove the respirator and disinfect the gloves before taking them off with disinfectant or soap and water. After taking off the clean gloves, thoroughly wash your hands with soap and warm water.

Contact your supervisor immediately if you experience hantavirus symptoms (fatigue, fever, and muscle aches) within 1 to 5 weeks of exposure to potentially affected rodents and their droppings.

### *11.2.14 Poisonous Plants*

Poisonous plants include poison ivy, poison oak, and poison sumac as shown in **Table 11-7**. Observe the following procedures and practices regarding poisonous plants:

- Avoid entering areas infested with poisonous plants.
- Immediately wash any areas that come into contact with poisonous plants.
- Use PPE when there is a possibility of contact with poisonous plants.

## Table 11-7: North American Hazardous Plant Identification Guide

| Hazardous Plant Identification Guide | | |
|---|---|---|
| **Poison Ivy**<br>• Grows in the West, Midwest, Texas, and the East Coast<br>• Several forms—vine, trailing shrub, or shrub<br>• Three leaflets (can vary from three to nine)<br>• Leaves are green in summer and red in fall<br>• Yellow or green flowers<br>• White berries | | |
| **Poison Oak**<br>• Grows in the East (New Jersey to Texas) and Pacific Coast<br>• 6-foot tall shrubs or long vines<br>• Oak-like leaves in clusters of three<br>• Yellow berries | | |
| **Poison Sumac**<br>• Grows in boggy areas, especially in the Southwest and Northern United States<br>• Shrub up to 15 feet tall<br>• Seven to 13 smooth-edged leaflets<br>• Glossy pale yellow or cream-colored berries | | |

If you have been exposed to poison ivy, oak, or sumac, act quickly because the toxin in the plants penetrates the skin within minutes. If possible, stay outdoors until you complete the first two steps:

1) Cleanse the exposed skin with generous amounts of isopropyl alcohol.

2) Wash the skin with water.

3) Take a regular shower with soap and warm water. Do not use soap until this point because it will pick up the toxin from the surface and move it around.

4) Wash clothes, tools, and anything else that may have been in contact with the toxin with alcohol and water. Be sure to wear hand protection during that process.

Signs and symptoms of exposure include redness and swelling that appear 12 to 48 hours after exposure. Blistering and itching will follow. If you have had a severe reaction in the past, you should see a physician right away. Over-the-counter products available to alleviate symptoms include Cortaid®, Lanacort®, baking soda, Aveeno® oatmeal baths, and calamine lotion.

### *11.2.15 The Public at Large*

The community residents around the worksites may pose their own specific hazards. These conditions may include the following:

- Unintentional disruption of work
- Benign or malicious trespass
- Criminal intent

Scenarios may include the following:

- Pedestrians, cyclists, or motorists disregarding site boundaries due to distraction or disobedience.
- Public use of private site facilities for shelter, relief, and other reasons with no ill intention.
- Public use of private site facilities for mischievous or criminal activity, such as loitering, vandalism, or theft.
- Encounters with community members who are disgruntled with the project activity.
- Encounters with criminal activities on or near a project site.

If any of the above are expected to be likely, take the following precautions as appropriate:

- Verify that the site is adequately marked and barricaded to limit unintentional disruptions of the work by the public.
- Review the site for attractive nuisances (e.g., hazards or conditions likely to attract children) and mitigate those.
- Secure all equipment and site facilities to prevent unauthorized access or use.
- Remove valuable items from the site or adequately secure them on site to limit the temptation for potential criminals.
- Have contact information for the client's or owner's public relations office while on site, and direct disgruntled community members to that office. If necessary, vacate the site to relieve the situation and notify the Project Manager/Superintendent.
- Work in pairs when uncertain of the public safety situation at a site. In questionable situations, postpone work as necessary until a plan of action can be developed to verify a safe working environment.

### *11.2.16 Personal Health and Safety*

In addition to hazards associated with chemicals of concern, equipment, operations, or site conditions discussed above, there may be additional personal safety issues to consider at a site, including those related to one or multiple protected classes, such as race, gender, religion, ability, sexual orientation, or gender identity. These conditions may involve the following, perpetrated by the public or those associated with the work:

- Malicious disruption of work
- Harassment, including unwanted comments, gestures, or actions
- Threats of violence, either implied (using derogatory language) or explicit
- Assault

Specifically, if any of the above are anticipated, take the following precautions as appropriate:

- Alert the Project Manager, Key Foreman, and/or Human Resources Department of potential issue(s).
- Formulate a plan of action to verify and maintain a safe working environment before field work, which may include the following:
    - Working in pairs and/or within a certain physical distance of other work groups.
    - Coordinated check-ins (calls to or from the office or visual check-ins with other field members).
- Whenever possible, schedule work only within daylight hours (which fluctuate seasonally) or on weekends when questionable scenarios may be more minimal.
    - If night work is required, always maintain a minimum of two field personnel, and potentially increase the total number of personnel.
    - If working in high-risk areas, discuss the possibility of hiring security if work needs to be performed at night, in low light, or near potentially dangerous areas (e.g., abandoned buildings, public displays of hostility, discrimination, or gang-related activity).
- Maintain a field phone with active GPS and non-locking 911 capability while in the field.
- If a need arises for a change in field work (e.g., additional sampling or moving to an area that was not planned) or travel plans (e.g., dead battery or flat tire), immediately alert the Field Leader and Project Manager to the event.

In addition, practice active awareness of your environment. Discuss personal health and safety concerns at the daily tailgate meeting. If you feel unsafe based on the potential behavior of others, immediately bring it up to field team coworkers. If the issue is not resolved to your satisfaction, alert the Project Manager, Key Foreman, and/or Human Resources Department to assist in resolving any potential issue(s).

# 12. DECONTAMINATION PROCEDURES AND PRACTICES

## 12.1 Minimization of Contamination

The following measures will be observed to prevent or minimize exposure to potentially contaminated materials:

**Personnel**

- Do not walk through spilled materials.
- Do not handle, touch, or smell sample media directly.
- Make sure PPE has no cuts or tears prior to use.
- Protect and cover any skin injuries.
- Stay upwind of airborne dusts and vapors.
- Do not eat, drink, chew tobacco, or smoke in the work zones.

## 12.2 Decontamination of Equipment

All vehicles and equipment that have entered or contacted potentially contaminated areas will be visually inspected and, if necessary, decontaminated prior to leaving the area. If the level of vehicle contamination is low, decontamination may be limited to rinsing tires and wheel wells with an appropriate detergent and water. If the vehicle is significantly contaminated, steam cleaning or pressure washing may be required. Tools will be cleaned in the same manner. Rinsate from all decontamination activities will be collected for proper disposal. Decontamination of equipment and tools will take place within the CRZ.

The following supplies will be available to perform decontamination activities:

- Wash and rinse buckets
- Tap water and phosphate-free detergent
- Scrub brushes
- Distilled/deionized water
- Pressure washer/steam cleaner, if appropriate
- Paper towels and plastic garbage bags

Site-specific work plans for the planned intrusive work activities may include additional requirements for equipment decontamination, including minimum requirements for post decontamination verification testing.

## 12.3 Personnel Decontamination

The Key Foreperson will ensure that all site personnel are familiar with personnel decontamination procedures as listed below. All personnel wearing PPE in a work area EZ must undergo decontamination prior to entering the SZ. Personnel will perform the following decontamination procedures:

- Wash and rinse outer gloves and boots in portable buckets to remove gross contamination.
- If suit is heavily soiled, rinse it off.
- Remove outer gloves; inspect and discard if damaged. Leave inner gloves on. Personnel will remove their outer garment and gloves, dispose of them, and properly label container or drum. Personnel will then decontaminate their hard hats and boots with an aqueous solution of detergent or other appropriate cleaning solution. These items then will be hand-carried to the next station. At the next station workers will remove their respirator (if applicable) and decontaminate with appropriate cleaning solution and place in a clean plastic bag. Finally, workers will remove and dispose of inner gloves.
- Thoroughly wash hands and face before leaving CRZ.
- Sanitize respirators and place in a clean plastic bag.

### *12.3.1 Disposable PPE*

Disposable PPE may include Tyvek suits, inner latex gloves, and respirator cartridges. Dispose of PPE according to the requirements of the client and state and federal agencies.

### *12.3.2 Non-disposable PPE*

Non-disposable PPE may include respirators and boots and gloves. When decontaminating respirators, observe the following practices and procedures:

- Wipe out the respirator with a disinfecting pad prior to donning.
- Decontaminate the respirator on site at the close of each day with an approved sanitizing solution.

When decontaminating boots and gloves, observe the following practices and procedures:

- Decontaminate the boots or gloves outside with a solution of detergent and water; rinse with water prior to leaving the site.

- Protect the boots or gloves from exposure by covering with disposable covers such as plastic to minimize required decontamination activities.

## 12.4 Sanitizing of Personal Protective Equipment

Respirators, reusable protective clothing, and other personal articles must not only be decontaminated before being reused, but also sanitized. The insides of masks and clothing become soiled due to exhalation, body oils, and perspiration. Manufacturer's instructions should be used to sanitize respirator masks. If practical, reusable protective clothing should be machine-washed after a thorough decontamination; otherwise, it must be cleaned by hand.

## 12.5 Emergency Personnel Decontamination

Personnel with medical problems or injuries may also require decontamination. There is the possibility that the decontamination may aggravate or cause more serious health effects. If prompt life-saving, first aid, and medical treatment are required, decontamination procedures will be omitted. In either case, a member of the site management team will accompany contaminated personnel to the medical facility to advise on matters involving decontamination.

## 12.6 Containment of Decontamination Fluids

As necessary, spill control measures will be used to contain contaminated runoff that may enter into clean areas. Use plastic sheeting, hay bales, or install a spill control system to prevent spills and contain contaminated water.

# 13. EMERGENCY PROCEDURES

## 13.1 General

The Project Manager/Superintendent will ensure that comprehensive site-specific emergency procedures and appropriate action plans have been established prior to any work at the Site. The purpose of these procedures and plans is to ensure that immediate mitigative and corrective emergency response actions are in place to minimize the consequences of an emergency, protect worker and public health and safety, provide security, and ensure the continuance of such actions until the emergency is terminated. Development and implementation of an Emergency Action Plan is required for prompt, efficient, and effective response to emergencies in accordance with applicable local, staff, and federal regulations.

This section presents basic components that should be part of the site-specific emergency action plan developed and implemented by the SMP Entity. The SMP Entity should review applicable standards or requirements based on planned work and update the emergency procedures as necessary. In addition, the SMP Entity shall review the Hospital information and contact information in this section to ensure that the most recent information is available.

Prior to the start of work activities, the work area will be evaluated for the potential for fire, contaminant release, or other catastrophic event. Unusual conditions or events, activities, chemicals, and conditions will be reported to the Project Manager/Superintendent, Key Foreperson, and Health and Safety Representative immediately for appropriate action. Emergency muster locations will be identified and communicated to all Site personnel.

## 13.2 Emergency Equipment/General Procedures

The following emergency equipment will be available at the Site at all times:

- First Aid Kit
- Fire Extinguishers (appropriate for the type of materials expected to be encountered)
- Portable Eyewash Kit

Evacuation drills will be conducted at the start of the project and periodically to practice emergency procedures. The Health and Safety Representative will conduct and critique (if necessary) the emergency response exercises.

## 13.3 Emergency Response

In the event of an emergency, immediate action must be taken by the first person to recognize the event. Use the following steps as a guideline:

- Survey the situation to ensure that it is safe for you and the victim. Evaluate the incident and assess the need for assistance or evacuation. Do not endanger your own life. Do not enter an area to rescue someone who has been overcome unless properly equipped and trained. Ensure that all protocols are followed. If applicable, review SDS to evaluate response actions for chemical exposures.

- Call the appropriate emergency number (911, if available) or direct someone else to do this immediately (see **Table 13-1,** below). Explain the physical injury, chemical exposure, fire, or release and location of the incident.

- Have someone retrieve the nearest first aid kit (containing appropriate items for the particular work scope) and Automated External Defibrillator (AED), if available. Note: Only use an AED if you have been properly trained and are currently certified to do so. All employees working on the project must be shown the location of all emergency equipment prior to beginning work.

- Decontaminate the victim without delaying life-saving procedures (see Section 12).

- Administer first aid and CPR, if properly trained, until emergency responders arrive.

- In the event that evacuation is required, the Key Foreperson must perform a head count to verify that all personnel have been accounted for.

- Notify the Project Manager/Superintendent, Key Foreperson, client, and site owner (if applicable) as soon as it is safe to do so regarding any emergency, injury, fire, spill, or other catastrophic event.

- Complete the appropriate incident investigation reports.

- Any incident regarding property damage will be reported to the Project Manager/Superintendent, Key Foreperson, client, and site owner (as applicable).

### *13.3.1 Fire*

In the case of a fire on the Site, the Health and Safety Representative and/or Key Foreperson will assess the situation and direct fire-fighting activities. The Health and Safety Representative and/or Key Foreperson will ensure that the client and Project Manager/Superintendent is notified immediately of any fires as soon as it is safe to do so. Site personnel may attempt to extinguish small fires with available fire extinguishers, if

safe to do so and qualified personnel are available. In the event of a fire when Site personnel are not qualified or otherwise unable to safely extinguish, the local fire department will be summoned (see **Table 13-2**, below for contact information).

### *13.3.2 Contaminant Release*

In the event of contamination release, the following steps will be taken:

- Notify the Key Foreperson and Health and Safety Representative immediately.
- Evacuate the area of release and assess what type of release/chemicals may be involved.
- Conduct air monitoring to determine the needed level of PPE.
- Don appropriate PPE, if it is safe to do so and personnel are qualified, and implement control measures to stop and control the release. If the release is unable to be contained safely, or Site personnel are not qualified to respond to the release, the local fire department will be summoned (see **Table 13-2,** below, for contact information).

When required, the Project Manager/Superintendent will coordinate with the client and site owner (as applicable) to notify the National Response Center and local state agencies (see **Table 13-2**, below, for contact information). If hazardous waste has been released or produced through control of the incident, the Project Manager/Superintendent will ensure that:

- Waste is collected and contained by qualified personnel
- Containers of waste are removed or isolated from the immediate site of the emergency
- Treatment or storage of the recovered waste, contaminated soil or surface water, or any other material that results from the incident or its control is provided
- No waste that is incompatible with released material is used or stored at the Site until cleanup procedures are completed
- All emergency equipment used is decontaminated, recharged, and fit for its intended use before operations resume.

### *13.3.3 Medical Emergency*

All employee injuries must be promptly reported to the Health and Safety Representative and/or Key Foreperson, who will ensure that the injured employee receives prompt first aid and call for medical attention, as necessary. Personnel qualified and current in basic first aid and/or CPR procedures may perform basic first aid procedures as necessary.

Personnel qualified and current in basic first aid and/or CPR are protected under Good Samaritan policies as long as they only perform the basic tasks that they were taught. Do not perform first aid and/or CPR tasks if you have not been trained in first aid and/or CPR.

In emergency situations, the worker is to be transported by appropriate means to the nearest urgent care facility (normally a hospital emergency room) (see **Exhibit 13-1**, below, for directions to the closest known hospital for the Site).

## 13.4 Hospital Information and Driving Directions

**Table 13-1: Hospital Information**

| Category | Information |
|---|---|
| Hospital Name | St John's Episcopal Hospital: Emergency Room |
| Address | 399 E 16th St |
| City, State | New York, New York 10003 |
| Phone | (212) 420-2840 |

**Exhibit 13-1: Hospital Route Map and Directions to St John's Episcopal Hospital Emergency Room**

1. 350 Beach 79th St Far Rockaway, NY 11693
2. Head south on Beach 79th St toward Beach Channel Dr/Rockaway Fwy
3. Follow Rockaway Fwy to Beach Channel Dr/Hammels Blvd (2 min – 0.3 mi)
4. Continue on Beach Channel Dr/Hammels Blvd to Rockaway Beach Blvd (2 min – 0.4 mi)
5. Turn left onto Rockaway Beach Blvd (5 min – 1.1 mi)
6. Follow Edgemere Ave to Rockaway Fwy (1 min – 0.4 mi)
7. Turn right onto Rockaway Fwy (5 min – 1.2 mi)
8. Take New Haven Ave to Beach 20th St. (2 min – 0.4 mi)
9. Turn right onto Beach 20th St. (1 min – 0.2 mi)
10. Turn left onto Elk Dr. (24 sec – 128 ft)
11. St John's Episcopal Hospital Emergency Room 3-27 Beach 19th St, Far Rockaway, NY 11691

## 13.5 Emergency Contact Information

The project shall display posters/signs with emergency telephone numbers and locations of facilities in visible locations and at selected phone locations throughout the project area (including subcontractor facilities).

**Table 13-2: Emergency Contact Information**

| Emergency Contacts | Phone Number |
|---|---|
| Ambulance | 911 |

| Emergency Contacts | Phone Number |
|---|---|
| Fire Department | 911 |
| State Police (NYS) | 911 |
| National Response Center | (800) 424-8802 |
| St John's Episcopal Hospital – Emergency Room | (718) 869-7755 |
| Poison Control Center | (800) 222-1222 |
| Project Manager/Superintendent: TBD | TBD |
| Key Foreperson(s): TBD | TBD |
| Health and Safety Representative: TBD | TBD |
| Client Project Manager: TBD | TBD |
| Site Owner(s): TBD | TBD |
| Subcontractor Project Manager/Superintendent: TBD | TBD |
| Engineer/Consultant/Client Representative: TBD | TBD |
| Regulator Emergency Response: TBD | TBD |

# 14. Periodic Safety Inspections/Audits

The Project Manager/Superintendent, or their designee, will implement an audit and inspection program, including monthly safety inspections (at a minimum). The site inspection is a protocol designed to identify and correct unsafe acts and conditions, as well as recognize safe work practices and accomplishments in the party performing the work or their subcontractors' Scope of Work. The Project Manager/Superintendent should develop standard safety checklists appropriate to the work being performed. **Exhibit 14-1** is an example of a simple checklist to evaluate a project's status, and should be modified to address potential unsafe acts and conditions specific to work activities occurring at the Site.

Inspections involve a daily or weekly site walk of a project site that focuses on safety. Daily site walks do not have to be documented, but once a week the Project Manager, or designee, prepares an inspection report and retains in the project file. Items found to be out of compliance must be assigned to the responsible party for corrective action and the corrective action tracked to completion.

## Exhibit 14-1: Example Site Safety and Health Inspection Checklist

Project: _____ Date: _____
Name: _____ Time: _____

Any items that have been found deficient must be corrected before work or use.

This checklist includes, but is not limited to, the following:

| Safe Access and Workspace | | Yes | No |
|---|---|---|---|
| Are safe access and adequate space for movement available for: | | | |
| Emergencies | | | |
| Work area | | | |
| Walkways and passageways | | | |
| Are ladders, stairways, and elevators properly located and functioning? | | | |
| Is protection provided for floor and roof openings? | | | |
| Is overhead protection provided for all areas of exposure? | | | |
| Is lighting adequate? | | | |
| Planning Work for Safety | | | |
| Are employees provided with all required protective equipment? | | | |
| Have other contractors and trades been coordinated with to prevent congestion and avoid hazards? | | | |
| Is all temporary flooring, safety nets, and scaffolding provided where required? | | | |
| **Utilities and Services Identification** | | | |
| High voltage lines | | | |
| Have all been identified by signs? | | | |
| Have high voltage lines been moved or de-energized, or barriers erected to prevent employee contact? | | | |
| **Sanitary Facilities** | | | |
| Drinking water | | | |
| Are toilet facilities adequate? | | | |
| **Work Procedures – Materials Handling** | | | |
| Is material handling space adequate? | | | |
| Is material handling equipment adequate and proper? | | | |
| Is material handling equipment in good condition? | | | |
| **Marine Safety** | | | |
| Slip, trip, fall hazards | Muscle strain from improper lifting | | |
| Heat or cold stress | Pinch points | | |
| Insect bites | Inhaling, touching, ingesting contaminants | | |
| Waves, surges, currents | | | |
| Noise exposure | Drowning | | |
| Other (e.g., tunnels, excavations, shafts | | | |

Comments:

_____

_____

_____

# 15. WRITTEN PROGRESSIVE DISCIPLINARY PROGRAM

Items found to be out of compliance must be assigned to the responsible party for corrective action and the corrective action tracked to completion. The project shall have a formal notice of subcontractor violation of health and safety regulations program to ensure that violations are issued in an IDLH situation or when the subcontractor repeatedly fails to comply with health and safety requirements. Any noncompliance items must be advised to the responsible party using a Notice of Violation, an example is included as **Exhibit 15-1**. The notice (**Exhibit 15-1**) documents poor performance and requires a response from subcontractor senior management. The notice contains five distinct levels of discipline, from submission of a recovery plan to contract termination.

## Exhibit 15-1: Example Notice of Violation of Safety and Health Regulations

Date _____

Contractor Name _____

Address _____

_____

_____

Attention _____

This letter officially notifies you that you have been found to be in violation(s) of the following Safety Regulations:

_____

on (date): _____ by, _____

Confined Space Entry ____ Lockout/Tagout ____ Hot Work _____ Personal Protective Equipment ____

Knowledge of the Environment ____ Awareness of Wanring Alarms ____ Evaculation Routes _____ Back-up Alarms ____

Assembly Locations ____ Fall Protection ____ Scaffolding _____ Environmental/Hazardous Material Storage ____

SafeWrok Practices ____ Security Practices ____

Other: _____

_____

This/These violation(s) occurred at the following location(s): _____

_____

at the following time(s): _____ and date(s): _____

The name(s) of the employee(s) was/were: _____

under the supervision of: _____

# 16. RECORDKEEPING POLICY

The following steps must be taken to document the implementation of the site-specific HASP:

- Records of hazard assessment inspections, including the persons conducting the inspection, the unsafe conditions and work practices that have been identified and the action taken to correct the identified unsafe conditions and work practices, are recorded on a hazard assessment and correction form.

- Documentation of health and safety training for each worker, including the worker's name or other identifier, training dates, types of training, and training providers are recorded on a worker training and instruction form.

- Other records are retained as required by contract specifications or by local, state, or federal (OSHA regulations). Where regulations do not specify the length of records retention, a period of 3 years after project completion will be used.

# 17. INCIDENT/NEAR-MISS INCIDENT INVESTIGATIONS POLICY

All incidents and significant near-miss incidents are investigated by an individual or team with training in accident investigation and root cause analysis. The party performing the work and their subcontractors must investigate incidents involving their employees or activities and maintain an investigation report.

Procedures for investigating workplace incidents and near-miss incidents include:

- Responding to the incident scene as soon as possible
- Reporting incidents and near-miss incidents immediately to the appropriate point-of contact
- Interviewing injured workers and witnesses
- Examining the workplace for factors associated with the incident/near-miss incident
- Determining the cause of the incident/near-miss incident
- Taking corrective action(s) to prevent the incident/near-miss incident from reoccurring
- Recording the findings and corrective actions taken
- Testing for post-accident substance abuse

# 18. REFERENCES

RI Report (Gallagher Bassett, 2020)

# Attachment 1

## Safety Data Sheets for Chemicals of Concern

# SAFETY DATA SHEET

Version 6.11
Revision Date 03/19/2024
Print Date 05/05/2024

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifiers

Product name : *cis*-1,2-Dichloroethylene

Product Number : D62004
Brand : Aldrich
Index-No. : 602-026-00-3
CAS-No. : 156-59-2

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765
Fax : +1 800 325-5052

### 1.4 Emergency telephone

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Flammable liquids (Category 2), H225
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 4), H332
Skin irritation (Category 2), H315
Short-term (acute) aquatic hazard (Category 3), H402
Long-term (chronic) aquatic hazard (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements



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| | |
|---|---|
| Pictogram | |
| Signal Word | Danger |

Hazard Statements

| | |
|---|---|
| H225 | Highly flammable liquid and vapor. |
| H302 + H332 | Harmful if swallowed or if inhaled. |
| H315 | Causes skin irritation. |
| H412 | Harmful to aquatic life with long lasting effects. |

Precautionary Statements

| | |
|---|---|
| P210 | Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking. |
| P233 | Keep container tightly closed. |
| P240 | Ground/bond container and receiving equipment. |
| P241 | Use explosion-proof electrical/ ventilating/ lighting/ equipment. |
| P242 | Use only non-sparking tools. |
| P243 | Take precautionary measures against static discharge. |
| P261 | Avoid breathing mist or vapors. |
| P264 | Wash skin thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/ eye protection/ face protection. |
| P301 + P312 + P330 | IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth. |
| P303 + P361 + P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. |
| P304 + P340 + P312 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. |
| P332 + P313 | If skin irritation occurs: Get medical advice/ attention. |
| P362 | Take off contaminated clothing and wash before reuse. |
| P370 + P378 | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. |
| P403 + P235 | Store in a well-ventilated place. Keep cool. |
| P501 | Dispose of contents/ container to an approved waste disposal plant. |

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| | | |
|---|---|---|
| Synonyms | : | cis-Acetylene dichloride |
| Formula | : | $C_2H_2Cl_2$ |
| Molecular weight | : | 96.94 g/mol |
| CAS-No. | : | 156-59-2 |
| EC-No. | : | 205-859-7 |
| Index-No. | : | 602-026-00-3 |



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| Component | Classification | Concentration |
|---|---|---|
| **cis-Dichloroethylene** | | |
| | Flam. Liq. 2; Acute Tox. 4; Skin Irrit. 2; Aquatic Acute 3; Aquatic Chronic 3; H225, H302, H332, H315, H402, H412 | <= 100 % |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

**General advice**
Show this material safety data sheet to the doctor in attendance.

**If inhaled**
After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.

**In case of skin contact**
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

**In case of eye contact**
After eye contact: rinse out with plenty of water. Remove contact lenses.

**If swallowed**
After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed
No data available

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water Foam Carbon dioxide (CO2) Dry powder

**Unsuitable extinguishing media**
For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture
Carbon oxides
Hydrogen chloride gas
Combustible.



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Pay attention to flashback.
Vapors are heavier than air and may spread along floors.
Development of hazardous combustion gases or vapours possible in the event of fire.
Forms explosive mixtures with air at ambient temperatures.

### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.
Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb® ).
Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

For disposal see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

**Advice on safe handling**
Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

**Advice on protection against fire and explosion**
Keep away from open flames, hot surfaces and sources of ignition.Take precautionary measures against static discharge.

**Hygiene measures**
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

**Storage conditions**
Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.



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Handle and store under inert gas. Air and moisture sensitive. Light sensitive.

**Storage class**
Storage class (TRGS 510): 3: Flammable liquids

### 7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**Ingredients with workplace control parameters**

| Component | CAS-No. | Value | Control parameters | Basis |
|---|---|---|---|---|
| cis-Dichloroethylene | 156-59-2 | TWA | 200 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Central Nervous System impairment<br>Eye irritation | | |

### 8.2 Exposure controls

**Appropriate engineering controls**
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

**Personal protective equipment**

**Eye/face protection**
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

**Skin protection**
required

**Body Protection**
Flame retardant antistatic protective clothing.

**Respiratory protection**
Recommended Filter type: Filter type AX
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
required when vapours/aerosols are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

**Control of environmental exposure**
Do not let product enter drains. Risk of explosion.



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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| a) | Appearance | Form: liquid<br>Color: light yellow |
| b) | Odor | No data available |
| c) | Odor Threshold | No data available |
| d) | pH | No data available |
| e) | Melting point/freezing point | Melting point/range: -80 °C (-112 °F) - lit. |
| f) | Initial boiling point and boiling range | 60 °C 140 °F - lit. |
| g) | Flash point | 6.0 °C (42.8 °F) - closed cup |
| h) | Evaporation rate | No data available |
| i) | Flammability (solid, gas) | No data available |
| j) | Upper/lower flammability or explosive limits | No data available |
| k) | Vapor pressure | No data available |
| l) | Vapor density | No data available |
| m) | Density | 1.284 g/cm3 at 25 °C (77 °F) - lit. |
| | Relative density | No data available |
| n) | Water solubility | No data available |
| o) | Partition coefficient: n-octanol/water | No data available |
| p) | Autoignition temperature | No data available |
| q) | Decomposition temperature | No data available |
| r) | Viscosity | No data available |
| s) | Explosive properties | No data available |
| t) | Oxidizing properties | none |

### 9.2 Other safety information

No data available



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## SECTION 10: Stability and reactivity

**10.1 Reactivity**
Vapors may form explosive mixture with air.

**10.2 Chemical stability**
The product is chemically stable under standard ambient conditions (room temperature) .

**10.3 Possibility of hazardous reactions**
Violent reactions possible with:
Oxidizing agents

**10.4 Conditions to avoid**
Warming.

**10.5 Incompatible materials**
No data available

**10.6 Hazardous decomposition products**
In the event of fire: see section 5

## SECTION 11: Toxicological information

**11.1 Information on toxicological effects**

**Acute toxicity**
LD50 Oral - Rat - 770 mg/kg
Remarks: (RTECS)
Acute toxicity estimate Inhalation - 4 h - 11.1 mg/l - vapor

(Expert judgment)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Dermal: No data available

**Skin corrosion/irritation**
Skin - Rabbit
Result: Moderate skin irritation - 24 h
Remarks: (RTECS)

**Serious eye damage/eye irritation**
No data available

**Respiratory or skin sensitization**
No data available

**Germ cell mutagenicity**
No data available

**Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.



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OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**Reproductive toxicity**
No data available

**Specific target organ toxicity - single exposure**
No data available

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

### 11.2 Additional Information

RTECS: KV9420000
narcosis
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## SECTION 12: Ecological information

### 12.1 Toxicity

| | |
|---|---|
| Toxicity to fish | LC50 - Lepomis macrochirus (Bluegill sunfish) - 140 mg/l - 96 h<br>Remarks: (ECOTOX Database) |

### 12.2 Persistence and degradability
No data available

### 12.3 Bioaccumulative potential
No data available

### 12.4 Mobility in soil
No data available

### 12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Endocrine disrupting properties
No data available

### 12.7 Other adverse effects
No data available



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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

**Product**
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

## SECTION 14: Transport information

**DOT (US)**
UN number: 1150 Class: 3 Packing group: II
Proper shipping name: 1,2-Dichloroethylene
Reportable Quantity (RQ):
Poison Inhalation Hazard: No

**IMDG**
UN number: 1150 Class: 3 Packing group: II EMS-No: F-E, S-D
Proper shipping name: 1,2-DICHLOROETHYLENE

**IATA**
UN number: 1150 Class: 3 Packing group: II
Proper shipping name: 1,2-Dichloroethylene

## SECTION 15: Regulatory information

**SARA 302 Components**
This material does not contain any components with a section 302 EHS TPQ.

**SARA 313 Components**
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**
Fire Hazard

**Massachusetts Right To Know Components**

| | CAS-No. | Revision Date |
|---|---|---|
| cis-Dichloroethylene | 156-59-2 | 1993-04-24 |

**Pennsylvania Right To Know Components**

| | CAS-No. | Revision Date |
|---|---|---|
| cis-Dichloroethylene | 156-59-2 | 1993-04-24 |



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## SECTION 16: Other information

### Further information

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Version: 6.11 Revision Date: 03/19/2024 Print Date: 05/05/2024



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# SAFETY DATA SHEET

Version 6.9
Revision Date 05/08/2024
Print Date 07/01/2024

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifiers

Product name : trans-1,2-Dichloroethylene

Product Number : D62209
Brand : Aldrich
Index-No. : 602-026-00-3
CAS-No. : 156-60-5

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

Uses advised against : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765
Fax : +1 800 325-5052

### 1.4 Emergency telephone

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Flammable liquids (Category 2), H225
Acute toxicity, Inhalation (Category 4), H332
Short-term (acute) aquatic hazard (Category 3), H402



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Long-term (chronic) aquatic hazard (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

Pictogram

Signal Word Danger

Hazard Statements

| | |
|---|---|
| H225 | Highly flammable liquid and vapor. |
| H332 | Harmful if inhaled. |
| H412 | Harmful to aquatic life with long lasting effects. |

Precautionary Statements

| | |
|---|---|
| P210 | Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking. |
| P233 | Keep container tightly closed. |
| P240 | Ground/bond container and receiving equipment. |
| P241 | Use explosion-proof electrical/ ventilating/ lighting/ equipment. |
| P242 | Use only non-sparking tools. |
| P243 | Take precautionary measures against static discharge. |
| P261 | Avoid breathing mist or vapors. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/ eye protection/ face protection. |
| P303 + P361 + P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. |
| P304 + P340 + P312 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. |
| P370 + P378 | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. |
| P403 + P235 | Store in a well-ventilated place. Keep cool. |
| P501 | Dispose of contents/ container to an approved waste disposal plant. |

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| | | |
|---|---|---|
| Synonyms | : | trans-1,2-Dichloroethene<br>trans-Acetylene dichloride |
| Formula | : | $C_2H_2Cl_2$ |
| Molecular weight | : | 96.94 g/mol |
| CAS-No. | : | 156-60-5 |
| EC-No. | : | 205-860-2 |
| Index-No. | : | 602-026-00-3 |

| Component | Classification | Concentration |
|---|---|---|



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| trans-Dichloroethylene | | |
|---|---|---|
| | Flam. Liq. 2; Acute Tox. 4; Aquatic Acute 3; Aquatic Chronic 3; H225, H332, H402, H412 | >= 90 - <= 100 % |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

**General advice**
Show this material safety data sheet to the doctor in attendance.

**If inhaled**
After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.

**In case of skin contact**
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

**In case of eye contact**
After eye contact: rinse out with plenty of water. Remove contact lenses.

**If swallowed**
After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

### 4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed
No data available

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water Foam Carbon dioxide (CO2) Dry powder

**Unsuitable extinguishing media**
For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture
Carbon oxides
Hydrogen chloride gas
Combustible.
Heating may cause an explosion.
Pay attention to flashback.



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Vapors are heavier than air and may spread along floors.
Development of hazardous combustion gases or vapours possible in the event of fire.
Forms explosive mixtures with air at ambient temperatures.

### 5.3 Advice for firefighters
In the event of fire, wear self-contained breathing apparatus.

### 5.4 Further information
Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.
Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

### 6.2 Environmental precautions
Do not let product enter drains. Risk of explosion.

### 6.3 Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb® ).
Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections
For disposal see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

**Advice on safe handling**
Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

**Advice on protection against fire and explosion**
Keep away from open flames, hot surfaces and sources of ignition.Take precautionary measures against static discharge.

**Hygiene measures**
Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.
For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

**Storage conditions**
Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.



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Light sensitive. Air and moisture sensitive. Refrigerate before opening. Recommended storage temperature see product label.

**Storage class**
Storage class (TRGS 510): 3: Flammable liquids

### 7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**Ingredients with workplace control parameters**

| Component | CAS-No. | Value | Control parameters | Basis |
|---|---|---|---|---|
| trans-Dichloroethylene | 156-60-5 | TWA | 200 ppm | USA. ACGIH Threshold Limit Values (TLV) |

### 8.2 Exposure controls

**Appropriate engineering controls**
Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

**Personal protective equipment**

**Eye/face protection**
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

**Skin protection**
This recommendation is only valid for the product mentioned in the material safety data sheet and provided by us and for the application specified by us.
Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.4 mm
Break through time: 10 min
Material tested:Camatril® (KCL 730 / Aldrich Z677442, Size M)

**Body Protection**
Flame retardant antistatic protective clothing.

**Respiratory protection**
Recommended Filter type: Filter type AX
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.
These measures have to be properly documented.
required when vapours/aerosols are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.



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**Control of environmental exposure**
Do not let product enter drains. Risk of explosion.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| a) | Appearance | Form: liquid, clear<br>Color: light yellow |
| b) | Odor | No data available |
| c) | Odor Threshold | No data available |
| d) | pH | No data available |
| e) | Melting point/freezing point | Melting point/range: -50 °C (-58 °F) - lit. |
| f) | Initial boiling point and boiling range | 48 °C 118 °F - lit. |
| g) | Flash point | 6.0 °C (42.8 °F) - closed cup |
| h) | Evaporation rate | No data available |
| i) | Flammability (solid, gas) | No data available |
| j) | Upper/lower flammability or explosive limits | Upper explosion limit: 12.8 %(V)<br>Lower explosion limit: 9.7 %(V) |
| k) | Vapor pressure | No data available |
| l) | Vapor density | No data available |
| m) | Density | 1.257 g/mL at 25 °C (77 °F) - lit. |
| | Relative density | No data available |
| n) | Water solubility | No data available |
| o) | Partition coefficient: n-octanol/water | No data available |
| p) | Autoignition temperature | No data available |
| q) | Decomposition temperature | No data available |
| r) | Viscosity | No data available |
| s) | Explosive properties | Not classified as explosive. |
| t) | Oxidizing properties | none |

### 9.2 Other safety information
No data available



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## SECTION 10: Stability and reactivity

### 10.1 Reactivity
Vapors may form explosive mixture with air.

### 10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions
Violent reactions possible with:
Alkali metals
Alkaline earth metals
Powdered metals

### 10.4 Conditions to avoid
Polymerization can occur.
Warming.

### 10.5 Incompatible materials
No data available

### 10.6 Hazardous decomposition products
In the event of fire: see section 5

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**
Oral: No data available
Inhalation: No data available
Dermal: No data available

**Skin corrosion/irritation**
No data available

**Serious eye damage/eye irritation**
No data available

**Respiratory or skin sensitization**
No data available

**Germ cell mutagenicity**
No data available

**Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.



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**Reproductive toxicity**
No data available

**Specific target organ toxicity - single exposure**
No data available

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

### 11.2 Additional Information

RTECS: KV9400000

## SECTION 12: Ecological information

### 12.1 Toxicity
No data available

### 12.2 Persistence and degradability
No data available

### 12.3 Bioaccumulative potential
No data available

### 12.4 Mobility in soil
No data available

### 12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Endocrine disrupting properties
No data available

### 12.7 Other adverse effects
No data available

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

**Product**
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.



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## SECTION 14: Transport information

### DOT (US)

UN number: 1150 Class: 3 Packing group: II
Proper shipping name: 1,2-Dichloroethylene
Reportable Quantity (RQ): 1000 lbs
Poison Inhalation Hazard: No

### IMDG

UN number: 1150 Class: 3 Packing group: II EMS-No: F-E, S-D
Proper shipping name: 1,2-DICHLOROETHYLENE

### IATA

UN number: 1150 Class: 3 Packing group: II
Proper shipping name: 1,2-Dichloroethylene

## SECTION 15: Regulatory information

### SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

### SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### SARA 311/312 Hazards

Fire Hazard

### Massachusetts Right To Know Components

| | CAS-No. | Revision Date |
|---|---|---|
| trans-Dichloroethylene | 156-60-5 | 1993-02-16 |

### Pennsylvania Right To Know Components

| | CAS-No. | Revision Date |
|---|---|---|
| trans-Dichloroethylene | 156-60-5 | 1993-02-16 |



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## SECTION 16: Other information

### Further information

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Version: 6.9 Revision Date: 05/08/2024 Print Date: 07/01/2024



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# SAFETY DATA SHEET

Version 6.11
Revision Date 09/07/2024
Print Date 09/08/2024

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifiers

Product name : Tetrachloroethylene

Product Number : 02666
Brand : Sigma-Aldrich
Index-No. : 602-028-00-4
CAS-No. : 127-18-4

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

Uses advised against : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765
Fax : +1 800 325-5052

### 1.4 Emergency telephone

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Skin sensitization (Category 1), H317
Carcinogenicity (Category 2), H351



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Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336
Short-term (acute) aquatic hazard (Category 2), H401
Long-term (chronic) aquatic hazard (Category 2), H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 2.2 GHS Label elements, including precautionary statements

Pictogram

Signal Word Warning

Hazard Statements

| | |
|---|---|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |
| H351 | Suspected of causing cancer. |
| H411 | Toxic to aquatic life with long lasting effects. |

Precautionary Statements

| | |
|---|---|
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P261 | Avoid breathing mist or vapors. |
| P264 | Wash skin thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P272 | Contaminated work clothing must not be allowed out of the workplace. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. |
| P302 + P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P304 + P340 + P312 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308 + P313 | IF exposed or concerned: Get medical advice/ attention. |
| P333 + P313 | If skin irritation or rash occurs: Get medical advice/ attention. |
| P337 + P313 | If eye irritation persists: Get medical advice/ attention. |
| P362 | Take off contaminated clothing and wash before reuse. |
| P391 | Collect spillage. |
| P403 + P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P405 | Store locked up. |
| P501 | Dispose of contents/ container to an approved waste disposal plant. |

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none



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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| | | |
|---|---|---|
| Synonyms | : | Perchloroethylene<br>PCE |
| Formula | : | $C_2Cl_4$ |
| Molecular weight | : | 165.83 g/mol |
| CAS-No. | : | 127-18-4 |
| EC-No. | : | 204-825-9 |
| Index-No. | : | 602-028-00-4 |

| Component | Classification | Concentration |
|---|---|---|
| **Tetrachlorethylene** | | |
| | Skin Irrit. 2; Eye Irrit. 2A; Skin Sens. 1; Carc. 2; STOT SE 3; Aquatic Acute 2; Aquatic Chronic 2; H315, H319, H317, H351, H336, H401, H411<br>Concentration limits:<br>>= 20 %: STOT SE 3, H336; | <= 100 % |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

**General advice**
Show this material safety data sheet to the doctor in attendance.

**If inhaled**
After inhalation: fresh air. Call in physician.

**In case of skin contact**
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

**In case of eye contact**
After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

**If swallowed**
After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11



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### 4.3 Indication of any immediate medical attention and special treatment needed
No data available

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media**
For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture
Carbon oxides
Hydrogen chloride gas
Not combustible.
Ambient fire may liberate hazardous vapours.

### 5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information
Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

### 6.2 Environmental precautions
Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb® ). Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections
For disposal see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

**Advice on safe handling**



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Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

**Hygiene measures**
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

**Storage conditions**
Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Store under argon.

**Storage class**
Storage class (TRGS 510): 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

### 7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**Ingredients with workplace control parameters**

| Component | CAS-No. | Value | Control parameters | Basis |
|---|---|---|---|---|
| Tetrachlorethylene | 127-18-4 | TWA | 25 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Confirmed animal carcinogen with unknown relevance to humans | | |
| | | STEL | 100 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| | | Confirmed animal carcinogen with unknown relevance to humans | | |
| | | Potential Occupational Carcinogen | | |



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| | | | | |
|---|---|---|---|---|
| | | TWA | 100 ppm | USA. Occupational Exposure Limits (OSHA) - Table Z-2 |
| | | CEIL | 200 ppm | USA. Occupational Exposure Limits (OSHA) - Table Z-2 |
| | | Peak | 300 ppm | USA. Occupational Exposure Limits (OSHA) - Table Z-2 |
| | | PEL | 25 ppm<br>170 mg/m3 | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| | | STEL | 100 ppm<br>685 mg/m3 | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| | | C | 300 ppm | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |

**Biological occupational exposure limits**

| Component | CAS-No. | Parameters | Value | Biological specimen | Basis |
|---|---|---|---|---|---|
| Tetrachlorethylene | 127-18-4 | Tetrachloroethylene | 3parts per million | In end-exhaled air | ACGIH - Biological Exposure Indices (BEI) |
| | Remarks | Prior to shift (16 hours after exposure ceases) | | | |
| | | Tetrachloroethylene | 0.5 mg/l | In blood | ACGIH - Biological Exposure Indices (BEI) |
| | | Prior to shift (16 hours after exposure ceases) | | | |

## 8.2 Exposure controls

**Appropriate engineering controls**
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

**Personal protective equipment**

**Eye/face protection**
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

**Skin protection**
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Full contact
Material: Viton®
Minimum layer thickness: 0.7 mm



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Break through time: 480 min
Material tested:Vitoject® (KCL 890 / Aldrich Z677698, Size M)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.4 mm
Break through time: 240 min
Material tested:Camatril® (KCL 730 / Aldrich Z677442, Size M)

**Body Protection**
protective clothing

**Respiratory protection**
Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

**Control of environmental exposure**
Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| a) | Appearance | Form: liquid, clear<br>Color: colorless |
| b) | Odor | No data available |
| c) | Odor Threshold | No data available |
| d) | pH | No data available |
| e) | Melting point/freezing point | Melting point/ range: -22 °C (-8 °F) |
| f) | Initial boiling point and boiling range | 121 °C 250 °F |
| g) | Flash point | ()No data available |
| h) | Evaporation rate | No data available |
| i) | Flammability (solid, gas) | No data available |
| j) | Upper/lower | No data available |



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| | | |
|---|---|---|
| | flammability or explosive limits | |
| k) | Vapor pressure | 25.3 hPa at 25.0 °C (77.0 °F)<br>17.3 hPa at 20.0 °C(68.0 °F) |
| l) | Vapor density | No data available |
| m) | Density | 1.623 g/mL at 25 °C (77 °F) |
| | Relative density | No data available |
| n) | Water solubility | 0.15 g/l at 25 °C (77 °F) |
| o) | Partition coefficient: n-octanol/water | log Pow: 2.53 at 23 °C (73 °F) - Bioaccumulation is not expected. |
| p) | Autoignition temperature | No data available |
| q) | Decomposition temperature | No data available |
| r) | Viscosity | No data available |
| s) | Explosive properties | No data available |
| t) | Oxidizing properties | No data available |

**9.2 Other safety information**

| | |
|---|---|
| Surface tension | 32.1 mN/m at 20 °C (68 °F) |

## SECTION 10: Stability and reactivity

**10.1 Reactivity**
No data available

**10.2 Chemical stability**
The product is chemically stable under standard ambient conditions (room temperature) .

**10.3 Possibility of hazardous reactions**
Risk of explosion with:
Alkali metals
Aluminum
sodium amide
Barium
nitrogen dioxide
Oxygen
with
alkali hydroxides
Exothermic reaction with:
strong alkalis
Alkaline earth metals
strong alkalis
Light metals
Powdered metals



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Oxidizing agents
Strong acids
Strong bases
nitrous gases
Risk of ignition or formation of inflammable gases or vapours with:
zinc oxide
with
Aluminum

### 10.4 Conditions to avoid
no information available

### 10.5 Incompatible materials
various plastics

### 10.6 Hazardous decomposition products
In the event of fire: see section 5

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**
LD50 Oral - Rat - male and female - 3,420 mg/kg
(OECD Test Guideline 401)
Remarks: (ECHA)
Inhalation: No data available
Dermal: No data available
No data available

**Skin corrosion/irritation**
Skin - Rabbit
Result: Skin irritation - 4 h
(OECD Test Guideline 404)
Remarks: (ECHA)

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: Mild eye irritation - 24 h
(Draize Test)
Remarks: (RTECS)

**Respiratory or skin sensitization**
Local lymph node assay (LLNA) - Mouse
Result: May cause sensitization by skin contact.
(OECD Test Guideline 429)
Remarks: (ECHA)

**Germ cell mutagenicity**
Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473



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Result: negative
Remarks: (ECHA)
Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: without metabolic activation
Method: OECD Test Guideline 471
Result: negative
Remarks: (ECHA)

Test Type: Micronucleus test
Species: Mouse

Application Route: Intraperitoneal
Method: OECD Test Guideline 474
Result: negative
Remarks: (ECHA)

**Carcinogenicity**
Suspected of causing cancer.

| | |
|---|---|
| IARC: | 2A - Group 2A: Probably carcinogenic to humans (Tetrachlorethylene) |
| NTP: | RAHC - Reasonably anticipated to be a human carcinogen (Tetrachlorethylene) |
| OSHA: | No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens. |

**Reproductive toxicity**
No data available

**Specific target organ toxicity - single exposure**
May cause drowsiness or dizziness.

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

### 11.2 Additional Information

Repeated dose toxicity - Mouse - female - Oral - LOAEL (Lowest observed adverse effect level) - 390 mg/kg

narcosis, Liver injury may occur., Kidney injury may occur.

## SECTION 12: Ecological information

### 12.1 Toxicity

| | |
|---|---|
| Toxicity to fish | flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - 5 mg/l - 96 h<br>Remarks: (ECHA) |
| Toxicity to daphnia | EC50 - Daphnia magna (Water flea) - 7.50 mg/l - 48 h |



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| | |
|---|---|
| and other aquatic invertebrates | |
| Toxicity to algae | ErC50 - Chlamydomonas reinhardtii (green algae) - 3.64 mg/l - 72 h<br>Remarks: (ECHA) |
| Toxicity to fish(Chronic toxicity) | flow-through test NOEC - Jordanella floridae - 1.99 mg/l - 10 d<br>Remarks: (ECHA) |
| Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity) | semi-static test NOEC - Daphnia magna (Water flea) - 0.51 mg/l - 28 d<br>Remarks: (ECHA) |

**12.2 Persistence and degradability**

| | |
|---|---|
| Biodegradability | aerobic - Exposure time 28 d<br>Result: 11 % - Not readily biodegradable.<br>(OECD Test Guideline 301C) |

**12.3 Bioaccumulative potential**

| | |
|---|---|
| Bioaccumulation | Lepomis macrochirus (Bluegill) - 21 d<br>- 0.00343 mg/l(Tetrachlorethylene)<br><br>Bioconcentration factor (BCF): 49 |

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Endocrine disrupting properties**

No data available

**12.7 Other adverse effects**

No data available

## SECTION 13: Disposal considerations

**13.1 Waste treatment methods**

**Product**

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.



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## SECTION 14: Transport information

**DOT (US)**
UN number: 1897 Class: 6.1 Packing group: III
Proper shipping name: Tetrachloroethylene
Reportable Quantity (RQ): 100 lbs
Reportable Quantity (RQ): 100 lbs
Reportable Quantity (RQ): 10 lbs
Reportable Quantity (RQ): 10 lbs
Marine pollutant: yes Poison Inhalation Hazard: No

**IMDG**
UN number: 1897 Class: 6.1 Packing group: III EMS-No: F-A, S-A
Proper shipping name: TETRACHLOROETHYLENE
Marine pollutant : yes
Marine pollutant : yes

**IATA**
UN number: 1897 Class: 6.1 Packing group: III
Proper shipping name: Tetrachloroethylene

## SECTION 15: Regulatory information

**CERCLA Reportable Quantity**

| Components | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|---|---|---|---|
| Tetrachlorethylene | 127-18-4 | 100 | 100 |
| Tetrachlorethylene | 127-18-4 | 100 | 100 (D039) |
| Tetrachlorethylene | 127-18-4 | 10 | 10 (F001) |
| Tetrachlorethylene | 127-18-4 | 10 | 10 (F002) |

**SARA 304 Extremely Hazardous Substances Reportable Quantity**
This material does not contain any components with a section 304 EHS RQ.

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**
This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Acute Health Hazard
Chronic Health Hazard

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

Tetrachlorethylene 127-18-4 >= 90 - <= 100 %

**US State Regulations**

**Massachusetts Right To Know**
Tetrachlorethylene 127-18-4



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**Pennsylvania Right To Know**

Tetrachlorethylene 127-18-4

**Maine Chemicals of High Concern**

Product does not contain any listed chemicals

**Vermont Chemicals of High Concern**

Tetrachlorethylene 127-18-4

**Washington Chemicals of High Concern**

Tetrachlorethylene 127-18-4

**California Prop. 65**

WARNING: This product can expose you to chemicals including Tetrachlorethylene, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

**The ingredients of this product are reported in the following inventories:**

TSCA : All substances listed as active on the TSCA inventory

**TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

## SECTION 16: Other information

**Further information**

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Version: 6.11 Revision Date: 09/07/2024 Print Date: 09/08/2024



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# SAFETY DATA SHEET

Version 6.13
Revision Date 09/08/2024
Print Date 09/09/2024

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifiers

Product name : Trichloroethylene

Product Number : 251402
Brand : SIGALD
Index-No. : 602-027-00-9
CAS-No. : 79-01-6

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

Uses advised against : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765
Fax : +1 800 325-5052

### 1.4 Emergency telephone

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Skin sensitization (Sub-category 1B), H317



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Germ cell mutagenicity (Category 2), H341
Carcinogenicity (Category 1B), H350
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336
Short-term (acute) aquatic hazard (Category 3), H402
Long-term (chronic) aquatic hazard (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 2.2 GHS Label elements, including precautionary statements

Pictogram

Signal Word: Danger

Hazard Statements

| | |
|---|---|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |
| H341 | Suspected of causing genetic defects. |
| H350 | May cause cancer. |
| H412 | Harmful to aquatic life with long lasting effects. |

Precautionary Statements

| | |
|---|---|
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P261 | Avoid breathing mist or vapors. |
| P264 | Wash skin thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P272 | Contaminated work clothing must not be allowed out of the workplace. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. |
| P302 + P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P304 + P340 + P312 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308 + P313 | IF exposed or concerned: Get medical advice/ attention. |
| P333 + P313 | If skin irritation or rash occurs: Get medical advice/ attention. |
| P337 + P313 | If eye irritation persists: Get medical advice/ attention. |
| P362 | Take off contaminated clothing and wash before reuse. |
| P403 + P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P405 | Store locked up. |
| P501 | Dispose of contents/ container to an approved waste disposal plant. |

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none



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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms : TCE
Trichloroethene

Formula : $C_2HCl_3$
Molecular weight : 131.39 g/mol
CAS-No. : 79-01-6
EC-No. : 201-167-4
Index-No. : 602-027-00-9

| Component | Classification | Concentration |
|---|---|---|
| **trichloroethylene** | | |
| | Skin Irrit. 2; Eye Irrit. 2A; Skin Sens. 1B; Muta. 2; Carc. 1B; STOT SE 3; Aquatic Acute 3; Aquatic Chronic 3; H315, H319, H317, H341, H350, H336, H402, H412<br>Concentration limits:<br>>= 20 %: STOT SE 3, H336; | <= 100 % |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

**General advice**
Show this material safety data sheet to the doctor in attendance.

**If inhaled**
After inhalation: fresh air. Call in physician.

**In case of skin contact**
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

**In case of eye contact**
After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

**If swallowed**
After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11



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### 4.3 Indication of any immediate medical attention and special treatment needed
No data available

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Water Foam Carbon dioxide (CO2) Dry powder

**Unsuitable extinguishing media**
For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture
Carbon oxides
Hydrogen chloride gas
Combustible.
Development of hazardous combustion gases or vapours possible in the event of fire.

### 5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information
Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

### 6.2 Environmental precautions
Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections
For disposal see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

**Advice on safe handling**
Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.



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**Hygiene measures**
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

**Storage conditions**
Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Light sensitive. Handle and store under inert gas.

**Storage class**
Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

### 7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**Ingredients with workplace control parameters**

| Component | CAS-No. | Value | Control parameters | Basis |
|---|---|---|---|---|
| trichloroethylene | 79-01-6 | TWA | 10 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Suspected human carcinogen | | |
| | | STEL | 25 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| | | Suspected human carcinogen | | |
| | | Potential Occupational Carcinogen | | |



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| | | | | |
|---|---|---|---|---|
| | | TWA | 100 ppm | USA. Occupational Exposure Limits (OSHA) - Table Z-2 |
| | | CEIL | 200 ppm | USA. Occupational Exposure Limits (OSHA) - Table Z-2 |
| | | Peak | 300 ppm | USA. Occupational Exposure Limits (OSHA) - Table Z-2 |
| | | C | 300 ppm | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| | | PEL | 25 ppm<br>135 mg/m3 | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| | | STEL | 100 ppm<br>537 mg/m3 | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |

**Biological occupational exposure limits**

| Component | CAS-No. | Parameters | Value | Biological specimen | Basis |
|---|---|---|---|---|---|
| trichloroethylene | 79-01-6 | Trichloroacetic acid | 15 mg/l | Urine | ACGIH - Biological Exposure Indices (BEI) |
| | Remarks | End of shift at end of workweek | | | |
| | | Trichloroethanol | 0.5 mg/l | In blood | ACGIH - Biological Exposure Indices (BEI) |
| | | End of shift at end of workweek | | | |
| | | Trichloroethylene | | In blood | ACGIH - Biological Exposure Indices (BEI) |
| | | End of shift at end of workweek | | | |
| | | Trichloroethylene | | In end-exhaled air | ACGIH - Biological Exposure Indices (BEI) |
| | | End of shift at end of workweek | | | |

## 8.2 Exposure controls

**Appropriate engineering controls**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.



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**Personal protective equipment**

**Eye/face protection**
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

**Skin protection**
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Full contact
Material: Viton®
Minimum layer thickness: 0.7 mm
Break through time: 480 min
Material tested:Vitoject® (KCL 890 / Aldrich Z677698, Size M)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.4 mm
Break through time: 10 min
Material tested:Camatril® (KCL 730 / Aldrich Z677442, Size M)

**Body Protection**
protective clothing

**Respiratory protection**
Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

**Control of environmental exposure**
Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| a) | Appearance | Form: liquid, clear<br>Color: colorless |
| b) | Odor | characteristic |



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| | | |
|---|---|---|
| c) | Odor Threshold | 28 ppm |
| d) | pH | No data available |
| e) | Melting point/freezing point | Melting point/ range: -84.8 °C (-120.6 °F) - lit. |
| f) | Initial boiling point and boiling range | 86.7 °C 188.1 °F - lit. |
| g) | Flash point | () - closed cup - closed cupdoes not flash |
| h) | Evaporation rate | No data available |
| i) | Flammability (solid, gas) | No data available |
| j) | Upper/lower flammability or explosive limits | Upper explosion limit: > 99 %(V) - (Saturation - at high volume fractions, explosion turns into a decomposition reaction)<br>Lower explosion limit: 7.9 %(V) |
| k) | Vapor pressure | 81.3 hPa at 20.0 °C (68.0 °F) |
| l) | Vapor density | No data available |
| m) | Density | 1.463 g/mL at 25 °C (77 °F) - lit. |
| | Relative density | 1.4620 °C |
| n) | Water solubility | 1.1 g/l at 20 °C (68 °F) |
| o) | Partition coefficient: n-octanol/water | log Pow: 2.53 at 20 °C (68 °F) - Bioaccumulation is not expected. |
| p) | Autoignition temperature | 410.0 °C (770.0 °F) |
| q) | Decomposition temperature | No data available |
| r) | Viscosity | No data available |
| s) | Explosive properties | Not classified as explosive. |
| t) | Oxidizing properties | none |

**9.2 Other safety information**
No data available

## SECTION 10: Stability and reactivity

**10.1 Reactivity**
No data available

**10.2 Chemical stability**
The product is chemically stable under standard ambient conditions (room temperature) .

**10.3 Possibility of hazardous reactions**
Violent reactions possible with:
Oxygen



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(as liquefied gas)
Alkaline earth metals
alkali amides
semimetallic hydrogen compounds
perchloric acid
Light metals
aluminium chloride
Strong oxidizing agents
potassium nitrate
Risk of explosion with:
Alkali metals
Aluminum
Barium
alkali hydroxides
Lithium
magnesium
Powdered metals
sodium amide
Strong oxidizing agents
nitrogen dioxide
Boranes
Oxygen
with
alkali hydroxides
Oxygen
with
Pressure
Risk of ignition or formation of inflammable gases or vapours with:
Titanium
Beryllium
Epoxy constituents

**10.4 Conditions to avoid**
no information available

**10.5 Incompatible materials**
No data available

**10.6 Hazardous decomposition products**
In the event of fire: see section 5

## SECTION 11: Toxicological information

**11.1 Information on toxicological effects**

**Acute toxicity**
Oral: No data available
LC50 Inhalation - Rat - male - 4 h - 67.41 mg/l

Remarks: (ECHA)



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LD50 Dermal - Rabbit - > 20,000 mg/kg
Remarks: (RTECS)

**Skin corrosion/irritation**
Skin - Rabbit
Result: Skin irritation - 4 h
(OECD Test Guideline 404)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Remarks: Drying-out effect resulting in rough and chapped skin.

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: Eye irritation - 24 h
Remarks: (RTECS)
Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

**Respiratory or skin sensitization**
Local lymph node assay (LLNA) - Mouse
Result: positive
(OECD Test Guideline 429)

**Germ cell mutagenicity**
Suspected of causing genetic defects.
Test Type: Ames test
Test system: S. typhimurium
Metabolic activation: Metabolic activation
Method: OECD Test Guideline 471
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Result: negative
Remarks: (ECHA)

Test Type: in vivo assay
Species: Mouse

Result: negative
Remarks: (ECHA)

**Carcinogenicity**
Presumed to have carcinogenic potential for humans

| | |
|---|---|
| IARC: | 1 - Group 1: Carcinogenic to humans (trichloroethylene) |
| NTP: | Known - Known to be human carcinogen (trichloroethylene) |
| OSHA: | No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens. |



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**Reproductive toxicity**
No data available

**Specific target organ toxicity - single exposure**
May cause drowsiness or dizziness. - Central nervous system
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

### 11.2 Additional Information

RTECS: KX4550000
burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Exposure to and/or consumption of alcohol may increase toxic effects., Gastrointestinal disturbance, Kidney injury may occur., narcosis
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## SECTION 12: Ecological information

### 12.1 Toxicity

| | |
|---|---|
| Toxicity to fish | flow-through test LC50 - Jordanella floridae - 28.3 mg/l - 96 h<br>(US-EPA) |
| Toxicity to algae | ErC50 - Chlamydomonas reinhardtii (green algae) - 36.5 mg/l - 72 h<br>Remarks: (ECHA)<br>(trichloroethylene) |
| Toxicity to bacteria | |
| Toxicity to fish(Chronic toxicity) | flow-through test NOEC - Jordanella floridae (flagfish) - 5.76 mg/l - 10 d<br>Remarks: (ECHA) |

### 12.2 Persistence and degradability

| | |
|---|---|
| Biodegradability | aerobic - Exposure time 28 d<br>Result: 19 % - Not readily biodegradable.<br>(OECD Test Guideline 301D) |

### 12.3 Bioaccumulative potential

| | |
|---|---|
| Bioaccumulation | Lepomis macrochirus - 14 d<br>(trichloroethylene)<br><br>Bioconcentration factor (BCF): 17 |

### 12.4 Mobility in soil

No data available



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### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Endocrine disrupting properties

No data available

### 12.7 Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

**Product**

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

## SECTION 14: Transport information

**DOT (US)**

UN number: 1710 Class: 6.1 Packing group: III
Proper shipping name: Trichloroethylene
Reportable Quantity (RQ): 100 lbs
Reportable Quantity (RQ): 100 lbs
Poison Inhalation Hazard: No

**IMDG**

UN number: 1710 Class: 6.1 Packing group: III EMS-No: F-A, S-A
Proper shipping name: TRICHLOROETHYLENE

**IATA**

UN number: 1710 Class: 6.1 Packing group: III
Proper shipping name: Trichloroethylene

## SECTION 15: Regulatory information

**CERCLA Reportable Quantity**

| Components | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|---|---|---|---|
| trichloroethylene | 79-01-6 | 100 | 100 |
| trichloroethylene | 79-01-6 | 100 | 100 (D040) |



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**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

This material does not contain any components with a section 302 EHS TPQ.

| | | |
|---|---|---|
| **SARA 311/312 Hazards** | : | Acute Health Hazard<br>Chronic Health Hazard |
| **SARA 313** | : | The following components are subject to reporting levels established by SARA Title III, Section 313: |

| | | |
|---|---|---|
| trichloroethylene | 79-01-6 | >= 90 - <= 100 % |

**US State Regulations**

**Massachusetts Right To Know**

| | |
|---|---|
| trichloroethylene | 79-01-6 |

**Pennsylvania Right To Know**

| | |
|---|---|
| trichloroethylene | 79-01-6 |

**Maine Chemicals of High Concern**

Product does not contain any listed chemicals

**Vermont Chemicals of High Concern**

Product does not contain any listed chemicals

**Washington Chemicals of High Concern**

Product does not contain any listed chemicals

**California Prop. 65**

WARNING: This product can expose you to chemicals including trichloroethylene, which is/are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

**The ingredients of this product are reported in the following inventories:**

| | | |
|---|---|---|
| TSCA | : | All substances listed as active on the TSCA inventory |

**TSCA list**

The following substance(s) is/are subject to a Significant New Use Rule:

| | | |
|---|---|---|
| trichloroethylene | 79-01-6 | See 40 CFR § 721.10851; Final Rule |

The following substance(s) is/are subject to TSCA 12(b) export notification requirements:

| | |
|---|---|
| trichloroethylene | 79-01-6 |



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## SECTION 16: Other information

### Further information

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Version: 6.13 Revision Date: 09/08/2024 Print Date: 09/09/2024



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# SAFETY DATA SHEET

Vinyl Chloride

## Section 1. Identification

**GHS product identifier** : Vinyl Chloride

**Chemical name** : vinyl chloride

**Other means of identification** : chloroethylene; Ethene, chloro-; Chloroethene; Vinyl chloride, monomer; Ethene, chloro- (vinyl chloride); Vinyl chloride monomer; Monochloroethylene; Monochloroethene; Ethylene monochloride; VCM; VC

**Product type** : Gas.

**Product use** : Synthetic/Analytical chemistry.

**Synonym** : chloroethylene; Ethene, chloro-; Chloroethene; Vinyl chloride, monomer; Ethene, chloro- (vinyl chloride); Vinyl chloride monomer; Monochloroethylene; Monochloroethene; Ethylene monochloride; VCM; VC

**SDS #** : 001067

**Supplier's details** : Airgas USA, LLC and its affiliates
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253
Inside the US: 1-800-424-9300 (Chemtrec, 24 hours)
Outside the US: 1-703-527-3887 (Chemtrec, 24 hours)

**24-hour telephone** : Airgas Emergency Response Center 1-866-734-3438

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : FLAMMABLE GASES - Category 1
GASES UNDER PRESSURE - Liquefied gas
CARCINOGENICITY - Category 1
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

**GHS label elements**

**Hazard pictograms** :

**Signal word** : Danger

**Hazard statements** : Extremely flammable gas.
Contains gas under pressure; may explode if heated.
May cause cancer.
May cause damage to organs through prolonged or repeated exposure. (liver)
May displace oxygen and cause rapid suffocation.
May form explosive mixtures with air.

**Precautionary statements**

**General** : Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Always keep container in upright position. Approach suspected leak area with caution.

**Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not breathe gas.

# Section 2. Hazards identification

**Response** : Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of leakage, eliminate all ignition sources. IF exposed or concerned: Get medical advice or attention.

**Storage** : Store locked up. Protect from sunlight. Store in a well-ventilated place.

**Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazards not otherwise classified** : In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.

# Section 3. Composition/information on ingredients

**Substance/mixture** : Substance

**Chemical name** : vinyl chloride

**Other means of identification** : chloroethylene; Ethene, chloro-; Chloroethene; Vinyl chloride, monomer; Ethene, chloro-(vinyl chloride); Vinyl chloride monomer; Monochloroethylene; Monochloroethene; Ethylene monochloride; VCM; VC

**Product code** : 001067

## CAS number/other identifiers

**CAS number** : 75-01-4

| Ingredient name | % | CAS number |
|---|---|---|
| Vinyl Chloride | 100 | 75-01-4 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

# Section 4. First aid measures

## Description of necessary first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : As this product is a gas, refer to the inhalation section.

## Most important symptoms/effects, acute and delayed

### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Frostbite** : Try to warm up the frozen tissues and seek medical attention.

**Ingestion** : As this product is a gas, refer to the inhalation section.

## Over-exposure signs/symptoms

# Section 4. First aid measures

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**See toxicological information (Section 11)**

# Section 5. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

# Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

# Section 6. Accidental release measures

**Environmental precautions** : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

## Methods and materials for containment and cleaning up

**Small spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

**Large spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

# Section 7. Handling and storage

## Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Do not breathe gas. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

# Section 8. Exposure controls/personal protection

## Control parameters

### Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| Vinyl Chloride | **ACGIH TLV (United States, 1/2022).**<br>TWA: 1 ppm 8 hours.<br>**OSHA PEL (United States, 5/2018).**<br>STEL: 5 ppm 15 minutes.<br>TWA: 1 ppm 8 hours.<br>**OSHA PEL 1989 (United States, 3/1989).**<br>STEL: 5 ppm 15 minutes.<br>TWA: 1 ppm 8 hours.<br>**CAL OSHA PEL (United States, 5/2018).**<br>**Absorbed through skin.**<br>TWA: 1 ppm 8 hours. |

### Biological exposure indices

No exposure indices known.

# Section 8. Exposure controls/personal protection

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

## Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

# Section 9. Physical and chemical properties

## Appearance

**Physical state** : Gas. [Compressed gas.]

**Color** : Colorless.

**Odor** : Characteristic.

**Odor threshold** : Not available.

**pH** : Not applicable.

**Melting point** : -153.8°C (-244.8°F)

**Boiling point** : -13.4°C (7.9°F)

**Critical temperature** : 158.45°C (317.2°F)

**Flash point** : Closed cup: -78°C (-108.4°F)
Open cup: -78°C (-108.4°F) [EU A.9]

**Evaporation rate** : Not available.

# Section 9. Physical and chemical properties

**Flammability (solid, gas)** : Not available.

**Lower and upper explosive (flammable) limits** : Lower: 3.8% [EU A.11]
Upper: 29.3% [EU A.11]

**Vapor pressure** : Not available.

**Vapor density** : 2.2 (Air = 1)

**Specific Volume (ft $^3$/lb)** : 1.0989

**Gas Density (lb/ft $^3$)** : 0.91 (20°C / 68 to °F)

**Relative density** : Not applicable.

**Solubility in water** : 1.1 g/l [EU A.6]

**Partition coefficient: n-octanol/water** : 1.38 [OECD 107]

**Auto-ignition temperature** : 472°C (881.6°F) [EU A.15]

**Decomposition temperature** : Not available.

**Flow time (ISO 2431)** : Not available.

**Molecular weight** : 62.5 g/mole

**Aerosol product**

**Heat of combustion** : -18924336 J/kg

# Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

**Incompatible materials** : Oxidizers

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

# Section 11. Toxicological information

## Information on toxicological effects

### Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| vinyl chloride | LD50 Oral | Rat | 500 mg/kg | - |

### Irritation/Corrosion

Not available.

### Sensitization

Not available.

### Mutagenicity

Not available.

# Section 11. Toxicological information

## Carcinogenicity

Not available.

### Classification

| Product/ingredient name | OSHA | IARC | NTP |
|---|---|---|---|
| vinyl chloride | + | 1 | Known to be a human carcinogen. |

## Reproductive toxicity

Not available.

## Teratogenicity

Not available.

## Specific target organ toxicity (single exposure)

Not available.

## Specific target organ toxicity (repeated exposure)

| Name | Category | Route of exposure | Target organs |
|---|---|---|---|
| vinyl chloride | Category 2 | - | liver |

## Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

## Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : As this product is a gas, refer to the inhalation section.

## Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

## Delayed and immediate effects and also chronic effects from short and long term exposure

### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

## Potential chronic health effects

Not available.

**General** : May cause damage to organs through prolonged or repeated exposure.

**Carcinogenicity** : May cause cancer. Risk of cancer depends on duration and level of exposure.

**Mutagenicity** : No known significant effects or critical hazards.

# Section 11. Toxicological information

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

## Numerical measures of toxicity

### Acute toxicity estimates

Not available.

# Section 12. Ecological information

## Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| vinyl chloride | Acute LC50 1060 ppm Fresh water | Fish - *Micropterus salmoides* - Fingerling | 96 hours |

## Persistence and degradability

Not available.

## Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| vinyl chloride | 1.38 | - | Low |

## Mobility in soil

**Soil/water partition coefficient ($K_{OC}$)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

# Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty pressure vessels should be returned to the supplier. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

## United States - RCRA Toxic hazardous waste "U" List

| Ingredient | CAS # | Status | Reference number |
|---|---|---|---|
| Vinyl chloride | 75-01-4 | Listed | U043 |

# Section 14. Transport information

| | DOT | TDG | Mexico | IMDG | IATA |
|---|---|---|---|---|---|
| **UN number** | UN1086 | UN1086 | UN1086 | UN1086 | UN1086 |
| **UN proper shipping name** | VINYL CHLORIDE, STABILIZED | VINYL CHLORIDE, STABILIZED | VINYL CHLORIDE, STABILIZED (vinyl chloride) | VINYL CHLORIDE, STABILIZED | VINYL CHLORIDE, STABILIZED |
| **Transport hazard class(es)** | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| **Packing group** | - | - | - | - | - |
| **Environmental hazards** | No. | No. | No. | No. | No. |

**"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."**

**Additional information**

**DOT Classification** : **Reportable quantity** 1 lbs / 0.454 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
**Limited quantity** Yes.
**Quantity limitation** Passenger aircraft/rail: Forbidden. Cargo aircraft: 150 kg.
**Special provisions** 21, B44, T50

**TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).
**Explosive Limit and Limited Quantity Index** 0.125
**ERAP Index** 3000
**Passenger Carrying Road or Rail Index** Forbidden

**IATA** : **Quantity limitation** Passenger and Cargo Aircraft: Forbidden. Cargo Aircraft Only: 150 kg.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

# Section 15. Regulatory information

**U.S. Federal regulations** :

**TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

**Clean Water Act (CWA) 307**: vinyl chloride

**Clean Air Act (CAA) 112 regulated flammable substances**: vinyl chloride

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

# Section 15. Regulatory information

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

## SARA 302/304

### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

## SARA 311/312

**Classification** : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

## SARA 313

| | Product name | CAS number | % |
|---|---|---|---|
| Form R - Reporting requirements | vinyl chloride | 75-01-4 | 100 |
| Supplier notification | vinyl chloride | 75-01-4 | 100 |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

## State regulations

**Massachusetts** : This material is listed.

**New York** : This material is listed.

**New Jersey** : This material is listed.

**Pennsylvania** : This material is listed.

## California Prop. 65

⚠ **WARNING**: This product can expose you to Vinyl chloride, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

| Ingredient name | No significant risk level | Maximum acceptable dosage level |
|---|---|---|
| Vinyl chloride | Yes. | - |

## International regulations

### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

### Montreal Protocol

Not listed.

### Stockholm Convention on Persistent Organic Pollutants

Not listed.

### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

## Inventory list

**Australia** : This material is listed or exempted.

**Canada** : This material is listed or exempted.

**China** : This material is listed or exempted.

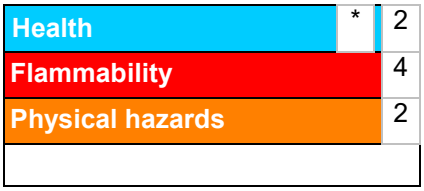
**Eurasian Economic Union** : **Russian Federation inventory**: This material is listed or exempted.

# Section 15. Regulatory information

| | | |
|---|---|---|
| **Japan** | : | **Japan inventory (CSCL)**: This material is listed or exempted.<br>**Japan inventory (ISHL)**: This material is listed or exempted. |
| **New Zealand** | : | This material is listed or exempted. |
| **Philippines** | : | This material is listed or exempted. |
| **Republic of Korea** | : | This material is listed or exempted. |
| **Taiwan** | : | This material is listed or exempted. |
| **Thailand** | : | This material is listed or exempted. |
| **Turkey** | : | This material is listed or exempted. |
| **United States** | : | This material is active or exempted. |
| **Viet Nam** | : | This material is listed or exempted. |

# Section 16. Other information

## Hazardous Material Information System (U.S.A.)




**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.**

**The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.**

## National Fire Protection Association (U.S.A.)

**Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.**

**Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.**

## Procedure used to derive the classification

| Classification | Justification |
|---|---|
| FLAMMABLE GASES - Category 1 | Expert judgment |
| GASES UNDER PRESSURE - Liquefied gas | Expert judgment |
| CARCINOGENICITY - Category 1 | Expert judgment |
| SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 | Expert judgment |

## History

| | | |
|---|---|---|
| **Date of printing** | : | 11/5/2024 |
| **Date of issue/Date of revision** | : | 11/5/2024 |
| **Date of previous issue** | : | 3/15/2022 |
| **Version** | : | 1.02 |

# Section 16. Other information

**Key to abbreviations** : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

**References** : Not available.

**Notice to reader**

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.**
**Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**

# Attachment 2

## Example Activity Hazard Analysis Forms

# Example Activity Hazard Analysis

## General Field Activities

| | | | |
|---|---|---|---|
| **Project Name:** | **Project Number:** | **Doc Number:** | **Issue Date:** |
| **Location:** | **Contractor:** | **Analysis by:** | **Analysis Date:** |
| **Work Operation:**<br>General Field Activities | **Superintendent/Competent Person:** | **Revised by:** | **Revised Date:** |
| **Required Personal Protective Equipment (PPE):**<br>• Modified Level D – Long pants, long sleeves, and/or Tyvek coveralls if handling potentially contaminated media, and steel-toed footwear conforming to ASTM International (ASTM) F2412-05/ASTM F2413-05<br>• Depending on activity, the following PPE may also be required: safety glasses/splash goggles, hard hat, nitrile outer gloves and latex inner gloves. | | **Reviewed by:** | **Reviewed Date:** |
| | | **Approved by:** | **Approved Date:** |

| Work Activity | Potential Hazards | Preventive or Corrective Measures | Inspection Requirements |
|---|---|---|---|
| Outdoor, physical activity | Slips, trips, and falls | • Be aware of potentially slippery surfaces and tripping hazards. Walk around these areas if practicable. Use handrails where available. Wear footwear that has sufficient traction.<br>• Maintain good housekeeping practices. Clean up all spills immediately.<br>• Be aware of weather effects on the work area, including wet and/or frozen ground.<br>• Jumping, running, and horseplay are prohibited.<br>• Keep all areas clean and free of debris to prevent any trips and falls.<br>• Be aware of and limit loose clothing or untied shoelaces that may contribute to slips, trip, and falls<br>• Notify the field team members of any unsafe conditions.<br>• Use flashlight in areas with low light<br>• Mark/flag/barricade any potential areas or items that may present slip/trip danger (uneven floor, holes, slippery areas, low ceilings, etc.). | • Routinely inspect work area for unsafe conditions. |
| | Heat stress | • Adjust work schedules, as necessary, to avoid the hottest part of the day.<br>• Take rest breaks as warranted.<br>• Provide shelter (air-conditioned, if possible) or shaded areas to protect personnel during rest periods.<br>• Maintain body fluids at normal levels.<br>• Train workers to recognize the symptoms of heat-related illness. | • Monitor workers' physical conditions.<br>• Monitor outside temperature versus worker activity. |

# Example Activity Hazard Analysis

## General Field Activities

| Work Activity | Potential Hazards | Preventive or Corrective Measures | Inspection Requirements |
|---|---|---|---|
| Outdoor, physical activity (continued) | Cold stress | • Provide shelter (enclosed, heated environment) to protect personnel during rest periods.<br>• Educate workers to recognize the symptoms of frostbite and hypothermia.<br>• Use appropriate cold-weather gear, up to and including Mustang-type bib coveralls or jacket/bib combinations.<br>• Consider additional precautions if working near water in cold weather.<br>• Have a dry change of clothing available.<br>• Train workers to recognize the symptoms of cold-related illness. | • Monitor workers' physical conditions and PPE.<br>• Monitor outside and water temperature versus worker activity and PPE. |
| | Rain/snow | • Wear appropriate PPE (rain gear).<br>• Be aware of slip hazards, puddles, and electrical hazards when working in wet conditions.<br>• If extremely cold conditions are forecast, consider additional precautions or postponing work activity. | • Inspect PPE daily prior to use.<br>• Routinely inspect work area for deteriorating conditions. |
| | Sunshine | • Have sunscreen available for ultraviolet protection.<br>• Have abundant water available to prevent dehydration.<br>• Consider wearing wide-brimmed headwear and light-colored, lightweight, sun-blocking clothing. | • Ensure that sunscreen and water are available. |
| | Lightning | • Do not begin or continue work until lightning subsides for at least 20 minutes. Disconnect and do not use or touch electronic equipment.<br>• Immediately head for shore if on the water and lightning is observed. If not able to get to shore, disconnect and do not use or touch the major electronic equipment, including the radio, throughout the duration of the storm. | • Obtain weather forecast and updates as needed. |
| | High winds | • Wear goggles or safety glasses if dust or debris are visible. | • Ensure that goggles or safety glasses are available. |
| | Biological hazards (flora [e.g., poison ivy and poison oak], fauna [e.g., ticks, bees, mosquitoes, and snakes], and animals [e.g., birds, mice, rats, raccoons) | • Be aware of likely biological hazards in the work area.<br>• Wear appropriate clothing (i.e., hat, long-sleeve shirt, long pants, leather gloves, boots, and Tyvek coveralls, as appropriate), and apply insect repellant.<br>• Wear hand and arm protection when clearing plants or debris from the work area.<br>• Be aware of potential wildlife and defensive behavior (nesting birds, raccoons with young, etc.)<br>• If a dangerous situation or aggravated animal is encountered, leave the area immediately and contact the PM/TM for additional direction. | • Ensure that insect repellent is available. |
| | Noise exposure | • Wear hearing protection in high noise environments or when working around heavy machinery or equipment (action level of 85 decibels averaged over an 8-hour day). | • Ensure that hearing protection is available. |

# Example Activity Hazard Analysis

## General Field Activities

| Work Activity | Potential Hazards | Preventive or Corrective Measures | Inspection Requirements |
|---|---|---|---|
| | Personal security | • Assess potential personal security issues prior to starting work. Use buddy system at all times. Verify cell phone reception. Notify PM/TM or supervisor of time of site entry and anticipated time of exit. Check in periodically and notify when work is completed and workers have safely demobilized. | • Routinely inspect work area for unsafe conditions. |
| | Structural hazards | • Assess building/structure, and make sure that hazards were similar as what was scoped in the project or reported by the client/owner. Additional hazards that could impact safety of personnel should be called into the project manager. If an area/building/structure has a questionable structural concern, work in this location will be stopped and a qualified engineer should perform a structural assessment to determine if additional actions are necessary. | • Routinely inspect work area for unsafe conditions. |
| | Potential Chemicals of Concern | • As practicable, avoid all dermal contact with chemicals and potentially contaminated residuals. If these items are observed, avoid the area and notify the PM/TM for appropriate actions. Wear nitrile gloves when touching or picking up objects within impacted areas.<br>• Complete appropriate air monitoring as per project documents and appropriate regulations.<br>• All employees will be trained and familiar with the air monitoring stop work and PPE upgrade procedures listed in the site-specific HASP and will implement these procedures based on the results of continuous air monitoring throughout the course of work activities. | • Ensure instruments are operating correctly.<br>• Record all air monitoring data (including calibration activities) on field log. |

## Training Requirements:

- All personnel working on hazardous waste sites must receive appropriate training as required by 29 Code of Federal Regulations (CFR) 1910.120(e), including but not limited to initial 40-hour, 8-hour supervisor, and annual 8-hour refresher trainings.
- Medical clearance must be received on an annual basis as required by 29 CFR 1910.120(f).
- All assigned employees are required to familiarize themselves with the contents of this AHA before starting a work activity and review it with their supervisor during their daily safety meeting.

# Example Activity Hazard Analysis

## Motor Vehicle Operation

| | | | |
|---|---|---|---|
| **Project Name:** | **Project Number:** | **Doc Number:** | **Issue Date:** |
| **Location:** | **Contractor:** | **Analysis by:** | **Analysis Date:** |
| **Work Operation:**<br>Motor vehicle operation | **Superintendent/Competent Person:** | **Revised by:** | **Revised Date:** |
| **Required Personal Protective Equipment (PPE):**<br>• Wear seat belt at all times<br>• Make sure that clothing will not interfere with driving | | **Reviewed by:** | **Reviewed Date:** |
| | | **Approved by:** | **Approved Date:** |

| Work Activity | Potential Hazards | Preventive or Corrective Measures | Inspection Requirements |
|---|---|---|---|
| Motor vehicle operation | Unfamiliar with the vehicle | • Allow yourself some time to get familiar with the vehicle, a rental vehicle, or one not used very often.<br>• Test the lights, windshield wipers, hazard lights, horn, parking brake, and other important functions.<br>• Review the dashboard controls, steering radius, and overhead and side clearances.<br>• Allow extra side, front, and back space around the vehicle while driving or parking an unfamiliar vehicle.<br>• Adjust mirrors and the seat while the vehicle is in park.<br>• Drive slowly in confined locations, as in a parking garage, parking lots, or industrial settings. Confirm adequate clearances by sight before turning or backing up in tight or unfamiliar locations.<br>• Use a second person to be a spotter outside the vehicle if needed in tight spaces. | • Inspect fluid levels and air pressure in tires, adjust mirrors and seat positions appropriately, monitor the fuel level, and fill up when the fuel level is low |
| | Speed | • Fasten and properly adjust the seat belt.<br>• Obey all posted speed limits.<br>• Radar detectors are prohibited in all company-owned, leased, or rented vehicles.<br>• Reduce travel speed during hazardous conditions (e.g., rain, fog, or snow).<br>• Identify whether your vehicle has Anti-Lock Brakes (ABS). If it does, DO NOT pump the brakes to stop when the vehicle has begun to skid. Apply steady pressure to the brakes. If the vehicle does not have ABS, pump the brakes to stop during slippery conditions. | • Seatbelt |

# Example Activity Hazard Analysis

## Motor Vehicle Operation

| Work Activity | Potential Hazards | Preventive or Corrective Measures | Inspection Requirements |
|---|---|---|---|
| Motor vehicle operation (continued) | Distance spacing | • Continually check your rear and side view mirrors.<br>• Use the 3-second rule to keep a safe distance between vehicles.<br>• Increase the 3-second rule as necessary during hazardous travel conditions.<br>• Regularly scan the area you will be entering in the next 10 to 12 seconds.<br>• Always leave yourself an "out" during travel.<br>• When stopping, make sure that you leave enough distance between you and the car in front of you. You should be able to see the rear tires of the vehicle in front when stopped.<br>• Obey the speed limit and traffic regulations.<br>• When at a red light and it turns green, use the "delayed start" technique, by counting to three before you take your foot off the brake.<br>• DO NOT TAILGATE.<br>• Keep headlights (and running lights, if available) on for maximum visibility. | • Seatbelt |
| | Skids | • If the vehicle has begun to skid out of control, turn the steering wheel in the direction of the skid and re-adjust the wheel, as necessary.<br>• Reduce speed during hazardous travel conditions.<br>• Use 4-wheel drive, if available, when driving vehicles off-road, on steep inclines, or in muddy conditions.<br>• Do not take vehicles off-road if they cannot be operated safely. | • Seatbelt |
| | Blind spots | • Become familiar with any blind spots associated with your vehicle.<br>• Adjust mirrors to give the maximum viewing area.<br>• Use your directional devices to signal all turns and when changing lanes; check rear and side view mirror and glance over your shoulder to check that the lane is clear.<br>• Avoid other driver's blind spots; slow down and let the other vehicle pass.<br>• If parked for an extended period and staying in the vehicle, be sure to inspect the area for changed conditions (e.g., a car that moved in behind you) before leaving. | • Seatbelt<br>• Mirrors |
| | Backing | • Back into parking spaces upon arrival whenever possible.<br>• Perform a 360-degree walk around the vehicle before backing to identify any new conditions or obstructions.<br>• Use a spotter when backing whenever possible.<br>• Understand hand signals.<br>• Sound the horn prior to backing.<br>• Check the rear and side view mirrors prior to backing.<br>• Back slowly in areas of obstructed vision.<br>• Anticipate others who may be backing out into your pathway and adjust accordingly. | • Seatbelt<br>• Mirrors |

# Example Activity Hazard Analysis

## Motor Vehicle Operation

| Work Activity | Potential Hazards | Preventive or Corrective Measures | Inspection Requirements |
|---|---|---|---|
| Motor vehicle operation (continued) | Distractions (e.g., cell phones, reading maps or directions, eating) | • Obey state or local laws regarding cell phone use, at a minimum.<br>• Certain clients prohibit cell phone use regardless of the state you are operating in—know your client's policy.<br>• Use hands-free devices (not hand-held cellular phones) while driving.<br>• Pull over to the side of the road when making a call or checking directions. | • Seatbelt<br>• Hands-free devices connected and ready for use |
| | Accidents | • In the event of an accident, use the following procedures:<br>– Stop, call for medical assistance, notify police, and complete an accident report and submit it to your supervisor.<br>– Notify the Project Manager (PM) and Field Lead (FL).<br>– Complete the appropriate incident investigation reports. | • Seatbelt |
| | Influenced by drugs or alcohol | • NEVER DRIVE UNDER THE INFLUENCE OF DRUGS OR ALCOHOL.<br>• Keep in mind that the person in another vehicle may be under the influence of controlled substances, and be prepared for erratic or sudden driving changes on their part. | • Seatbelt |
| | Driver attitude | • Do not operate any vehicle when abnormally tired, temporarily disabled (i.e., injured), or under the influence of drugs or alcohol.<br>• Keep an even temper when driving. Do not let the actions of others affect your attitude.<br>• Do not allow yourself to become frustrated, rushed, distracted, or drowsy. | • Seatbelt |
| | Fatigue | • Stop and rest if fatigued. Exit the road and enter a safe area. Rest until fully refreshed.<br>• Be aware that certain medications (such as cold or allergy medicines) may make you drowsy when driving a vehicle. | • Seatbelt |
| | Vehicle loading | • DO NOT OVERLOAD the vehicle.<br>• Secure all equipment and supplies within the body of the vehicle using proper tie-downs.<br>• Do not block side view mirrors with the load.<br>• Do not transport U.S. Department of Transportation (DOT)-manifested hazardous materials.<br>• Dispatch all equipment and personnel with proper forms and identification. | • Seatbelt |

# Example Activity Hazard Analysis

## Motor Vehicle Operation

| Work Activity | Potential Hazards | Preventive or Corrective Measures | Inspection Requirements |
|---|---|---|---|
| Motor vehicle operation (continued) | Equipment failure | • Perform daily inspections of your vehicle.<br>• Maintain vehicle safety equipment (e.g., mirrors, alarms, horns, wipers, lights, and brakes).<br>• Maintain the vehicle (e.g., tire pressure and fluid levels).<br>• Any vehicle with mechanical defects that may endanger the safety of the driver, passengers, or the public shall not be used.<br>• Ensure that appropriate safety equipment is in the vehicle. Safety equipment should include a spare tire, jack, first-aid kit, fire extinguisher, and flashlight. Flares and/or reflective triangles should be available in larger trucks.<br>• Ensure that the proper documentation is in the vehicle. Documentation should include an operations manual for the vehicle, insurance card, vehicle registration, and accident forms. | • Seatbelt |

## Training Requirements:

- All drivers are required to have a valid driver's license, and all vehicles must have appropriate state vehicle registration and inspection stickers. The use of hand-held wireless devices is prohibited while driving any vehicle for business use at any time, for personal use during business hours, and as defined by law.
- **If operating a vehicle or vehicle and trailer with a capacity greater than 10,000 pounds, U.S. Department of Transportation regulations may apply. Contact the PM prior to any travel in this configuration.**
- All assigned employees are required to read, familiarize themselves with the contents of this AHA and all other company-related driving policies.

# Example Activity Hazard Analysis

## Excavation

| | | | |
|---|---|---|---|
| **Project Name:** | **Project Number:** | **Doc Number:** | **Issue Date:** |
| **Location:** | **Contractor:** | **Analysis by:** | **Analysis Date:** |
| **Work Operation:**<br>Excavation | **Superintendent/Competent Person:** | **Revised by:** | **Revised Date:** |
| **Required Personal Protective Equipment (PPE):**<br>• Modified Level D – Long pants, long sleeves, and/or Tyvek coveralls if handling potentially contaminated media, and steel-toed footwear conforming to ASTM International (ASTM) F2412-05/ASTM F2413-05<br>• Depending on activity, the following PPE may also be required: safety glasses/splash goggles, hard hat, nitrile outer gloves and latex inner gloves. | | **Reviewed by:** | **Reviewed Date:** |
| | | **Approved by:** | **Approved Date:** |

| Work Activity | Potential Hazards | Preventive or Corrective Measures | Inspection Requirements |
|---|---|---|---|
| Clear buried and overhead utilities/structures | Utility contact (subsurface or above ground) | • Follow utility clearance procedure and marking prior to any intrusive work with equipment. Follow client's utility clearance procedures. Immediately stop work if any unusual or unanticipated condition is encountered. | • Routinely inspect work area for unsafe conditions. |
| | Buried Utilities | • Contact private utility locator if necessary to conduct GPR survey or air knife to locate potential buried utilities not identified in drawings and/or marked. | • Routinely inspect work area for unsafe conditions. |
| | Adjacent Structures | • Make sure sufficient clearance is maintained when working with heavy equipment (ie. Excavator) inside or adjacent to buildings/structures. | • Routinely inspect work area for unsafe conditions. |
| Working around heavy machinery | Injury or equipment damage from contact with heavy machinery | • Maintain a safe distance (at least 15 feet) away from heavy machinery. Maintain eye contact with equipment operator(s) when possible. Make eye contact and receive clearance from operator before moving close to the equipment. Stage work in safe area, away from excavation. Wear proper PPE, including hardhat and reflective class II or III safety vest. Do not wear loose-fitting clothing and tie back long hair. Do not enter exclusion zone when equipment is running. | • Routinely inspect work area for unsafe conditions. |
| | Noise hazards from Equipment operation | • Wear hearing protection and increase distance if work activity permits. | • Routinely inspect work area for unsafe conditions. |

# Example Activity Hazard Analysis

## Excavation

| Work Activity | Potential Hazards | Preventive or Corrective Measures | Inspection Requirements |
|---|---|---|---|
| | Equipment failure leading to petroleum and/or hydraulic fluid leaks. | • Have subcontractors/equipment operators perform equipment check at start of day to look for leaks, cracks, or loose parts. | • Routinely inspect work area for unsafe conditions. |
| | Unauthorized personnel using equipment. | • Have subcontractors/operators lock-out/tag-out machinery when not in use. | • Routinely inspect work area for unsafe conditions. |
| Excavation Oversight | Staff and subcontractors are not aware of site hazards. Excavation area is unsafe. | • Prior to the start of work each day, hold tailgate safety briefing. Complete tailgate health and safety meeting form. Complete daily/periodic excavation inspection checklist. Personnel should not be allowed onsite unless H&S form has been reviewed. | • Routinely inspect work area for unsafe conditions. |
| | Slip, trips, and falls | • Keep work area free of litter and debris. Remove any potential hazards, and clearly mark any hazards that cannot be removed. Discuss potential hazards in tailgate safety meetings. | • Routinely inspect work area for unsafe conditions. |
| | Excavation or trench collapse trapping workers or creating falls. | • Excavation/Trench greater than 4 feet deep in which subcontractor, employees or others will be entering must be properly sloped, benched, shored or have a trench box in place. Sloping, benching, shoring or use of trench box is not required IF an excavation is less than 4 feet in depth and examination of the ground by a competent person provides no indication of a potential cave-in. Ensure a Competent Person is on site to inspect and oversee excavation/trenching activities. Where feasible, stay 6 feet from edge of excavation/trench. A safe means of egress, such as a stairway, ladder, or ramp, shall be located so that no more than 25 feet of lateral travel is necessary for site workers conducting activities in trenches exceeding feet in depth. | • Routinely inspect work area for unsafe conditions. |
| | Improperly marked excavation area. | • Make sure that excavation area is secured with temporary fencing and caution tape. | • Routinely inspect work area for unsafe conditions. |
| | Dust exposure and inhalation | • Dust will be suppressed during work activities by a controlled water mist or other engineering controls. Personnel and Community Air Monitoring will be completed in accordance with applicable regulations and project documents. | • Routinely inspect work area for unsafe conditions. |

# Example Activity Hazard Analysis

## Excavation

| Work Activity | Potential Hazards | Preventive or Corrective Measures | Inspection Requirements |
|---|---|---|---|
| | Contact with potentially contaminated groundwater and soil. | • Wear appropriate PPE when working near excavation area. Decontaminate any equipment which comes in contact with excavated material. Load excavated material for offsite transport. If threatening conditions exist, exercise stop work authority. | • Routinely inspect work area for unsafe conditions. |
| Loading/offloading equipment | Struck by equipment. | • Review above guidelines for working around heavy machinery. Maintain communication with site workers, and maintain a safe distance from heavy machinery at all times. | • Routinely inspect work area for unsafe conditions. |
| | Equipment upset | • Off load/load on flat even ground when possible. Leave enough room for equipment to maneuver on/off trailer. Use a spotter while maneuvering equipment from an obstructed position. | • Routinely inspect work area for unsafe conditions. |

## Training Requirements:

- All personnel working on hazardous waste sites must receive appropriate training as required by 29 Code of Federal Regulations (CFR) 1910.120(e), including but not limited to initial 40-hour, 8-hour supervisor, and annual 8-hour refresher trainings.
- Medical clearance must be received on an annual basis as required by 29 CFR 1910.120(f).
- All assigned employees are required to familiarize themselves with the contents of this AHA before starting a work activity and review it with their supervisor during their daily safety meeting.

# Example Activity Hazard Analysis

## Investigation-Derived Waste Management

| | | | |
|---|---|---|---|
| **Project Name:** | **Project Number:** | **Doc Number:** | **Issue Date:** |
| **Location:** | **Contractor:** | **Analysis by:** | **Analysis Date:** |
| **Work Operation:**<br>Investigation-derived waste management | **Superintendent/Competent Person:** | **Revised by:** | **Revised Date:** |
| **Required Personal Protective Equipment (PPE):**<br>• Modified Level D – Long pants, long sleeves, and/or Tyvek coveralls if handling potentially contaminated media, and steel-toed footwear conforming to ASTM International (ASTM) F2412-05/ASTM F2413-05<br>• Depending on activity, the following PPE may also be required: safety glasses/splash goggles, hard hat, nitrile outer gloves and latex inner gloves. | | **Reviewed by:** | **Reviewed Date:** |
| | | **Approved by:** | **Approved Date:** |

| Work Activity | Potential Hazards | Preventive or Corrective Measures | Inspection Requirements |
|---|---|---|---|
| Containerizing investigation-derived waste (IDW) at the source | Lifting | • Use care when lifting to redistribute IDW from one container (e.g., drums and buckets) to another at the source.<br>• Seek assistance if loads are too heavy, or if you are experiencing fatigue.<br>• Fill containers only to the degree that will be manageable in the future (e.g., half full) and to limit weight. | • Inspect containers for competency (i.e., no cracks, and handles in good repair). |
| | Pinch points | • Wear hand protection when closing containers.<br>• Use the buddy system when affixing drum rings. | • Inspect drums for rust or sharp edges prior to opening or closing. |
| Relocating or staging IDW containers | Lifting | • Use task-specific tools whenever possible to move full containers (i.e., hoists, drum caddies or dollies, and vehicles).<br>• When task-specific tools are not available, use the buddy system to move containers that are reasonable to lift.<br>• Never roll drums or containers holding IDW.<br>• Stage containers in areas protected from heavy traffic and weather, if possible. | • Ensure tools are in good repair.<br>• Assess IDW container weight prior to moving. |

# Example Activity Hazard Analysis

## Investigation-Derived Waste Management

| Work Activity | Potential Hazards | Preventive or Corrective Measures | Inspection Requirements |
|---|---|---|---|
| Relocating or staging IDW containers (continued) | Pinch points or crushing | • Use tools to achieve the final arrangement when staging containers—do not place hands on the edges of containers while moving them into place.<br>• Stand well clear of containers being moved in case they become dislodged from their handling tool during transport.<br>• Do not stack IDW containers, as this poses a risk for container toppling and damage.<br>• Place containers on a wooden pallet for easy transfer using a pallet jack, if possible. | • Inspect drums for evidence of cracks or rust. |
| IDW management – general | Splash | • Wear the required PPE at all times.<br>• Use care to minimize splashing or smearing of IDW during handling and containerization. | • Inspect PPE upon donning and periodically during tasks. |

## Training Requirements:

- All personnel working on hazardous waste sites must receive appropriate training as required by 29 Code of Federal Regulations (CFR) 1910.120(e), including but not limited to initial 40-hour, 8-hour supervisor, and annual 8-hour refresher trainings.
- Medical clearance must be received on an annual basis as required by 29 CFR 1910.120(f).
- All assigned employees are required to familiarize themselves with the contents of this AHA before starting a work activity and review it with their supervisor during their daily safety meeting.

# Attachment 3

## Utility Clearance Process for Intrusive Activities

# Utility Contact Prevention Checklist

*NOTE: Utility mark-out requirements vary from state to state; consult state authorities before beginning work.*

**Purpose:** This form is intended to help the Field Lead confirm that underground or overhead utilities are identified to the extent practicable and consistent with applicable regulations **PRIOR** to site work.

***INVESTIGATIONS MUST NOT OCCUR UNTIL MULTIPLE LINES OF EVIDENCE INDICATE THAT SUBSURFACE OR OVERHEAD UTILITIES ARE NOT PRESENT IN THE WORK AREA***

**Project Name/No:** _____ **Date:** _____

**Field Lead:** _____ **Project Address:** _____

**Project Manager:** _____ **Health & Safety Officer:** _____

**Emergency Contact Information for One Call:** _____

**Duration/Summary of Work to be Performed:** _____

_____

_____

| Consideration | Check | | Explanation | Initial |
|---|---|---|---|---|
| Has the state One Call been contacted? | ☐ Yes | ☐ No | | |
| Has the property owner or client been contacted for local knowledge of utilities, as applicable? | ☐ Yes | ☐ No | | |
| Does the property owner or client have specific utility contact prevention procedures and, if so, have they been completed? | ☐ Yes | ☐ No | | |
| Are any as-built drawings available? If so, do they show any utilities? | ☐ Yes | ☐ No | | |
| Has a visual inspection of the work area(s) been completed? | ☐ Yes | ☐ No | | |
| Has the potential presence of in-water utilities been assessed (shore markers, streets dead-ending at water's edge, etc.) | ☐ Yes | ☐ No | | |
| Is evidence of electrical utilities present? (electric meters on structures, conduits, overhead lines, light poles, etc.) | ☐ Yes | ☐ No | | |
| Is evidence of water/sewer utilities present? (water meter, hydrants, restrooms, grates in ground, etc.) | ☐ Yes | ☐ No | | |
| Is evidence of telecommunications utilities present? (fiber optic warning signs, conduits from utility poles, wall-mounted boxes, etc.) | ☐ Yes | ☐ No | | |
| Is other evidence of utilities present? (unknown ground markings, manholes or valve covers, "Call Before You Dig" signs, linear asphalt or concrete repair characteristics, liner subsidence of ground surface, pin flags or stakes, etc.) | ☐ Yes | ☐ No | | |

# Utility Contact Prevention Checklist

*NOTE: Utility mark-out requirements vary from state to state; consult state authorities before beginning work.*

| Consideration | Check | | Explanation | Initial |
|---|---|---|---|---|
| Has a private locating service been contacted? | ☐ Yes | ☐ No | | |
| Were any utilities identified and marked out through a private locating service? If so, duplicate mark-outs on site drawings. | ☐ Yes | ☐ No | | |
| Are there any fiber optic cables, fuel lines, or high-pressure lines within 50 feet of work locations? | ☐ Yes | ☐ No | | |
| If fiber optic cables, fuel lines, or high-pressure lines are within 50 feet, has an agreement with the utility owner been established? | ☐ Yes | ☐ No | | |
| Can a test borehole be advanced by hand digging, probing, post-hole digging, and/or air knifing to 5 feet below ground surface (bgs)? | ☐ Yes | ☐ No | | |
| If hand digging, probing, post-hole digging, and/or air knifing to 5 feet bgs is not possible, can a non-invasive geophysical investigation be conducted? If not, why? | ☐ Yes | ☐ No | | |
| Other considerations: | | | | |

***NOTE: Please fill in second page and attach additional reports, drawings, or other information, as necessary.***

**Confirmation Number:** _____

**Contact Name:** _____ **Organization:** _____

**Contact Date:** _____ **Contact Time:** _____

**Response:** _____

_____

_____

_____

*Completed by:*

_____ _____ _____

Printed Name Signature Date

*Contractor:*

_____ _____ _____

Printed Name Signature Date

# APPENDIX I - COMMUNITY AIR MONITORING PLAN

## Appendix 1A
## New York State Department of Health
## Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

**Continuous monitoring** will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

**Periodic monitoring** for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. APeriodic@ monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/$m^3$) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/$m^3$ above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/$m^3$ above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/$m^3$ of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

# APPENDIX J – SSD SYSTEM INSTALLATION REPORTS

# SUBSLAB DEPRESSURIZATION SYSTEM INSTALLATION AND START UP REPORT - EXISTING BUILDING (350 BEACH 79TH STREET)

## PREPARED BY ENVIROTRAC LTD.

# Sub Slab Depressurization System (SSDS) Installation and Startup Report

350 Beach 79th Street, Far Rockaway, New York
NYSDEC BCP Site No. C241207

EnviroTrac Ltd has completed the startup and testing of the sub-slab depressurization systems (SSDS) within the building located at 350 Beach 79th Street, Rockaway Beach, NY. Following the completion of the installation, the SSD System was tested and placed into full operation on December 4th, 2024. The SSDS consists of fifteen (15) suction points divided into three (3) operational zones (five (5) suction points each), each equipped with a vacuum fan, instrumentation, and associated piping. The SSDS was installed in accordance with the previously approved Installation Plan, which included design figures and specifications.

During the initial startup testing and inspection on December 4th, 2024, it was determined that all SSDSs components were shown to be in compliance with the approved system design and accepted industry standards and techniques appropriate for the intended application in mitigating potential sub-slab gasses from impacting the indoor air of the building. All equipment and materials utilized, and installation techniques implemented were found to be in accordance with standards set forth by ASTM E2121-12 “Standard Practice for Radon Control Options Installing Radon Mitigation Systems in Existing Low-Rise Buildings” and New York State Department of Environmental Conservation (NYSDEC), DER-10 “Technical Guidance for Site Investigation and Remediation”.

A Mitigation System Installation Record Form was prepared for each zone of the SSDS and its corresponding blower (**Attachment A**). A detailed layout of the site plan is included in **Attachment B**.

In total, there are fifteen (15) 4-inch diameter suction pits (SSD-1 through SSD-15) installed through the existing building first floor concrete slab. The suction pits are installed in the floor through a cored hole and then sealed in-place above a shallow void (~12” bottom of the floor slab) excavated into the underlying soil. Since multiple suction pits were installed within the building, the cast iron piping was manifolded together, into three (3) separate zones (Zones 1 through 3), prior to exiting the building. The above grade portion of the piping is constructed of 4-inch diameter no-hub cast iron piping that is routed out through the building exterior wall to each vacuum blower location and then extends above the roof line to each discharge point. The discharge of each blower is extended to the required elevation above the roofline (> 2 ft) and is fitted with a rain cap. Each vacuum blower installed on the building exterior wall is a model GBR-76UD, manufactured by Obar Systems, Inc.

In order to provide a means of measuring the vacuum response below the building floor slab, fifteen (15) vacuum monitoring points (VMPs) were installed at select locations within the building floor slab. Each VMP consisted of a stainless steel vapor pin insert, manufactured by Vapor Pin Enterprises, Inc. Additionally, each zone is equipped with a low vacuum sensor featuring an audible and visual alarm installed on each suction header pipe. Each alarm was fully tested under simulated blower failure/shutdown conditions and found to be working as specified (system vacuum drops below 0.25” H2O). Each sensor/alarm unit is a model GBR25-R, manufactured by Obar Systems, Inc.

It should be noted, that following SSDS system startup, all SSDS components were found to be in good working condition and operating as designed. Furthermore, upon completion of the required testing at each of the VMPs, it was found that sufficient vacuum had been established beneath the building floor slabs to provide adequate vacuum coverage (≥ 0.02“ H2O vacuum). These readings were noted at each VMP location with the exception of VMP-2. It was noted at the time of startup testing that several cracks in the concrete floor slab extended into the vicinity of extraction point SSD-2, which may have adversely affected the sub-slab vacuum response in the adjacent area. The sealing of these cracks is planned to take place during the proposed installation work at the neighboring building at the same site. The recorded vacuum readings for the SSDSs can be found in the Mitigation Installation Record Form included in **Attachment A**.

Photographs of the installed SSDSs at the time of the inspection are included in the **Attachment C**.

CERTIFIED BY:
***EnviroTrac Ltd.***

Dale C. Konas, P.E.
Principal Engineer

Date January 24, 2024

Attachments:

A. NYSDEC Mitigation System Installation Record Form and System Layout Detail Figure
B. Photographs
C. As-Built Figures

References:

A. ASTM E2121-13 “Standard Practice for Installing Radon Mitigation Systems in Existing Low-Rise Residential Buildings”
B. New York State Department of Environmental Conservation, (NYSDEC), DER-10 “Technical Guidance for Site Investigation and Remediation”

EnviroTrac

# ATTACHMENT A
# Mitigation System Installation Forms

# Mitigation System Installation Record

☒ Structure was sampled previously

**System Information**

Site No: C224292

System ID: SSDS - Zone 1

Site Name: 350 Beach 79th St.

Owner Name: 79 Arverne Development LLC ☐ Owner Occupied

System Address: 350 Beach 79th Street Telephone:

City: Far Rockaway, NY Zip: 11693 Alt. Telephone:

**Contractor Information**

Installer Name: Mathew Stein Company: EnviroTrac Ltd

Telephone: 631-924-3001

**Building Conditions** Building Type: General Industrial

Slab Integrity: ○ Poor ○ Average ◉ Good ○ Excellent

Slab Penetrations: ☐ Sump ☐ Floor drain ☐ Perimeter drain ☒ Other

Describe:

Utilities: Sewer, electric and water pipe

Observed Water: ◉ Dry ○ Damp ○ Sump only ○ Standing

Describe:

**System Installation**

Installation Type: Sub-Slab Depressurization (Active) Date Installed: Dec 4, 2024

Slab Thickess (inches): 3 to 5 in.

Subslab Material: Sand Subslab Moisture: Damp

Number of Suction Points: 5 Number of Fans Installed: 1

| | ☒ Fan #1 Operating | ☐ Fan #2 Operating | ☐ Fan #3 Operating |
|---|---|---|---|
| Fan Model No(s): | Obar GBR76UD | | |
| Fan Serial No(s): | 3751 | | |
| Final U-Tube Levels: | 3.908" H2O | | |

Additional Mitigation Elements (check all that apply):

☐ Drainjer ☐ Membrane ☐ Sealed cracks ☐ New floor ☒ Rain cap ☒ Other

Comments:

Low Vacuum Alarm

**Communication Testing**

Test Method: Micromanometer Meter Type/Manufacturer: UEI - EM201B

| Location | Reading/Result | Dist. From Suction Point (ft) | Passed? |
|---|---|---|---|
| VMP-1 | 0.047 "H2O | ~15 ft from SSD-1 | ☒ |
| VMP-2 | 0.016 "H2O | ~15 ft from SSD-2 | ☒ |
| VMP-3 | 0.020 "H2O | ~15 ft from SSD-3 | ☒ |
| VMP-4 | 0.034 "H2O | ~24 ft from SSD-4 | ☒ |
| VMP-5 | 0.042 "H2O | ~20 ft from SSD-5 | ☒ |

NORTH

**System Sketch**
(indicate notable features, location of extraction points, and communication test holes)

See Attached Figures

# Mitigation System Installation Record

☒ Structure was sampled previously

**System Information**

Site No: C224292

System ID: SSDS - Zone 2

Site Name: 350 Beach 79th St.

Owner Name: 79 Arverne Development LLC ☐ Owner Occupied

System Address: 350 Beach 79th Street Telephone:

City: Far Rockaway, NY Zip: 11693 Alt. Telephone:

**Contractor Information**

Installer Name: Mathew Stein Company: EnviroTrac Ltd

Telephone: 631-924-3001

**Building Conditions**

Building Type: General Industrial

Slab Integrity: ○ Poor ○ Average ◉ Good ○ Excellent

Slab Penetrations: ☐ Sump ☐ Floor drain ☐ Perimeter drain ☒ Other

Describe:

Utilities: Sewer, electric and water pipe

Observed Water: ◉ Dry ○ Damp ○ Sump only ○ Standing

Describe:

**System Installation**

Installation Type: Sub-Slab Depressurization (Active) Date Installed: Dec 4, 2024

Slab Thickess (inches): 3 to 5 in.

Subslab Material: Sand Subslab Moisture: Damp

Number of Suction Points: 5 Number of Fans Installed: 1

| | ☒ Fan #1 Operating | ☐ Fan #2 Operating | ☐ Fan #3 Operating |
|---|---|---|---|
| Fan Model No(s): | Obar GBR76UD | | |
| Fan Serial No(s): | 3749 | | |
| Final U-Tube Levels: | 4.762" H2O | | |

Additional Mitigation Elements (check all that apply):

☐ Drainjer ☐ Membrane ☐ Sealed cracks ☐ New floor ☒ Rain cap ☒ Other

Comments:

Low Vacuum Alarm

**Communication Testing**

Test Method: Micromanometer Meter Type/Manufacturer: UEI - EM201B

| Location | Reading/Result | Dist. From Suction Point (ft) | Passed? |
|---|---|---|---|
| VMP-6 | 0.037 "H2O | ~15 ft from SSD-7 | ☒ |
| VMP-7 | 0.022 "H2O | ~15 ft from SSD-8 | ☒ |
| VMP-8 | 0.101 "H2O | ~20 ft from SSD-9 | ☒ |
| VMP-9 | 0.042 "H2O | ~15 ft from SSD-10 | ☒ |
| VMP-10 | 0.021 "H2O | ~20 ft from SSD-12 | ☒ |

**System Sketch**
(indicate notable features, location of extraction points, and communication test holes)

NORTH

See Attached Figures

# Mitigation System Installation Record

☒ Structure was sampled previously

**System Information**

Site No: C224292

System ID: SSDS - Zone 3

Site Name: 350 Beach 79th St.

Owner Name: 79 Arverne Development LLC ☐ Owner Occupied

System Address: 350 Beach 79th Street Telephone:

City: Far Rockaway, NY Zip: 11693 Alt. Telephone:

**Contractor Information**

Installer Name: Mathew Stein Company: EnviroTrac Ltd

Telephone: 631-924-3001

**Building Conditions**

Building Type: General Industrial

Slab Integrity: ○ Poor ○ Average ◉ Good ○ Excellent

Slab Penetrations: ☐ Sump ☐ Floor drain ☐ Perimeter drain ☒ Other

Describe:

Utilities: Sewer, electric and water pipe

Observed Water: ◉ Dry ○ Damp ○ Sump only ○ Standing

Describe:

**System Installation**

Installation Type: Sub-Slab Depressurization (Active) Date Installed: Dec 4, 2024

Slab Thickess (inches): 3 to 5 in.

Subslab Material: Sand Subslab Moisture: Damp

Number of Suction Points: 5 Number of Fans Installed: 1

| | ☒ Fan #1 Operating | ☐ Fan #2 Operating | ☐ Fan #3 Operating |
|---|---|---|---|
| Fan Model No(s): | Obar GBR76UD | | |
| Fan Serial No(s): | 3749 | | |
| Final U-Tube Levels: | 4.762" H2O | | |

Additional Mitigation Elements (check all that apply):

☐ Drainjer ☐ Membrane ☐ Sealed cracks ☐ New floor ☒ Rain cap ☒ Other

Comments:

Low Vacuum Alarm

**Communication Testing**

Test Method: Micromanometer Meter Type/Manufacturer: UEI - EM201B

| Location | Reading/Result | Dist. From Suction Point (ft) | Passed? |
|---|---|---|---|
| VMP-11 | 0.026 "H2O | ~15 ft from SSD-11 | ☒ |
| VMP-12 | 0.020 "H2O | ~20 ft from SSD-12 | ☒ |
| VMP-13 | 0.172 "H2O | ~20 ft from SSD-15 | ☒ |
| VMP-14 | 0.161 "H2O | ~25 ft from SSD-14 | ☒ |
| VMP-15 | 0.167 "H2O | ~25 ft from SSD-15 | ☒ |

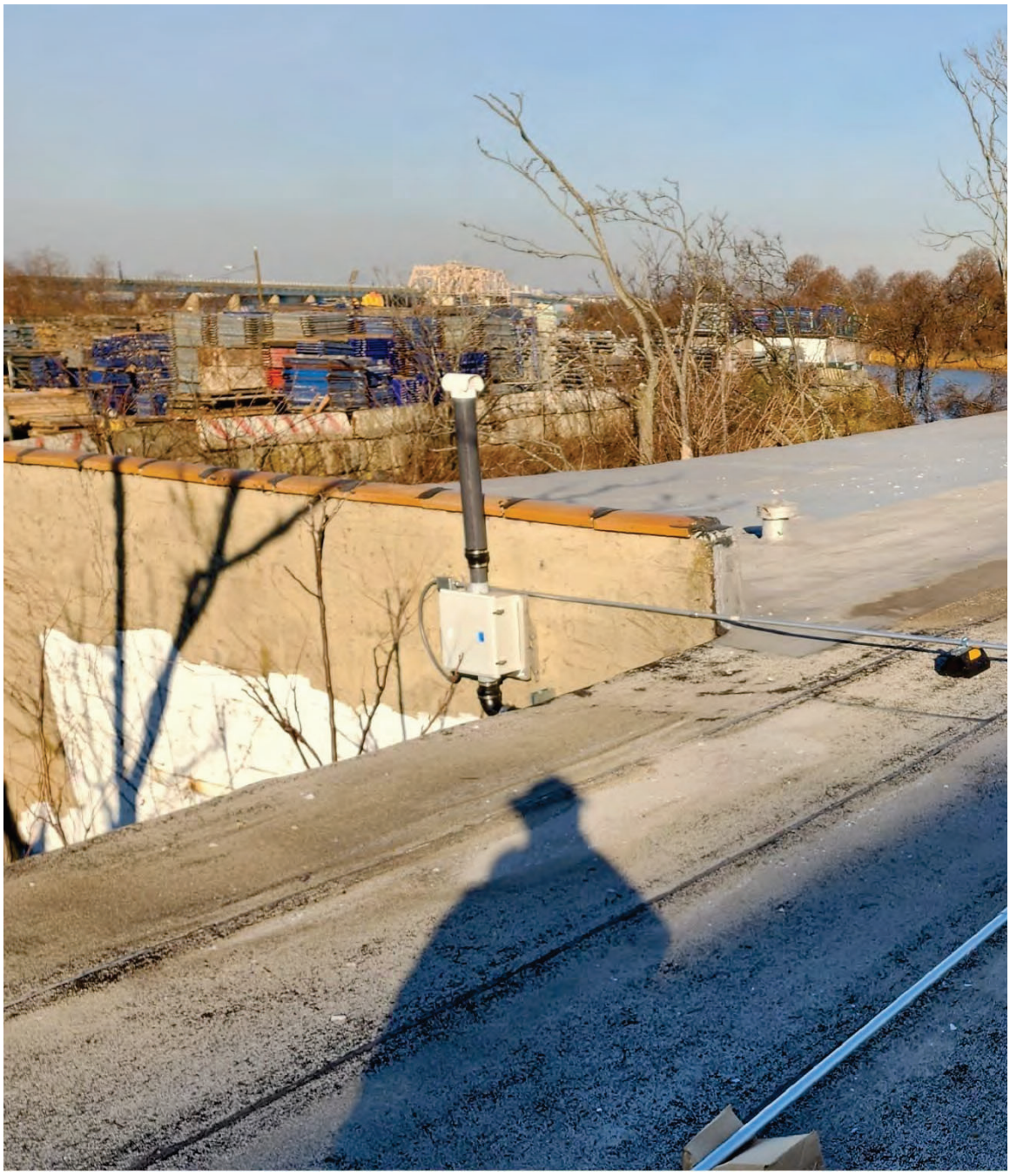
NORTH

**System Sketch**
(indicate notable features, location of extraction points, and communication test holes)

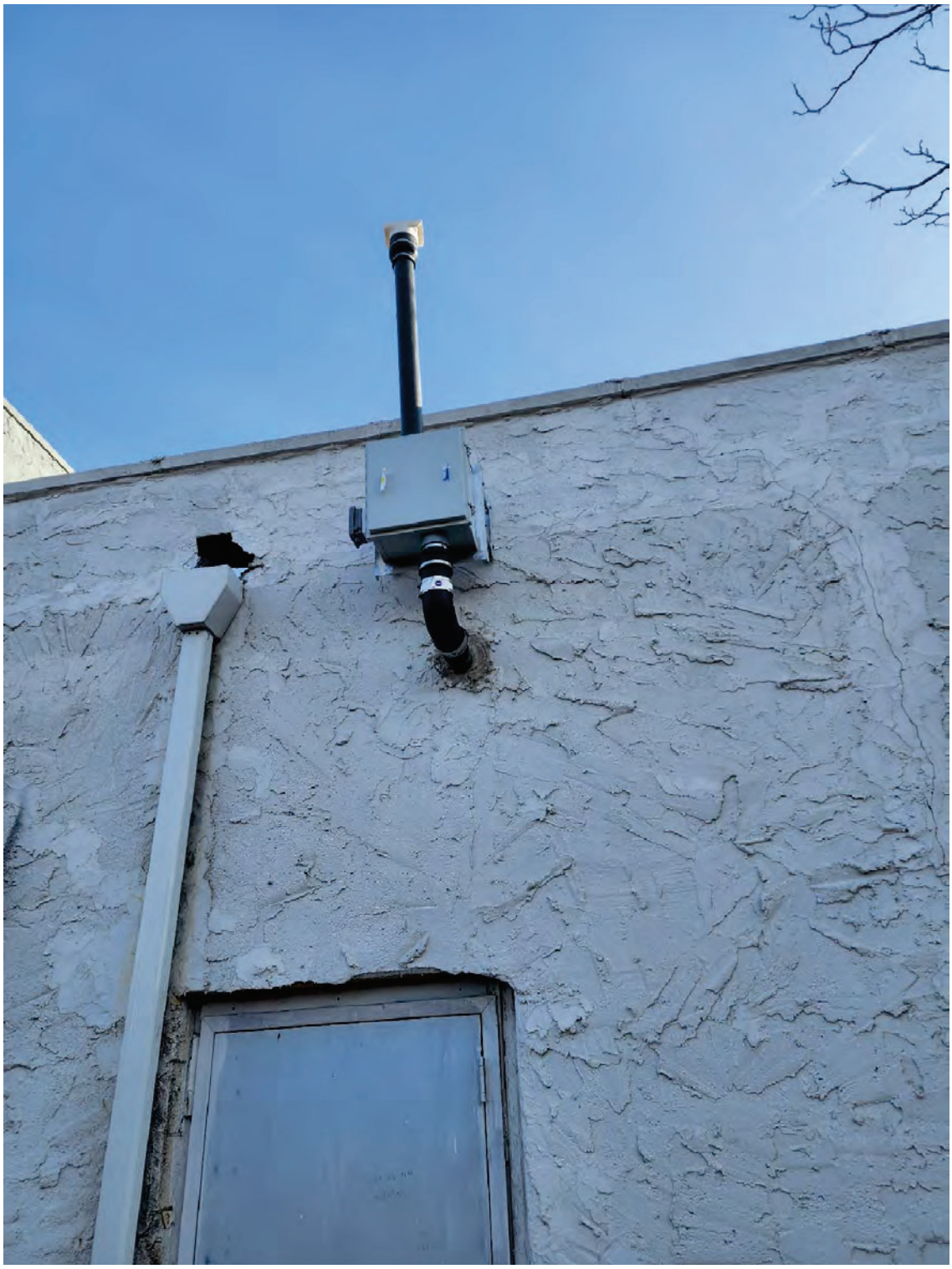
See Attached Figures

# ATTACHMENT B
# Photographs

12/04/2024 – Zone 1 SSDS Vacuum Blower



12/04/2024 – Zone 2 SSDS Vacuum Blower



12/04/2024 – Zone 3 SSDS Vacuum Blower

12/04/2024 – Typical SSDS Extraction Point (SSD-8) including pipe riser, control valve, and vacuum gauge.

12/04/2024 – Typical Vacuum Monitoring Point (VMP) Installation (VMP-6).

12/04/2024 – Typical Low Vacuum Alarm mounted to building interior wall (Zone-1 @ Extraction Point SSD-3).

12/04/2024 – Example of typical overhead cast iron system piping.

# ATTACHMENT C
# As-Built Figures

# SUB-SLAB DEPRESSURIZATION SYSTEM

DESIGN FIGURES

SITE LOCATION:
350 BEACH 79TH STREET
FAR ROCKAWAY, NEW YORK 11693

PREPARED FOR::
ANCHOR QEA ENGINEERING, PLLC
1201 3RD AVENUE, SUITE 2600
SEATTLE, WASHINGTON 98101

JANUARY 2025

PREPARED BY:
ENVIROTRAC ENGINEERING PE PC
5 OLD DOCK ROAD
YAPHANK, NEW YORK 11980

PROJECT ENGINEER

ENVIROTRAC ENGINEERING, PE PC
5 OLD DOCK ROAD
YAPHANK, NY 11980

SEAL AND SIGNATURE

Dale C. Konas, PE
NY Lic. No. 081035

DRAWN/REVISED BY: BS/DK
REVISION DATE: JANUARY 15, 2025
REVISION No.: AS-BUILT

DRAWING TITLE

AS-BUILT:
TITLE SHEET

PREPARED FOR

ANCHOR QEA ENGINEERING, PLLC
1201 3RD AVENUE
SUITE 2600
SEATTLE, WA 98101

PROJECT SITE

350 BEACH 79TH STREET
FAR ROCKAWAY, NY 11693

FIGURE NO.

SSDS-001.00

EnviroTrac
ENVIRONMENTAL SERVICES
5 OLD DOCK ROAD, YAPHANK, NEW YORK 11980
PHONE: (631)924-3001 FAX: (631)924-5001

NOTES:

1. VAPOR COLLECTION PIPING: 4 INCH DIAMETER SCHEDULE 40 PVC PERFORATED OR SLOTTED (0.02" SLOT) PIPING SHALL BE USED FOR THE SUBSURFACE EXTRACTION POINTS TO BE INSTALLED BELOW THE CONCRETE SLAB. A 4" SCHEDULE 40 PVC DOME CAP SHALL BE INSTALLED AT THE END OF EACH LEG.

2. SSD VENT PIPING:
   - 2.1. SUB-SURFACE SOLID PIPING: 4 INCH DIAMETER SCHEDULE 40 PVC PIPE SHALL BE CONNECTED TO THE VAPOR COLLECTION PIPING/EXTRACTION POINTS VIA A 4 INCH DIAMETER COUPLING OR 90 DEG ELBOW FITTING, LOCATED AT THE TOP OF EACH EXTRACTION POINT. EACH LEG OF THE VENT PIPING WILL BE EXTENDED TO A DESIGNATED LOCATION IN THE NEAR VICINITY OF AN EXISTING INTERIOR WALL OR COLUMN. ALL PIPE AND FITTING CONNECTIONS SHALL BE EITHER SOLVENT WELD OR THREADED CONNECTIONS.
   - 2.2. ABOVE GRADE PIPING: ALL EXPOSED ABOVE GRADE VENT PIPE SHALL BE CAST IRON, NO-HUB PIPE AND FITTINGS. ALL PIPE AND FITTING CONNECTIONS SHALL BE NEOPRENE FLEXIBLE COUPLINGS WITH STAINLESS STEEL BANDS. THIS PIPING SHALL BE EXTENDED VERTICALLY THOUGH THE BUILDING FIRST FLOOR CONCRETE FLOOR SLAB. EACH PIPING ZONE HEADER SHALL BE ROUTED ALONG THE BUILDING FIRST FLOOR CEILING AND PENETRATE HORIZONTALLY THROUGH THE EXTERIOR WALL IN EACH DESIGNATED BLOWER LOCATION. THE PIPING RISER SHALL EXTEND THROUGH THE ROOF INTO THE INLET OF EACH ROOF MOUNTED BLOWER. THE EXHAUST PIPING SHALL TERMINATE AT LEAST 2 FEET ABOVE THE SURFACE OF THE ROOF, IN A LOCATION AT LEAST 10 FEET AWAY FROM ANY WINDOW OR OTHER OPENING INTO THE CONDITIONED SPACES OF THE BUILDING THAT IS LESS THAN 2 FEET BELOW THE EXHAUST POINT, AND 10 FEET AWAY FROM ANY ADJOINING OR ADJACENT BUILDING.

3. IN BUILDINGS DESIGNED WITH INTERIOR FOOTINGS OR OTHER BARRIERS TO LATERAL FLOW OF SUB-SLAB SOIL GAS, VENT PIPES SHALL BE INSTALLED IN EACH ISOLATED, NON-CONNECTED FLOOR AREA. IF MULTIPLE VENT POINTS ARE USED IN NON-CONNECTED FLOOR AREAS, VENT PIPES ARE PERMITTED TO BE MANIFOLDED BELOW THE FLOOR SLAB INTO A SINGLE VENT.

4. TO RETARD SOIL GAS ENTRY, LARGE OPENINGS THROUGH CONCRETE SLABS OR OTHER FLOOR ASSEMBLIES IN CONTACT WITH THE SOIL, SUCH AS SPACES AROUND BATHTUB, SHOWER, OR TOILET DRAINS, SHALL BE FILLED OR CLOSED WITH MATERIALS THAT PROVIDE A PERMANENT AIRTIGHT SEAL SUCH AS NON-SHRINK MORTAR, GROUTS, EXPANDING FOAM, OR SIMILAR MATERIAL DESIGN FOR SUCH APPLICATION.

5. TO RETARD SOIL GAS ENTRY, SMALLER GAPS AROUND ALL PIPES, WIRE, OR OTHER OBJECTS THAT PENETRATE THE CONCRETE SLAB OR OTHER FLOOR ASSEMBLY SHALL BE MADE AIRTIGHT WITH AN ELASTOMER JOINT SEALANT OR POLYETHYLENE TAPE, AS DEFINED IN ASTM C920-87, AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

6. TO RETARD SOIL GAS ENTRY ALL CONTROL JOINTS, ISOLATION JOINTS AND ANY OTHER JOINTS IN CONCRETE SLABS OR BETWEEN SLABS AND FOUNDATION WALLS SHALL BE SEALED. A CONTINUOUS FORMED GAP "TOOLED EDGE" WHICH ALLOWS THE APPLICATION OF A SEALANT THAT WILL PROVIDE A CONTINUOUS, AIRTIGHT SEAL SHALL BE CREATED ALONG ALL JOINTS. WHEN THE SLAB HAS CURED, THE GAP WILL BE CLEARED OF ANY LOOSE MATERIAL AND FILLED WITH AN ELASTOMER JOINT SEALANT, AS DEFINED IN ASTM C920-87, AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

7. CONCRETE MASONRY FOUNDATION WALLS BELOW THE GROUND SURFACE SHALL BE CONSTRUCTED TO MINIMIZE THE TRANSPORT OF SOIL GAS FROM THE SOIL TO THE BUILDING. HOLLOW BLOCK MASONRY WALLS SHALL BE SEALED AT THE TOP TO PREVENT THE PASSAGE OF AIR FROM THE INTERIOR OF THE WALL TO THE LIVING SPACE. AT A MINIMUM, ONE COURSE OF SOLID MASONRY, ONE COURSE OF MASONRY GROUTED SOLID, OR A POURED CONCRETE BEAM AT OR ABOVE THE FINISHED GROUND SURFACE LEVEL SHALL BE USED FOR THIS PURPOSE. WHERE A BRICK VENEER OR OTHER MASONRY LEDGE IS INSTALLED, THE COURSE IMMEDIATELY BELOW THAT LEDGE SHALL ALSO BE SEALED.

8. JOINTS, CRACKS, OR OTHER OPENINGS AROUND ALL PENETRATIONS OF BOTH EXTERIOR AND INTERIOR SURFACES OF MASONRY BLOCK WALLS BELOW THE GROUND SURFACE SHALL BE SEALED WITH AN ELASTOMETRIC SEALANT THAT PROVIDES AN AIRTIGHT SEAL. PENETRATIONS OF POURED CONCRETE WALLS SHALL ALSO BE SEALED ON THE EXTERIOR SURFACE. THIS INCLUDES SEALING OF WALL TIE PENETRATIONS.

9. ALL EXPOSED AND VISIBLE INTERIOR SSD VENT PIPES SHALL BE IDENTIFIED WITH AT LEAST ONE LABEL ON EACH FLOOR LEVEL. THE LABEL SHALL READ: "ACTIVE VAPOR MITIGATION SYSTEM".

10. VENTILATION FAN(S): EACH OF THE THREE (3) IN-LINE VACUUM BLOWERS SHALL BE INSTALLED NEAR THE ROOF OF THE EXISTING BUILDING AS DEPICTED IN THE "BLOWER AND ROOF PIPING DETAIL". THE FAN SHALL BE INSTALLED AS PER THE MANUFACTURER'S INSTRUCTIONS. A 240 V, 1-PHASE, ELECTRICAL DISCONNECT SWITCH SHALL BE SUPPLIED AND INSTALLED BY A LICENSED ELECTRICIAN IN ACCORDANCE WITH ALL APPLICABLE LOCAL ELECTRICAL CODES. EACH VACUUM BLOWER SHALL BE CAPABLE OF PRODUCING A MINIMUM OF 89 CFM @ 30"H2O VACUUM. EACH VACUUM BLOWER SHALL BE A OBAR COMPACT RADIAL BLOWER, MODEL NO. GBR76-UD, MANUFACTURED BY OBAR SYSTEMS INC, SOUTH NEWFOUNDLAND, NJ, OR EQUAL.

11. SYSTEM INDICATOR: A VACUUM GAUGE SHALL BE INSTALLED 0N EACH LEG OF THE VAPOR VENT PIPING IN ORDER TO PROVIDE A VISUAL INDICATION OF THE SYSTEM OPERATION. THE VACUUM GAUGE SHALL BE INSTALLED AT THE LOWEST ACCESSIBLE LOCATION OF EACH MANIFOLD LEG IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE VACUUM GAUGES WILL BE 2-12" DIAL, LOW VACUUM DIAPHRAGM GAUGES, 1.5% FULL SCALE ACCURACY. THE VACUUM GAUGES SHALL BE DWYER SERIES LPG4 LOW PRESSURE GAUGE, 0 TO 60" H2O RANGE, MODEL NO. LPG4-D7522N, MANUFACTURED BY DWYER INSTRUMENTS, MICHIGAN CITY, IN.

12. VACUUM ALARM: ONE (1) VACUUM ALARM SHALL BE INSTALLED IN ORDER TO PROVIDE AN AUDIBLE AND VISUAL ALARM IN THE EVENT THE VACUUM FAN SHUTS DOWN AND THERE IS A LOSS OF VACUUM WITHIN THE SYSTEM PIPING. THE ALARM UNIT SHALL CONNECT TO THE PROCESS PIPING VIA A ¼" DIAMETER FLEXIBLE POLYETHYLENE TUBE AND POWERED THROUGH A 110V ELECTRICAL OUTLET. THE ALARM UNIT SHALL BE A MODEL GBR25-R, PRESSURE GAUGE / ALARM, MANUFACTURED BY OBAR SYSTEMS, INC.

13. VACUUM MONITORING POINTS: VACUUM TEST POINTS SHALL BE INSTALLED AT A MINIMUM OF FIFTEEN (15) LOCATIONS IN THE CONCRETE SLAB FOR THE PURPOSE OF TESTING THE EFFECTIVENESS OF THE SSD SYSTEM. THE VAPOR MONITORING POINTS SHALL BE DRILLED-IN-PLACE STAINLESS STEEL VAPOR PIN INSERTS. EACH MONITORING POINT SHALL BE CAPPED USING A SCREW IN PLACE FLUSH MOUNT STAINLESS STEEL COVER. EACH VAPOR PIN SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDED INSTALLATION INSTRUCTIONS. MONITORING POINTS SHALL BE STAINLESS STEEL VAPOR PINS (MODEL VPIN0522SS) AND FLUSH MOUNTED STAINLESS STEEL SECURE COVER MANUFACTURED BY COX COLVIN, PLAIN CITY, OH.

14. ALL COMPONENTS OF THE SUB SLAB DEPRESSURIZATION SYSTEM SHALL BE IN ACCORDANCE WITH ASTM E 2121-21 "STANDARD PRACTICE FOR RADON MITIGATION SYSTEMS IN EXISTING LOW-RISE RESIDENTIAL BUILDINGS" AND NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, (NYSDEC), DER-10 "TECHNICAL GUIDANCE FOR SITE INVESTIGATION AND REMEDIATION".

| DRAWING INDEX | |
|---|---|
| DWG. No. | TITLE |
| SSDS-001.00 | TITLE SHEET |
| SSDS-002.00 | DRAWING INDEX, SITE LOCATION, ABBREVIATIONS AND NOTES |
| SSDS-003.00 | SITE PLAN |
| SSDS-004.00 | MISCELLANEOUS DETAILS |

| ABBREVIATIONS | |
|---|---|
| SSDS | SUB-SLAB DEPRESSURIZATION SYSTEM |
| DWG | DRAWING |
| GFCI | GROUND FAULT CIRCUIT INTERRUPTER |
| VMP | VACUUM MONITORING POINT |
| SCH | SCHEDULE |
| TYP | TYPICAL |


PROJECT ENGINEER

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SEAL AND SIGNATURE

Dale C. Konas, PE
NY Lic. No. 081035

DRAWN/REVISED BY: BS/DK
REVISION DATE: JANUARY 15, 2025
REVISION No.: AS-BUILT

DRAWING TITLE

AS-BUILT:
DRAWING INDEX, SITE LOCATION, ABBREVIATIONS AND NOTES

PREPARED FOR

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PROJECT SITE

350 BEACH 79TH STREET
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FIGURE NO.

SSDS-002.00


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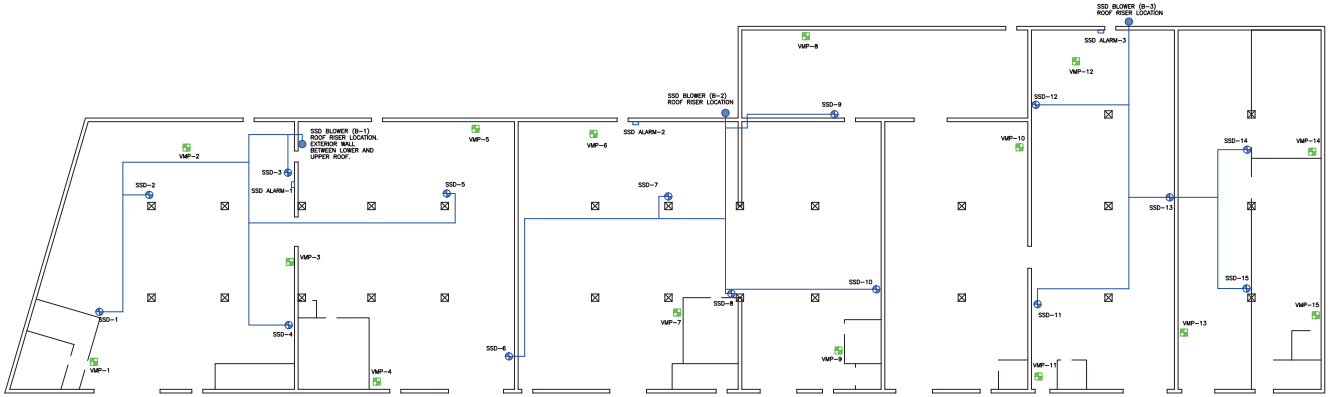
north




LEGEND:

- SSDS EXTRACTION POINT
- PIPE RISER TO ROOF
- VACUUM MONITORING POINT (VAPOR PIN)
- SSDS OVERHEAD PIPING
- SSDS VACUUM ALARM UNIT

0 16′ 32′

SCALE: 1"=16′

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STATE OF NEW YORK · DALE C. KONAS · LICENSED PROFESSIONAL ENGINEER · No. 081035

Dale C. Konas, PE
NY Lic. No. 081035

DRAWN/REVISED BY: BS/DK
REVISION DATE: DECEMBER 8, 2025
REVISION No.: AS-BUILT

DRAWING TITLE

AS-BUILT:
SITE PLAN - FIRST FLOOR

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FIGURE NO.

SSDS-003.00

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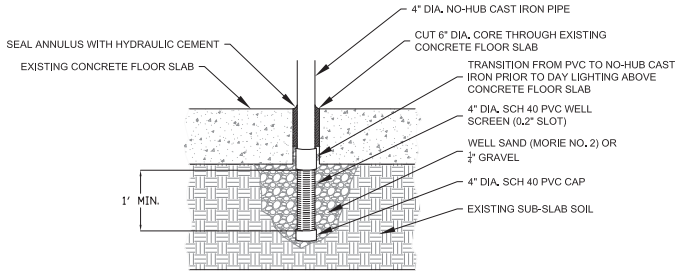
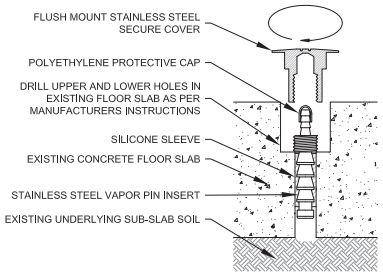
## EXTRACTION POINT DETAIL

(SSDS-1 - SSDS-15) NOT TO SCALE



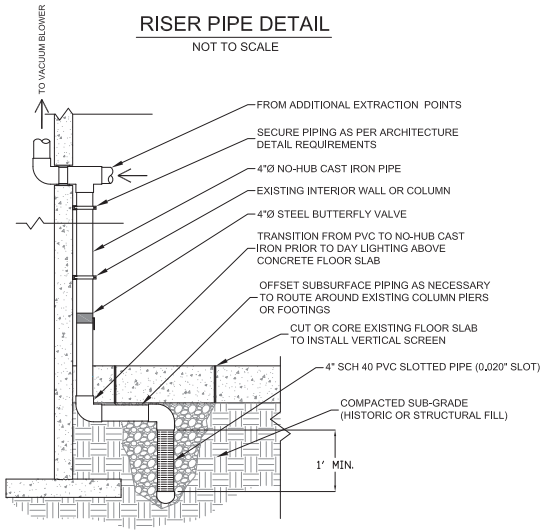

## VAPOR / VACUUM MONITORING POINT

NOT TO SCALE



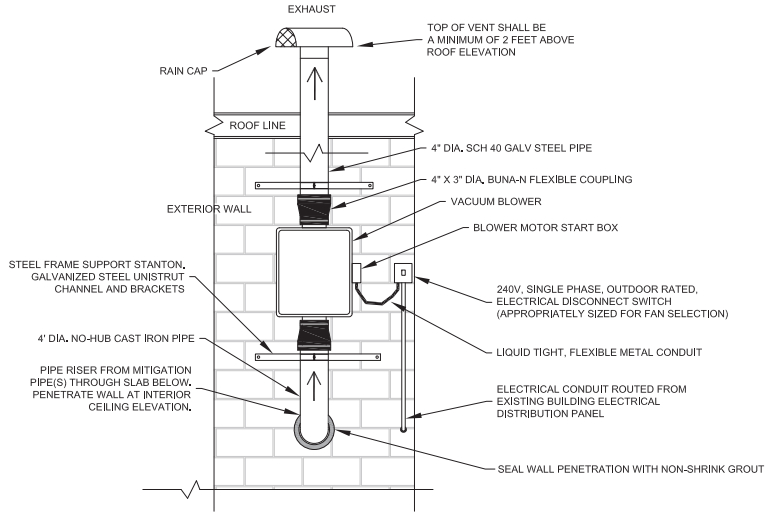

## RISER PIPE DETAIL

NOT TO SCALE




## BLOWER AND ROOF PIPING DETAIL

NOT TO SCALE




NOTES:

A. BUILDING DETAILS SHOWN FOR CONCEPTUAL PURPOSES ONLY. NOT TO BE USED FOR STRUCTURAL OR ARCHITECTURAL PURPOSES.
B. VACUUM BLOWER/FAN MAKE/MODEL: OBAR SYSTEMS INC, MODEL NO. GBR76-UD
C. VACUUM ALARM(S) MAKE/MODEL: OBAR SYSTEMS INC, MODEL NO. GBR25-R

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SEAL AND SIGNATURE

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NY Lic. No. 081035

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REVISION DATE: JANUARY 15, 2025
REVISION No.: AS-BUILT

DRAWING TITLE

AS-BUILT:
MISCELLANEOUS DETAILS

PREPARED FOR

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PROJECT SITE

350 BEACH 79TH STREET
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FIGURE NO.

SSDS-004.00

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# SUBSLAB DEPRESSURIZATION SYSTEM INSTALLATION AND START UP REPORT - NEW STORAGE BUILDING (3-60 BEACH 79TH STREET)

## PREPARED BY ENVIROTRAC LTD.

# Sub Slab Depressurization System (SSDS) Installation and Startup Report

350 Beach 79th Street (Self- Storage Building), Far Rockaway, New York
NYSDEC BCP Site No. C241207

EnviroTrac Ltd has completed the startup and testing of the sub-slab depressurization system (SSDS) within the newly constructed Self-Storage building located at 350 Beach 79th Street, Rockaway Beach, NY. Following the completion of the installation, the SSD System was tested and placed into full operation on April 29, 2025. The SSDS consists of two (2) suction points connected to a common roof mounted vacuum fan. The SSDS was installed in accordance with the previously approved Installation Plan, which included design figures and specifications.

During the completed startup testing and inspection, it was determined that all SSDSs components were found to be in compliance with the approved system design and accepted industry standards and techniques appropriate for the intended application in mitigating potential sub-slab gasses from impacting the indoor air of the building. All equipment and materials utilized, and installation techniques implemented were found to be in accordance with standards set forth by ASTM E2121-12 “Standard Practice for Radon Control Options Installing Radon Mitigation Systems in Existing Low-Rise Buildings” and New York State Department of Environmental Conservation (NYSDEC), DER-10 “Technical Guidance for Site Investigation and Remediation”.

A Mitigation System Installation Record Form was prepared for the SSDS and its corresponding blower (**Attachment A**). A detailed layout of the site plan is included in **Attachment B**.

In total, there are two (2) 4-inch diameter suction pits (SSD-1 and SSD-2) installed through the existing building first floor concrete slab, within the office space. The suction pits are installed in the floor slab through a cored hole and then sealed in-place extending in the underlying gravel sub-base (~21” from the top of the floor slab). Since multiple suction pits were installed within the building, the cast iron piping was manifolded together, into one (1) riser pipe prior to exiting the building. The above grade portion of the piping is constructed of 4-inch diameter no-hub cast iron piping that is routed up to the top floor of the building and out through the building roof to the vacuum blower. The roof mounted vacuum blower includes a discharge stack that extends approximately 4 feet above the roof line and fitted with a rain cap. The roof mounted vacuum blower is a model GX4, manufactured by RadonAway Inc.

In order to provide a means of measuring the vacuum response below the building floor slab, two (2) vacuum monitoring points (VMPs) were installed at select locations within the building floor slab. Each VMP consisted of a stainless steel vapor pin insert, manufactured by Vapor Pin Enterprises, Inc. Additionally, The vacuum header piping is equipped with a low vacuum sensor featuring an audible and visual alarm installed on within the office space. The alarm was fully tested under simulated blower failure/shutdown conditions and found to be working as specified (system vacuum drops below 0.25” H2O). The sensor/alarm unit is a model GBR25-R, manufactured by Obar Systems, Inc.

It should be noted that following SSDS system startup, all SSDS components were found to be in good working condition and operating as designed. Furthermore, upon completion of the required testing at each of the VMPs, it was found that sufficient vacuum had been established beneath the building floor slabs to provide adequate vacuum coverage (≥ 0.02“ H2O vacuum). The recorded

vacuum readings for the SSDSs can be found in the Mitigation Installation Record Form included in **Attachment A**.

Photographs of the installed SSDSs at the time of the inspection are included in the **Attachment C**.

CERTIFIED BY:
***EnviroTrac LLC***

Dale C. Konas, P.E.
Principal Engineer

Date May 16, 2025

Attachments:

A. NYSDEC Mitigation System Installation Record Form
B. Photographs
C. As-Built Figures

References:

A. ASTM E2121-13 “Standard Practice for Installing Radon Mitigation Systems in Existing Low-Rise Residential Buildings”
B. New York State Department of Environmental Conservation, (NYSDEC), DER-10 “Technical Guidance for Site Investigation and Remediation”

# ATTACHMENT A
# Mitigation System Installation Forms

# Mitigation System Installation Record

☒ Structure was sampled previously

**System Information**

Site No: C224292

System ID: SSDS - Self-Storage

Site Name: 350 Beach 79th St.

Owner Name: 79 Arverne Development LLC ☐ Owner Occupied

System Address: 350 Beach 79th Street Telephone:

City: Far Rockaway, NY Zip: 11693 Alt. Telephone:

**Contractor Information**

Installer Name: Mathew Stein Company: EnviroTrac Ltd

Telephone: 631-924-3001

**Building Conditions** Building Type: General Commercial

Slab Integrity: ○ Poor ○ Average ○ Good ◉ Excellent

Slab Penetrations: ☐ Sump ☐ Floor drain ☐ Perimeter drain ☒ Other

Describe:

Utilities: Sewer, electric and water pipe

Observed Water: ◉ Dry ○ Damp ○ Sump only ○ Standing

Describe:

**System Installation**

Installation Type: Sub-Slab Depressurization (Active) Date Installed: Apr 29, 2025

Slab Thickess (inches): >5 in.

Subslab Material: Gravel Subslab Moisture: Damp

Number of Suction Points: 2 Number of Fans Installed: 1

| | ☒ Fan #1 Operating | ☐ Fan #2 Operating | ☐ Fan #3 Operating |
|---|---|---|---|
| Fan Model No(s): | RadonAway GX4 | | |
| Fan Serial No(s): | 218440 | | |
| Final U-Tube Levels: | 2.0" H2O | | |

Additional Mitigation Elements (check all that apply):

☐ Drainjer ☐ Membrane ☐ Sealed cracks ☐ New floor ☒ Rain cap ☒ Other

Comments:

Low Vacuum Alarm

**Communication Testing**

Test Method: Micromanometer Meter Type/Manufacturer: UEI - EM201B

| Location | Reading/Result | Dist. From Suction Point (ft) | Passed? |
|---|---|---|---|
| VMP-1 | 0.065 "H2O | ~15 ft from SSD-1 | ☒ |
| VMP-2 | 0.058 "H2O | ~9 ft from SSD-2 | ☒ |
| | | | ☐ |
| | | | ☐ |
| | | | ☐ |

**System Sketch**
(indicate notable features, location of extraction points, and communication test holes)

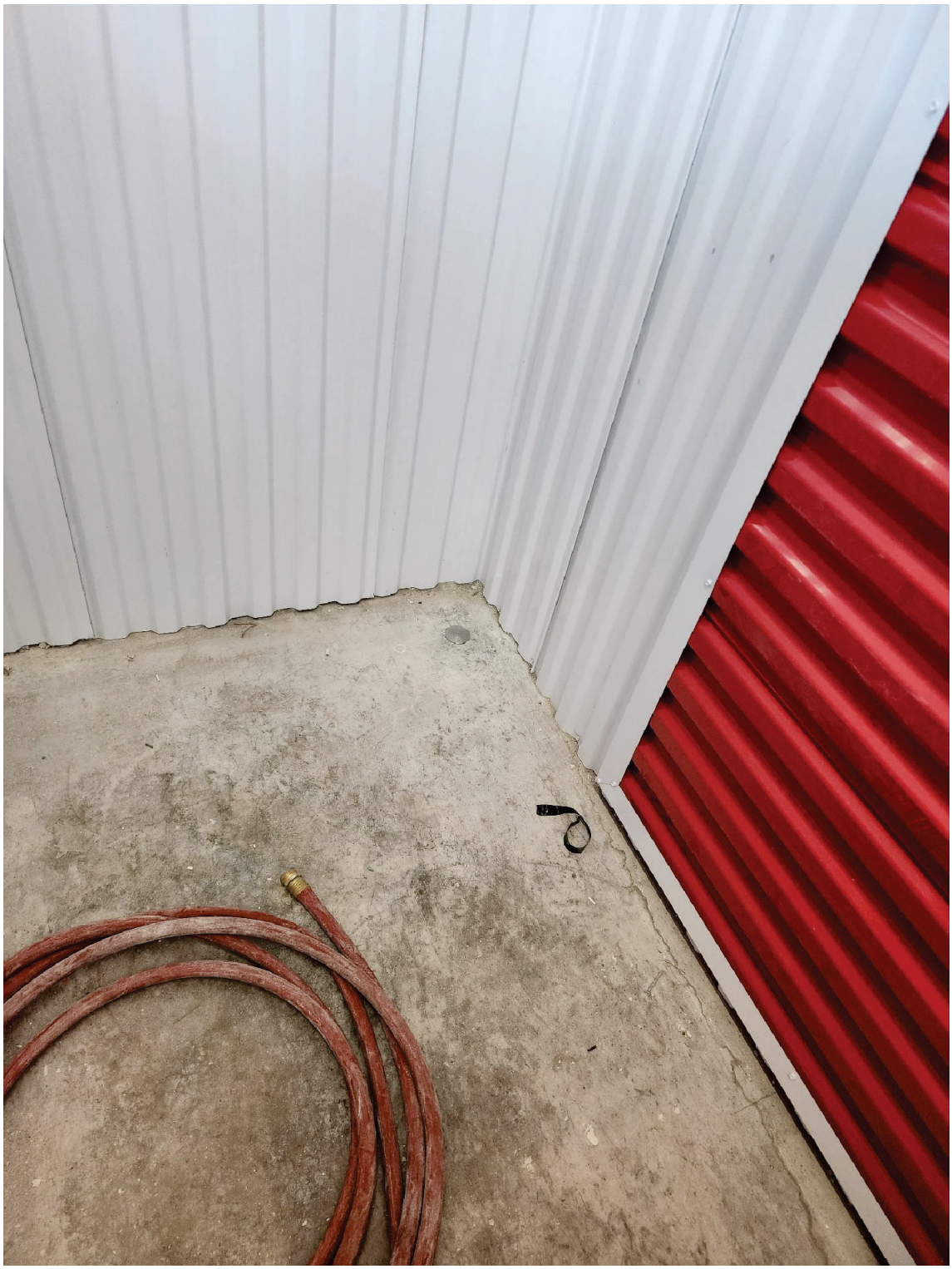
NORTH

See Attached Figures

# ATTACHMENT B
# Photographs

04/29/25 – Roof mounted SSDS Vacuum Blower

04/29/25 – Typical SSDS Extraction Point (SSD-1) including pipe riser, control valve, and vacuum gauge.



04/29/25 – Typical Vacuum Monitoring Point (VMP) Installation (VMP-2).

04/29/25 – Typical Low Vacuum Alarm mounted to building interior wall @ Extraction Point SSD-1.

04/29/25 – Example of typical riser and overhead cast iron system piping.

# ATTACHMENT C
# As-Built Figures

# SUB-SLAB DEPRESSURIZATION SYSTEM

## AS- BUILT: DESIGN FIGURES

SITE LOCATION:
SELF STORAGE
350 BEACH 79TH STREET
FAR ROCKAWAY, NEW YORK 11693

PREPARED FOR::
ANCHOR QEA ENGINEERING, PLLC
1201 3RD AVENUE, SUITE 2600
SEATTLE, WASHINGTON 98101

MAY 2025

PREPARED BY:
ENVIROTRAC ENGINEERING PE PC
5 OLD DOCK ROAD
YAPHANK, NEW YORK 11980

PROJECT ENGINEER

ENVIROTRAC ENGINEERING, PE PC
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SEAL AND SIGNATURE

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NY Lic. No. 081035

DRAWN/REVISED BY: DK
REVISION DATE: MAY 9, 2025
REVISION No.: AS-BUILT

DRAWING TITLE

AS-BUILT: TITLE SHEET

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SUITE 2600
SEATTLE, WA 98101

PROJECT SITE

SELF STORAGE
350 BEACH 79TH STREET
FAR ROCKAWAY, NY 11693

FIGURE NO.

SSDS-001.00

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NOTES:

1. VAPOR COLLECTION PIPING: 4 INCH DIAMETER SCHEDULE 40 PVC PERFORATED OR SLOTTED (0.02" SLOT) PIPING SHALL BE USED FOR THE SUBSURFACE EXTRACTION POINTS TO BE INSTALLED BELOW THE CONCRETE SLAB. A 4" SCHEDULE 40 PVC DOME CAP SHALL BE INSTALLED AT THE END OF EACH LEG.

2. SSD VENT PIPING:
   - 2.1. SUB-SURFACE SOLID PIPING: 4 INCH DIAMETER SCHEDULE 40 PVC PIPE SHALL BE CONNECTED TO THE VAPOR COLLECTION PIPING/EXTRACTION POINTS VIA A 4 INCH DIAMETER COUPLING OR 90 DEG ELBOW FITTING, LOCATED AT THE TOP OF EACH EXTRACTION POINT. EACH LEG OF THE VENT PIPING WILL BE EXTENDED TO A DESIGNATED LOCATION IN THE NEAR VICINITY OF AN EXISTING INTERIOR WALL OR COLUMN. ALL PIPE AND FITTING CONNECTIONS SHALL BE EITHER SOLVENT WELD OR THREADED CONNECTIONS.
   - 2.2. ABOVE GRADE PIPING: ALL EXPOSED ABOVE GRADE VENT PIPE SHALL BE CAST IRON, NO-HUB PIPE AND FITTINGS. ALL PIPE AND FITTING CONNECTIONS SHALL BE NEOPRENE FLEXIBLE COUPLINGS WITH STAINLESS STEEL BANDS. THIS PIPING SHALL BE EXTENDED VERTICALLY THOUGH THE BUILDING FIRST FLOOR CONCRETE FLOOR SLAB. EACH PIPING ZONE HEADER SHALL BE ROUTED ALONG THE BUILDING FIRST FLOOR CEILING AND ROUTE VERTICALLY THROUGH THE BUILDING PIPE CHASE TO THE DESIGNATED BLOWER LOCATION. THE PIPING RISER SHALL EXTEND THROUGH THE ROOF INTO THE INLET OF THE ROOF MOUNTED BLOWER. THE EXHAUST PIPING SHALL TERMINATE AT LEAST 2 FEET ABOVE THE SURFACE OF THE ROOF, IN A LOCATION AT LEAST 10 FEET AWAY FROM ANY WINDOW OR OTHER OPENING INTO THE CONDITIONED SPACES OF THE BUILDING THAT IS LESS THAN 2 FEET BELOW THE EXHAUST POINT, AND 10 FEET AWAY FROM ANY ADJOINING OR ADJACENT BUILDING.

3. IN BUILDINGS DESIGNED WITH INTERIOR FOOTINGS OR OTHER BARRIERS TO LATERAL FLOW OF SUB-SLAB SOIL GAS, VENT PIPES SHALL BE INSTALLED IN EACH ISOLATED, NON-CONNECTED FLOOR AREA. IF MULTIPLE VENT POINTS ARE USED IN NON-CONNECTED FLOOR AREAS, VENT PIPES ARE PERMITTED TO BE MANIFOLDED BELOW THE FLOOR SLAB INTO A SINGLE VENT.

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5. TO RETARD SOIL GAS ENTRY, SMALLER GAPS AROUND ALL PIPES, WIRE, OR OTHER OBJECTS THAT PENETRATE THE CONCRETE SLAB OR OTHER FLOOR ASSEMBLY SHALL BE MADE AIRTIGHT WITH AN ELASTOMER JOINT SEALANT OR POLYETHYLENE TAPE, AS DEFINED IN ASTM C920-87, AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

6. TO RETARD SOIL GAS ENTRY ALL CONTROL JOINTS, ISOLATION JOINTS AND ANY OTHER JOINTS IN CONCRETE SLABS OR BETWEEN SLABS AND FOUNDATION WALLS SHALL BE SEALED. A CONTINUOUS FORMED GAP "TOOLED EDGE" WHICH ALLOWS THE APPLICATION OF A SEALANT THAT WILL PROVIDE A CONTINUOUS, AIRTIGHT SEAL SHALL BE CREATED ALONG ALL JOINTS. WHEN THE SLAB HAS CURED, THE GAP WILL BE CLEARED OF ANY LOOSE MATERIAL AND FILLED WITH AN ELASTOMER JOINT SEALANT, AS DEFINED IN ASTM C920-87, AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

7. CONCRETE MASONRY FOUNDATION WALLS BELOW THE GROUND SURFACE SHALL BE CONSTRUCTED TO MINIMIZE THE TRANSPORT OF SOIL GAS FROM THE SOIL TO THE BUILDING. HOLLOW BLOCK MASONRY WALLS SHALL BE SEALED AT THE TOP TO PREVENT THE PASSAGE OF AIR FROM THE INTERIOR OF THE WALL TO THE LIVING SPACE. AT A MINIMUM, ONE COURSE OF SOLID MASONRY, ONE COURSE OF MASONRY GROUTED SOLID, OR A POURED CONCRETE BEAM AT OR ABOVE THE FINISHED GROUND SURFACE LEVEL SHALL BE USED FOR THIS PURPOSE. WHERE A BRICK VENEER OR OTHER MASONRY LEDGE IS INSTALLED, THE COURSE IMMEDIATELY BELOW THAT LEDGE SHALL ALSO BE SEALED.

8. JOINTS, CRACKS, OR OTHER OPENINGS AROUND ALL PENETRATIONS OF BOTH EXTERIOR AND INTERIOR SURFACES OF MASONRY BLOCK WALLS BELOW THE GROUND SURFACE SHALL BE SEALED WITH AN ELASTOMETRIC SEALANT THAT PROVIDES AN AIRTIGHT SEAL. PENETRATIONS OF POURED CONCRETE WALLS SHALL ALSO BE SEALED ON THE EXTERIOR SURFACE. THIS INCLUDES SEALING OF WALL TIE PENETRATIONS.

9. ALL EXPOSED AND VISIBLE INTERIOR SSD VENT PIPES SHALL BE IDENTIFIED WITH AT LEAST ONE LABEL ON EACH FLOOR LEVEL. THE LABEL SHALL READ: "ACTIVE VAPOR MITIGATION SYSTEM".

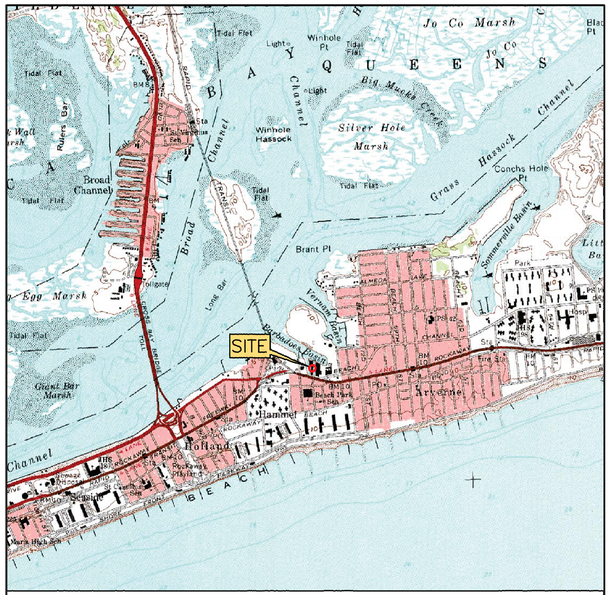
10. VENTILATION FAN(S): THE IN-LINE VACUUM BLOWER SHALL BE INSTALLED NEAR THE ROOF OF THE PROPOSED BUILDING AS DEPICTED IN THE "BLOWER AND ROOF PIPING DETAIL". THE FAN SHALL BE INSTALLED AS PER THE MANUFACTURER'S INSTRUCTIONS. A 110V, 1-PHASE, ELECTRICAL DISCONNECT SWITCH SHALL BE SUPPLIED AND INSTALLED BY A LICENSED ELECTRICIAN IN ACCORDANCE WITH ALL APPLICABLE LOCAL ELECTRICAL CODES. EACH VACUUM BLOWER SHALL BE CAPABLE OF PRODUCING A MINIMUM OF 95 CFM @ 3"H2O VACUUM. THE VACUUM BLOWER SHALL BE A RADONAWAY PRO SERIES RADON FAN, MODEL NO. GX5A, MANUFACTURED BY RADONAWAY INC, WARD HILL, MA, OR EQUAL.

11. SYSTEM INDICATOR: A VACUUM GAUGE SHALL BE INSTALLED 0N EACH LEG OF THE VAPOR VENT PIPING IN ORDER TO PROVIDE A VISUAL INDICATION OF THE SYSTEM OPERATION. THE VACUUM GAUGE SHALL BE INSTALLED AT THE LOWEST ACCESSIBLE LOCATION OF EACH MANIFOLD LEG IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE VACUUM GAUGES WILL BE 2-1/2" DIAL, LOW VACUUM DIAPHRAGM GAUGES, 1.5% FULL SCALE ACCURACY. THE VACUUM GAUGES SHALL BE DWYER SERIES LPG4 LOW PRESSURE GAUGE, 0 TO 10" H2O RANGE, MODEL NO. LPG4-D7122N, MANUFACTURED BY DWYER INSTRUMENTS, MICHIGAN CITY, IN.

12. VACUUM ALARM: ONE (1) VACUUM ALARM SHALL BE INSTALLED IN ORDER TO PROVIDE AN AUDIBLE AND VISUAL ALARM IN THE EVENT THE VACUUM FAN SHUTS DOWN AND THERE IS A LOSS OF VACUUM WITHIN THE SYSTEM PIPING. THE ALARM UNIT SHALL CONNECT TO THE PROCESS PIPING VIA A $\frac{1}{4}$" DIAMETER FLEXIBLE POLYETHYLENE TUBE AND POWERED THROUGH A 110V ELECTRICAL OUTLET. THE ALARM UNIT SHALL BE A MODEL GBR25-R, PRESSURE GAUGE / ALARM, MANUFACTURED BY OBAR SYSTEMS, INC.THE VACUUM ALARM UNIT SHALL BE EQUIPPED WITH AN APPROPRIATELY SIZED UNINTERRUPTED POWER SOURCE (UPS) BATTERY BACKUP TO INSURE PROPER ALARM OPERATION DURING A SYSTEM POWER INTERRUPTION.

13. VACUUM MONITORING POINTS: VACUUM TEST POINTS SHALL BE INSTALLED AT A MINIMUM OF TWO (2) LOCATIONS IN THE CONCRETE SLAB FOR THE PURPOSE OF TESTING THE EFFECTIVENESS OF THE SSD SYSTEM. THE VAPOR MONITORING POINTS SHALL BE DRILLED-IN-PLACE STAINLESS STEEL VAPOR PIN INSERTS. EACH MONITORING POINT SHALL BE CAPPED USING A SCREW IN PLACE FLUSH MOUNT STAINLESS STEEL COVER. EACH VAPOR PIN SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDED INSTALLATION INSTRUCTIONS. MONITORING POINTS SHALL BE STAINLESS STEEL VAPOR PINS (MODEL VPIN0522SS) AND FLUSH MOUNTED STAINLESS STEEL SECURE COVER MANUFACTURED BY COX COLVIN, PLAIN CITY, OH.

14. ALL COMPONENTS OF THE SUB SLAB DEPRESSURIZATION SYSTEM SHALL BE IN ACCORDANCE WITH ASTM E1465-06 "STANDARD PRACTICE FOR RADON CONTROL OPTIONS FOR THE DESIGN AND CONSTRUCTION OF NEW LOW-RISE RESIDENTIAL BUILDINGS" AND NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, (NYSDEC), DER-10 "TECHNICAL GUIDANCE FOR SITE INVESTIGATION AND REMEDIATION".




| FIGURE # | SITE LOCATION MAP<br>350 BEACH 79th STREET<br>FAR ROCKAWAY, NEW YORK | DRAWN BY: B.S.<br>REVISION DATE: 8/15/2024 | EnviroTrac<br>ENVIRONMENTAL SERVICES<br>5 OLD DOCK ROAD, YAPHANK, NEW YORK 11980<br>PHONE: (631)924–3001 FAX: (631)924–5001 |
|---|---|---|---|

| DRAWING INDEX | |
|---|---|
| DWG. No. | TITLE |
| SSDS-001.00 | TITLE SHEET |
| SSDS-002.00 | DRAWING INDEX, SITE LOCATION, ABBREVIATIONS AND NOTES |
| SSDS-003.01 | SITE PLAN - SSDS LAYOUT |
| SSDS-003.02 | SITE PLAN - SSDS LAYOUT |
| SSDS-004.00 | MISCELLANEOUS DETAILS |

| ABBREVIATIONS | |
|---|---|
| SSDS | SUB-SLAB DEPRESSURIZATION SYSTEM |
| DWG | DRAWING |
| GFCI | GROUND FAULT CIRCUIT INTERRUPTER |
| VMP | VACUUM MONITORING POINT |
| SCH | SCHEDULE |
| TYP | TYPICAL |

PROJECT ENGINEER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Dale C. Konas, PE
NY Lic. No. 081035

DRAWN/REVISED BY: DK
REVISION DATE: MAY 9, 2025
REVISION No.: AS-BUILT

DRAWING TITLE

AS-BUILT:
DRAWING INDEX, SITE LOCATION, ABBREVIATIONS AND NOTES

PREPARED FOR

ANCHOR QEA ENGINEERING, PLLC
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SEATTLE, WA 98101

PROJECT SITE

SELF STORAGE
350 BEACH 79TH STREET
FAR ROCKAWAY, NY 11693

FIGURE NO.

SSDS-002.00


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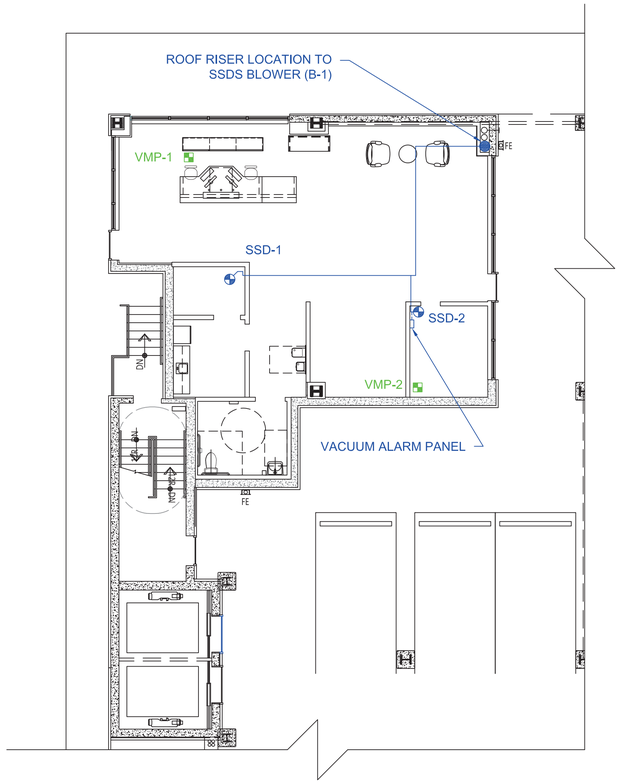
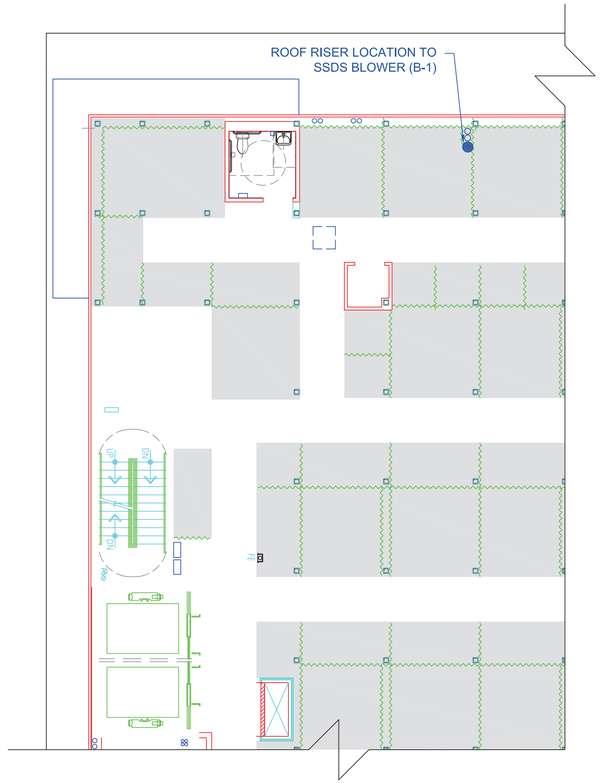
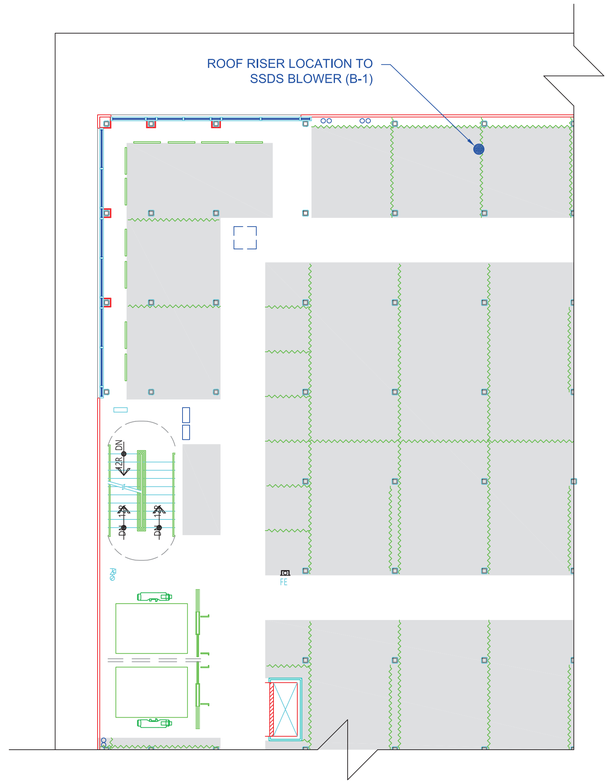



SSDS PLAN VIEW - GROUND FLOOR




SSDS PLAN VIEW - 1ST FLOOR




SSDS PLAN VIEW - 2ND FLOOR

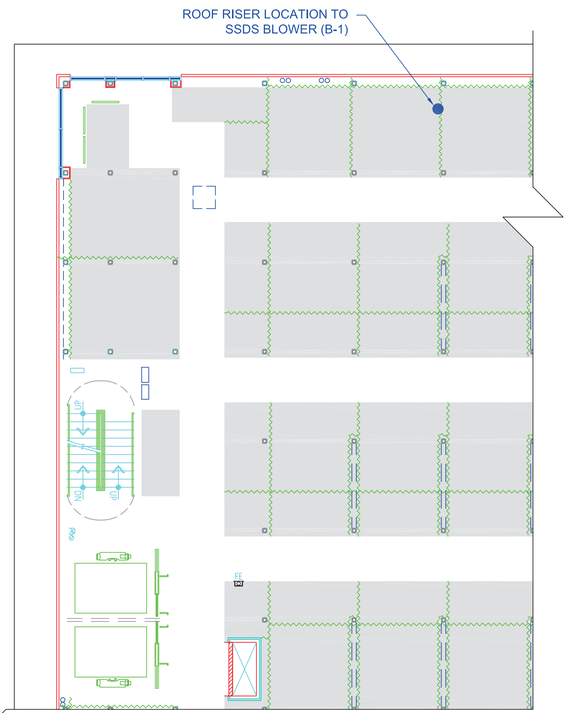
north

LEGEND:

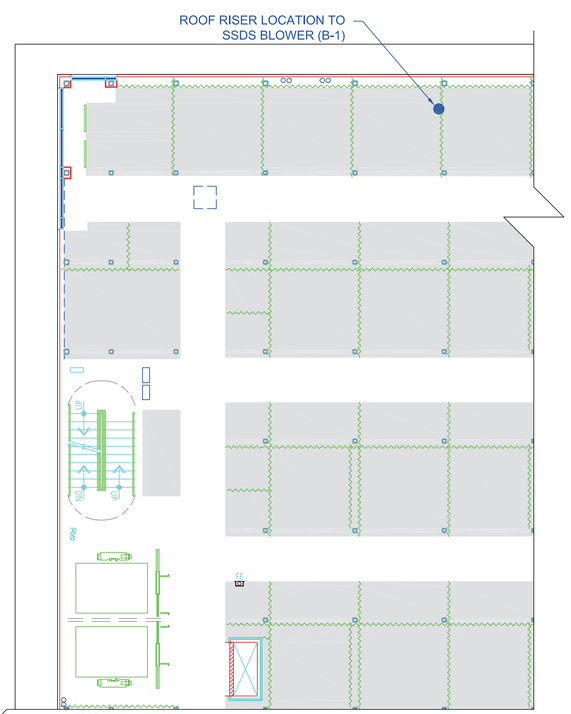
- SSDS EXTRACTION POINT
- PIPE RISER TO ROOF
- VACUUM MONITORING POINT (VAPOR PIN)
- SSDS OVERHEAD PIPING
- VACUUM ALARM SIGNAL CABLE

0 8'

SCALE: 1"=8'




SSDS PLAN VIEW - 3RD FLOOR




SSDS PLAN VIEW - 4TH FLOOR

PROJECT ENGINEER

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REVISION No.: AS-BUILT

DRAWING TITLE

AS-BUILT:
SITE PLAN - SSDS LAYOUT

PREPARED FOR

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PROJECT SITE

SELF STORAGE
350 BEACH 79TH STREET
FAR ROCKAWAY, NY 11693

FIGURE NO.

SSDS-003.01

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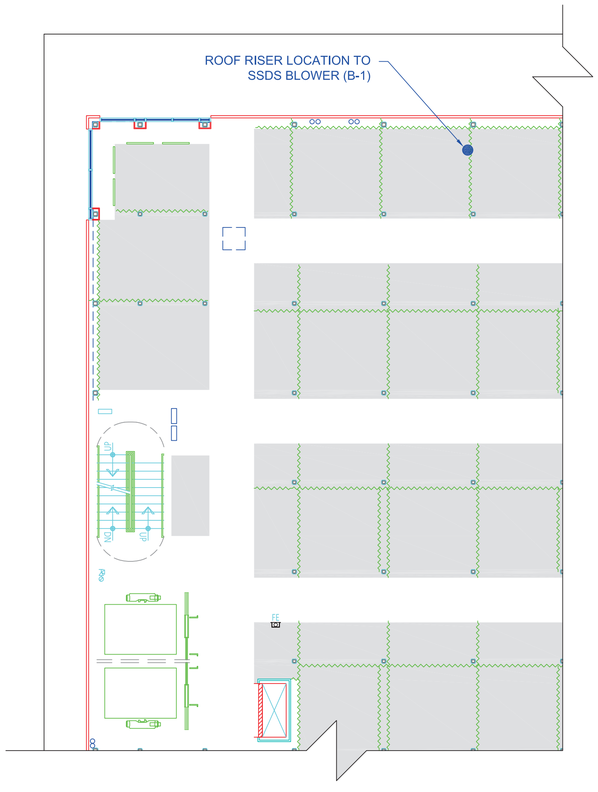
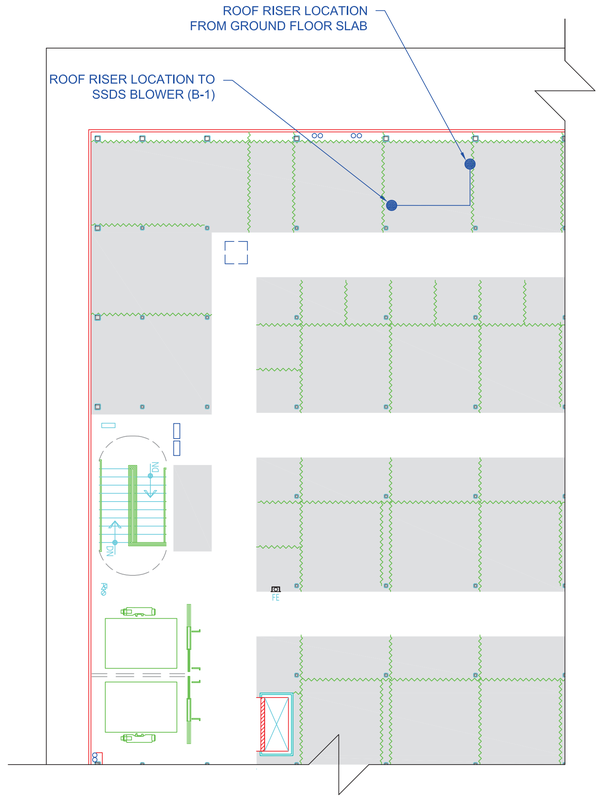
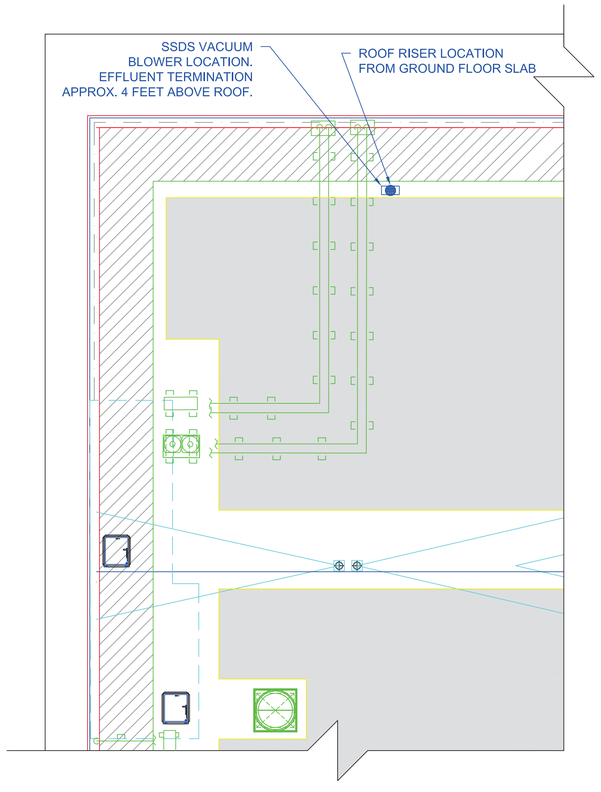



SSDS PLAN VIEW - 5TH FLOOR




SSDS PLAN VIEW - 6TH FLOOR




SSDS PLAN VIEW - ROOF

LEGEND:

- SSDS EXTRACTION POINT
- PIPE RISER TO ROOF
- VACUUM MONITORING POINT (VAPOR PIN)
- SSDS HEADER PIPING
- VACUUM ALARM SIGNAL CABLE

0 8'

SCALE: 1"=8'

PROJECT ENGINEER

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REVISION DATE: MAY 9, 2025
REVISION No.: AS-BUILT

DRAWING TITLE

AS-BUILT:
SITE PLAN - SSDS LAYOUT

PREPARED FOR

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PROJECT SITE

SELF STORAGE
350 BEACH 79TH STREET
FAR ROCKAWAY, NY 11693

FIGURE NO.

SSDS-003.02

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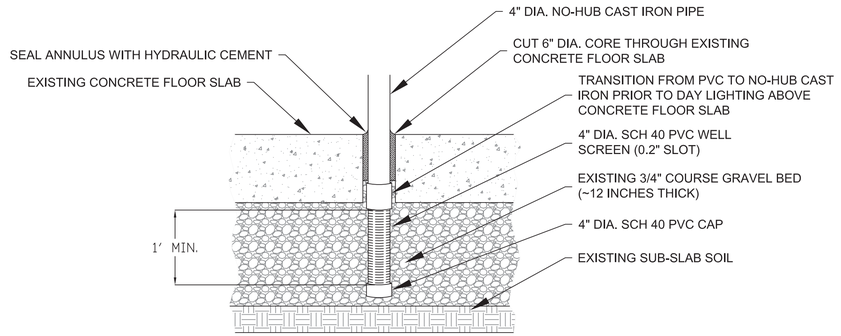
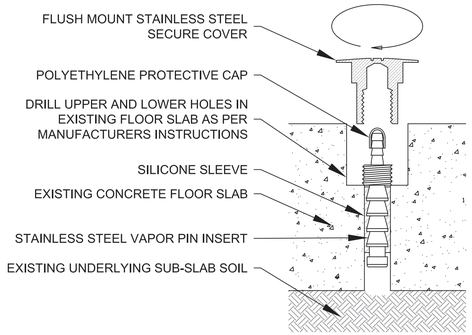
## EXTRACTION POINT DETAIL

(SSDS-1 & SSDS-2) NOT TO SCALE



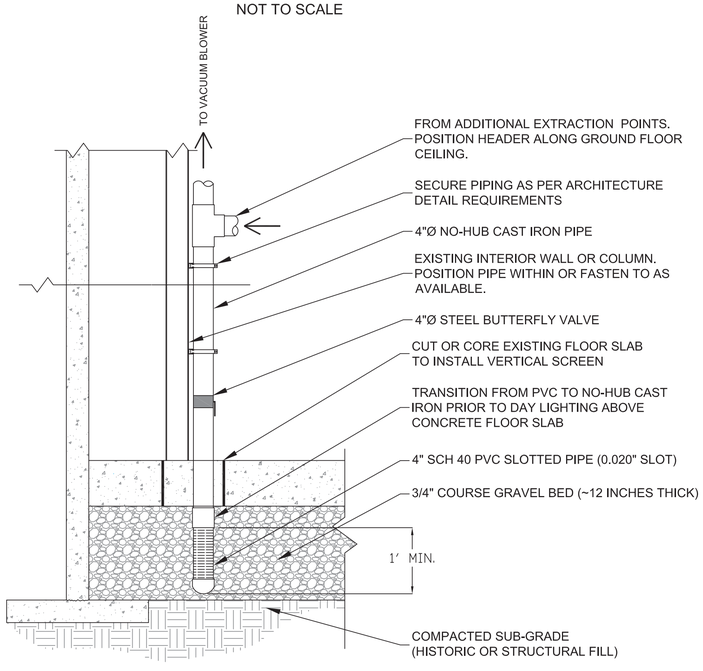

## VAPOR / VACUUM MONITORING POINT

NOT TO SCALE




## RISER PIPE DETAIL

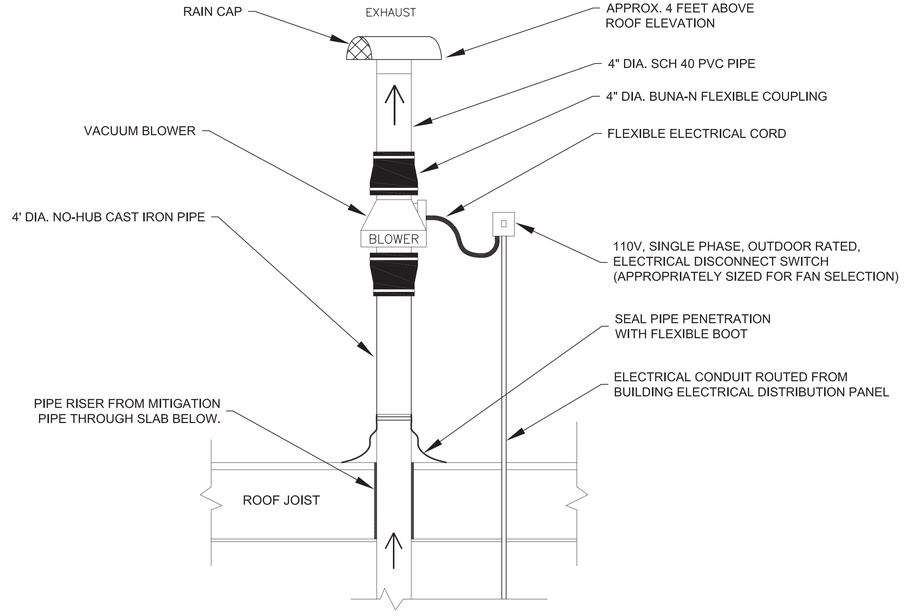
NOT TO SCALE




NOTE: BUILDING DETAILS SHOWN FOR CONCEPTUAL PURPOSES ONLY. NOT TO BE USED FOR STRUCTURAL OR ARCHITECTURAL PURPOSES.

## BLOWER AND ROOF PIPING DETAIL

NOT TO SCALE




NOTE: BUILDING DETAILS SHOWN FOR CONCEPTUAL PURPOSES ONLY. NOT TO BE USED FOR STRUCTURAL OR ARCHITECTURAL PURPOSES.

NOTES:
A. BUILDING DETAILS SHOWN FOR CONCEPTUAL PURPOSES ONLY. NOT TO BE USED FOR STRUCTURAL OR ARCHITECTURAL PURPOSES.
B. VACUUM BLOWER/FAN MAKE/MODEL: RADONAWAY INC, MODEL NO. GX4
C. VACUUM ALARM(S) MAKE/MODEL: OBAR SYSTEMS INC, MODEL NO. GBR25-R

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REVISION No.: AS-BUILT

DRAWING TITLE

AS-BUILT:
MISCELLANEOUS DETAILS

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PROJECT SITE

SELF STORAGE
350 BEACH 79TH STREET
FAR ROCKAWAY, NY 11693

FIGURE NO.

SSDS-004.00

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# APPENDIX K – OPERATION, MAINTENANCE, AND MONITORING MANUALS

# SUBSLAB DEPRESSURIZATION SYSTEM OPERATION, MAINTENANCE, AND MONTORING REPORT - EXISTING BUILDING (350 BEACH 79TH STREET)

## PREPARED BY ENVIROTRAC LTD.

# SUBSLAB DEPRESSURIZATION SYSTEM OPERATIONS & MAINTENANCE (O&M) MANUAL

**350 Beach 79th St**
**Far Rockaway, NY 11693**

**Report Date:**
**January 2025**

**Submitted to:**
**New York State Department of Environmental Conservation**
**625 Broadway, 11th Floor**
**Albany, New York 12233-7014**

**Prepared for:**
**Anchor QEA Engineering, PLLC**
**1201 3rd Avenue**
**Suite 2600**
**Seattle, WA 98101**

**Prepared by:**
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*A Full Service Environmental Consulting and Contracting Firm*

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*Operating Principals* ..... 2
*System Components* ..... 2
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*Pre-Startup* ..... *3*
*System Startup* ..... 3
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**FIGURE:**

Figure 001.00 – Title Sheet - As-Built
Figure 002.00 – Drawing Index – As-Built
Figure 003.00 – Site Plan – As-Built
Figure 004.00 – Miscellaneous Details – As-Built

**APPENDIX A**

- Extraction Blower Manufacturer Instructions / Information
- Alarm Specification / Instructions
- Vacuum Gauges

## SYSTEM DESCRIPTION

### *General Description*

Three (3) active sub-slab depressurization systems (SSDSs) have been designed and installed to prevent indoor air intrusion of Chlorinated volatile organic compound (CVOCs) vapors encountered during previous site investigation activities within the single story commercial building located at 350 Beach 79th Street, Far Rockaway, NY 11693.

The following text describes the start up, testing and operation for the SSDSs.

The SSDSs are comprised of a total of three (3) vacuum blowers that are connected to a network of piping that is used to induce a vacuum using fifteen (15) SSDS suction points (SSD-1 through SSD-15) that were installed in the slab throughout the commercial space in the Lot 14 building. The vacuum provides a negative pressure gradient under the entire extent of the building floor slab, thereby eliminating the potential for soil vapor to migrate into the occupiable portion of the building.

*System Design and Installation*

The suction points are constructed of 4-inch diameter schedule 40 PVC and consist of 1-foot of 0.02-slotted schedule 40 PVC screen, located beneath the concrete slab floor within the building. The PVC extraction points were each then transitioned to cast iron pipe below the floor slab and sealed with hydraulic cement to the existing slab on grade. Each SSDS suction point cast iron riser pipe is routed up an existing wall or interior column and then along the building ceiling. The SSDS piping within each system is then manifolded together before exiting the building. The manifolded piping exits the building at Unit 1 (B-1) along Northern wall, Unit 3 (B-2) along western exterior wall, and Unit 6 (B-3) along western exterior wall. The exterior pipes, which are constructed of 4-inch cast iron piping, are routed and connected to a total of three (3) vacuum blowers. B-1 is located on the roof of Unit 1, B-2 is located on the western exterior wall of Unit 3, B-3 is located on the western exterior wall of unit 6. The effluent connections of the blowers were piped upward and discharges approximately four (4) feet above each roof line.

The vacuum blowers utilized for the building at 350 Beach 79th St are model GBR76 UD compact radial blower, manufactured by OBAR Systems Inc and can produce a maximum vacuum of 40” WC and a Max flow rate of 195 CFM. The GBR76 UD blowers consists of an integral enclosure rated for indoor/outdoor use and an internal condensate bypass. Electrical power is provided to the blowers via the existing electrical service, which consists of three (3) new 20A GFCI circuit breakers added to the existing distribution panel, located within existing second floor office of the building. An outdoor rated 110V electrical switch with a weather resistant cover was installed adjacent to

each vacuum blower to provide power. In order to monitor system operation, each system header is equipped with a GBR25R vacuum alarm/Indicators, manufactured by Obar Systems Inc..

### *Operating Principals*

The suction point blowers, when operated, are designed to induce a negative pressure via the installed depressurization pipes located beneath the building floor slab. This induced negative pressure causes any migrating soil vapors to follow the new pressure gradient toward the depressurization point(s) and to then be extracted through the system piping and to ultimately be discharged to the building exterior.

### *System Components*

The major components of the SSDSs consist of three (3) extraction blowers and depressurization piping below the concrete slab of the commercial building at 350 Beach 79th St, Far Rockaway, NY 11693, Lot 14. Each riser pipe is equipped with a vacuum gauge used to monitor the applied sub-slab vacuum. An alarm warning device is connected to the riser piping and will sound when the blowers are not operational. Manufacturer's manuals and cut sheet for each of the system's major components can be seen in **Appendix A**.

## OPERATING PROCEDURES

### *System Startup*

Pre-Startup

Prior to the safe and successful startup of the SSD systems it is important to verify the following items.

- Verify that the electrical service connection is switched **OFF** at the system circuit breaker located in the electrical service distribution panel. The electrical service connections for all three (3) blowers were connected to the existing electrical panel in the 2nd floors office in Unit 7. Prior to any repairs or modifications to the systems, the electrical service should be disconnected using the proper lock out/tag out procedures and should only be conducted by qualified personnel.

- Verify that the blower power switches are in the **OFF** position. The switches are located on the side of each corresponding roof mounted SSDS blower. Prior to any repairs or modifications to the systems, the electrical service should be disconnected using the proper lockout/tag out procedures and should only be conducted by qualified personnel.

- Verify that all components are installed correctly and are in good working order, including the blowers, piping, depressurization points, and all instrumentation. Any defects or damage should be repaired or replaced prior to the startup of the system.

- Verify that all electrical connections are properly and securely connected to the SSDS components. All electrical components should be clean and free of any damage or defects. Verify that the electrical connections are of the proper voltage and power requirement for the installed blowers.

- Verify that the system discharge stacks are free of any debris that might cause any excessive back pressure on the systems.

### *System Startup*

The following procedure should be followed during each startup for each of the SSDSs and should be conducted only after the “Pre-startup” items have been completed.

1. Verify that all of the steps outlined above in the “Pre-startup” section have been successfully completed.

2. Verify that the electrical service connections are switched **ON** at the system circuit breakers located in the electrical service distribution panel (electrical panel is located in the 2nd floor office in Unit 7 for the SSDS blowers).

3. Toggle each blower power switch to the **ON** position. Each corresponding blower should start up at this point. Take note that the blowers are operating correctly by noting if there is any excessive noise and that the inlet vacuum is within the normal operating range of the installed blowers. Normal operating vacuum should range from 10 - 40 inches of water column for the GBR76UD blower, which can be read using the vacuum gauges located on the face of each blower. Note, if the blowers are not operating correctly, unplug the blowers and make the proper repairs.

4. Once the systems are operating, take note of the operating vacuum at the extraction blowers using the vacuum gauge or handheld meter. This reading will be used as a baseline to determine if the systems are operating correctly in the future.

***System Shutdown***

During the shutdown of each system the steps outlined below should be followed:

1. Toggle each SSDS blower power switch to the **OFF** position. Verify that the motors have stopped. This can be confirmed by both sound and by checking that the vacuum gauges registering no vacuum in the pipe headers.

2. In the event that the systems are being shut down for maintenance or repairs, the circuit breakers should be properly disconnected using the appropriate lock out / tag out procedures (electrical panel is located in the 2nd floor office in Unit 7 for the SSDS blowers).

3. Verify that there is zero vacuum at the suction pits using the installed vacuum gauges.

***Maintenance***

During each maintenance event the following should be noted:

<u>Blower</u>

- The blowers are spinning correctly and free of any excess noise.

- The blowers are free of any damage or debris.

- The blowers are generating the proper amount of flow and vacuum. This can be determined by reading the installed vacuum gauges and comparing these readings with the readings collected during system startup.

- Note: The blowers are designed to operate continuously without any routine maintenance or lubrication.

Instrumentation (vacuum gauge)

- Verify that the vacuum gauges are free of any damage and are properly connected to the system piping.

- Verify that the vacuum gauges are registering an adequate amount of vacuum at each of the suction pit and at each blower.

- If any of the gauges require replacement, additional units can be purchased through the manufacturer listed in **Appendix A**.

Alarm Panel

- Verify that each alarm panel is correctly reading the line vacuum on the panel display.

- Verify that the flexible tubing that is connected to the system piping is connected properly and free of any damage or excessive wear.

- Verify the operation of each alarm panel by disconnecting the vacuum tubing from the system piping while the vacuum blower is operational. Once disconnected, the alarm LED should turn **RED,** and the alarm annunciator should trigger. To reset the alarm, reconnect the vacuum tubing to the system piping connection.

Miscellaneous

- Verify that the discharge stacks located on the building roof are free of any debris.

- Verify that all piping, suction pits, and any other components are clean and free of any damage that may have occurred; and

- Verify that the system piping is clear of any condensation that may have accumulated during operation. In the event that condensation has collected, it can be cleared by shutting down the systems and letting the condensation drain. The systems have been designed to allow the water to drain back to the suction pits.

In the event that any system degradation has been noted or the alarm warning devices are sounding, the owner's consultant should be contacted for assistance and/or to schedule any system maintenance.

**CONTACT INFORMATION (Building Owner)**

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Oakland Gardens, NY 11364
516-216-9331

**CONTACT INFORMATION (Consultant)**

EnviroTrac LLC
5 Old Dock Road
Yaphank, NY 11980
631-924-3001

## EMERGENCY PROCEDURES

In the event of an emergency requiring the shutdown of the systems, the following procedures should be followed:

1. Toggle each blower power switch to the **OFF** position.

2. In the event that the blower power switches cannot be reached or are inoperable, power may be disconnected directly using the circuit breaker located in the 2nd floor electrical distribution panel.

3. The Owner and the Owners Consultant should be notified.

## SEVERE WEATHER PROCEDURES

In the event of severe weather in which the systems shut down and/or electric is turned off, the systems should be properly shutdown using the above emergency procedures and inspected for signs of damage and any needed repair at least one (1) day following the severe weather event. Please contact the Property Owner or the Property Owner's Consultant to conduct the inspection. Should no damage or repair be required, the systems can be turned back on following the above system startup procedures.

**CONTACT INFORMATION (Building Owner)**
Abingdon Capital, LLC
220-46 73rd Avenue
Oakland Gardens, NY 11364
516-216-9331

**CONTACT INFORMATION (Consultant)**
EnviroTrac LLC
5 Old Dock Road
Yaphank, NY 11980
631-924-3001

***IMPORTANT – IN THE EVENT OF A FIRE OR MEDICAL EMERGENCY, PERSONNEL SHOULD IMMEDIATELY CALL 911 FOR ASSISTANCE.**

## WARRANTEES

- EnviroTrac Ltd. warrantees all workmanship, construction, and operation of all equipment and materials for a period of one (1) year from the date of system completion. This warrantee does not cover any repairs of damage or component malfunctions that are not due to normal operation of the system or individual components; and

- Additionally, the extraction blowers are covered under the manufacturer's warrantee for a period of one (1) year. Details of this warrantee can be seen in the blower literature provided in **Appendix A**.

# FIGURES

# SUB-SLAB DEPRESSURIZATION SYSTEM

DESIGN FIGURES

SITE LOCATION:
350 BEACH 79TH STREET
FAR ROCKAWAY, NEW YORK 11693

PREPARED FOR::
ANCHOR QEA ENGINEERING, PLLC
1201 3RD AVENUE, SUITE 2600
SEATTLE, WASHINGTON 98101

JANUARY 2025

PREPARED BY:
ENVIROTRAC ENGINEERING PE PC
5 OLD DOCK ROAD
YAPHANK, NEW YORK 11980

PROJECT ENGINEER

ENVIROTRAC ENGINEERING, PE PC
5 OLD DOCK ROAD
YAPHANK, NY 11980

SEAL AND SIGNATURE

Dale C. Konas, PE
NY Lic. No. 081035

DRAWN/REVISED BY: BS/DK
REVISION DATE: JANUARY 15, 2025
REVISION No.: AS-BUILT

DRAWING TITLE

AS-BUILT:
TITLE SHEET

PREPARED FOR

ANCHOR QEA ENGINEERING, PLLC
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SUITE 2600
SEATTLE, WA 98101

PROJECT SITE

350 BEACH 79TH STREET
FAR ROCKAWAY, NY 11693

FIGURE NO.

SSDS-001.00

EnviroTrac
ENVIRONMENTAL SERVICES
5 OLD DOCK ROAD, YAPHANK, NEW YORK 11980
PHONE: (631)924-3001 FAX: (631)924-5001

NOTES:

1. VAPOR COLLECTION PIPING: 4 INCH DIAMETER SCHEDULE 40 PVC PERFORATED OR SLOTTED (0.02" SLOT) PIPING SHALL BE USED FOR THE SUBSURFACE EXTRACTION POINTS TO BE INSTALLED BELOW THE CONCRETE SLAB. A 4" SCHEDULE 40 PVC DOME CAP SHALL BE INSTALLED AT THE END OF EACH LEG.

2. SSD VENT PIPING:
   - 2.1. SUB-SURFACE SOLID PIPING: 4 INCH DIAMETER SCHEDULE 40 PVC PIPE SHALL BE CONNECTED TO THE VAPOR COLLECTION PIPING/EXTRACTION POINTS VIA A 4 INCH DIAMETER COUPLING OR 90 DEG ELBOW FITTING, LOCATED AT THE TOP OF EACH EXTRACTION POINT. EACH LEG OF THE VENT PIPING WILL BE EXTENDED TO A DESIGNATED LOCATION IN THE NEAR VICINITY OF AN EXISTING INTERIOR WALL OR COLUMN. ALL PIPE AND FITTING CONNECTIONS SHALL BE EITHER SOLVENT WELD OR THREADED CONNECTIONS.
   - 2.2. ABOVE GRADE PIPING: ALL EXPOSED ABOVE GRADE VENT PIPE SHALL BE CAST IRON, NO-HUB PIPE AND FITTINGS. ALL PIPE AND FITTING CONNECTIONS SHALL BE NEOPRENE FLEXIBLE COUPLINGS WITH STAINLESS STEEL BANDS. THIS PIPING SHALL BE EXTENDED VERTICALLY THOUGH THE BUILDING FIRST FLOOR CONCRETE FLOOR SLAB. EACH PIPING ZONE HEADER SHALL BE ROUTED ALONG THE BUILDING FIRST FLOOR CEILING AND PENETRATE HORIZONTALLY THROUGH THE EXTERIOR WALL IN EACH DESIGNATED BLOWER LOCATION. THE PIPING RISER SHALL EXTEND THROUGH THE ROOF INTO THE INLET OF EACH ROOF MOUNTED BLOWER. THE EXHAUST PIPING SHALL TERMINATE AT LEAST 2 FEET ABOVE THE SURFACE OF THE ROOF, IN A LOCATION AT LEAST 10 FEET AWAY FROM ANY WINDOW OR OTHER OPENING INTO THE CONDITIONED SPACES OF THE BUILDING THAT IS LESS THAN 2 FEET BELOW THE EXHAUST POINT, AND 10 FEET AWAY FROM ANY ADJOINING OR ADJACENT BUILDING.

3. IN BUILDINGS DESIGNED WITH INTERIOR FOOTINGS OR OTHER BARRIERS TO LATERAL FLOW OF SUB-SLAB SOIL GAS, VENT PIPES SHALL BE INSTALLED IN EACH ISOLATED, NON-CONNECTED FLOOR AREA. IF MULTIPLE VENT POINTS ARE USED IN NON-CONNECTED FLOOR AREAS, VENT PIPES ARE PERMITTED TO BE MANIFOLDED BELOW THE FLOOR SLAB INTO A SINGLE VENT.

4. TO RETARD SOIL GAS ENTRY, LARGE OPENINGS THROUGH CONCRETE SLABS OR OTHER FLOOR ASSEMBLIES IN CONTACT WITH THE SOIL, SUCH AS SPACES AROUND BATHTUB, SHOWER, OR TOILET DRAINS, SHALL BE FILLED OR CLOSED WITH MATERIALS THAT PROVIDE A PERMANENT AIRTIGHT SEAL SUCH AS NON-SHRINK MORTAR, GROUTS, EXPANDING FOAM, OR SIMILAR MATERIAL DESIGN FOR SUCH APPLICATION.

5. TO RETARD SOIL GAS ENTRY, SMALLER GAPS AROUND ALL PIPES, WIRE, OR OTHER OBJECTS THAT PENETRATE THE CONCRETE SLAB OR OTHER FLOOR ASSEMBLY SHALL BE MADE AIRTIGHT WITH AN ELASTOMER JOINT SEALANT OR POLYETHYLENE TAPE, AS DEFINED IN ASTM C920-87, AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

6. TO RETARD SOIL GAS ENTRY ALL CONTROL JOINTS, ISOLATION JOINTS AND ANY OTHER JOINTS IN CONCRETE SLABS OR BETWEEN SLABS AND FOUNDATION WALLS SHALL BE SEALED. A CONTINUOUS FORMED GAP "TOOLED EDGE" WHICH ALLOWS THE APPLICATION OF A SEALANT THAT WILL PROVIDE A CONTINUOUS, AIRTIGHT SEAL SHALL BE CREATED ALONG ALL JOINTS. WHEN THE SLAB HAS CURED, THE GAP WILL BE CLEARED OF ANY LOOSE MATERIAL AND FILLED WITH AN ELASTOMER JOINT SEALANT, AS DEFINED IN ASTM C920-87, AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

7. CONCRETE MASONRY FOUNDATION WALLS BELOW THE GROUND SURFACE SHALL BE CONSTRUCTED TO MINIMIZE THE TRANSPORT OF SOIL GAS FROM THE SOIL TO THE BUILDING. HOLLOW BLOCK MASONRY WALLS SHALL BE SEALED AT THE TOP TO PREVENT THE PASSAGE OF AIR FROM THE INTERIOR OF THE WALL TO THE LIVING SPACE. AT A MINIMUM, ONE COURSE OF SOLID MASONRY, ONE COURSE OF MASONRY GROUTED SOLID, OR A POURED CONCRETE BEAM AT OR ABOVE THE FINISHED GROUND SURFACE LEVEL SHALL BE USED FOR THIS PURPOSE. WHERE A BRICK VENEER OR OTHER MASONRY LEDGE IS INSTALLED, THE COURSE IMMEDIATELY BELOW THAT LEDGE SHALL ALSO BE SEALED.

8. JOINTS, CRACKS, OR OTHER OPENINGS AROUND ALL PENETRATIONS OF BOTH EXTERIOR AND INTERIOR SURFACES OF MASONRY BLOCK WALLS BELOW THE GROUND SURFACE SHALL BE SEALED WITH AN ELASTOMETRIC SEALANT THAT PROVIDES AN AIRTIGHT SEAL. PENETRATIONS OF POURED CONCRETE WALLS SHALL ALSO BE SEALED ON THE EXTERIOR SURFACE. THIS INCLUDES SEALING OF WALL TIE PENETRATIONS.

9. ALL EXPOSED AND VISIBLE INTERIOR SSD VENT PIPES SHALL BE IDENTIFIED WITH AT LEAST ONE LABEL ON EACH FLOOR LEVEL. THE LABEL SHALL READ: "ACTIVE VAPOR MITIGATION SYSTEM".

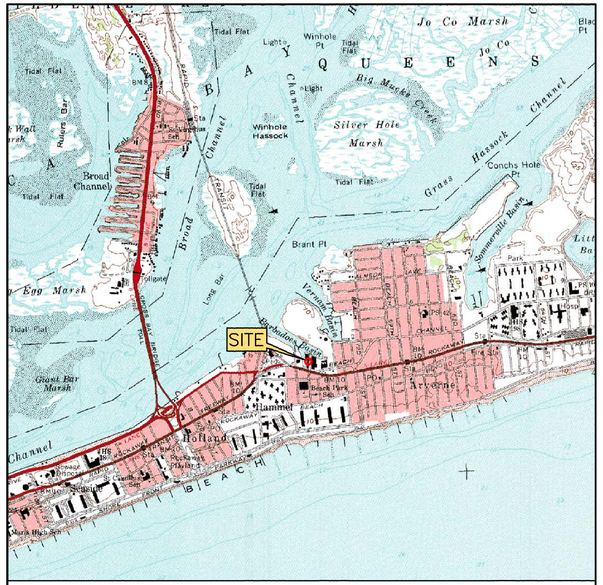
10. VENTILATION FAN(S): EACH OF THE THREE (3) IN-LINE VACUUM BLOWERS SHALL BE INSTALLED NEAR THE ROOF OF THE EXISTING BUILDING AS DEPICTED IN THE "BLOWER AND ROOF PIPING DETAIL". THE FAN SHALL BE INSTALLED AS PER THE MANUFACTURER'S INSTRUCTIONS. A 240 V, 1-PHASE, ELECTRICAL DISCONNECT SWITCH SHALL BE SUPPLIED AND INSTALLED BY A LICENSED ELECTRICIAN IN ACCORDANCE WITH ALL APPLICABLE LOCAL ELECTRICAL CODES. EACH VACUUM BLOWER SHALL BE CAPABLE OF PRODUCING A MINIMUM OF 89 CFM @ 30"H2O VACUUM. EACH VACUUM BLOWER SHALL BE A OBAR COMPACT RADIAL BLOWER, MODEL NO. GBR76-UD, MANUFACTURED BY OBAR SYSTEMS INC, SOUTH NEWFOUNDLAND, NJ, OR EQUAL.

11. SYSTEM INDICATOR: A VACUUM GAUGE SHALL BE INSTALLED 0N EACH LEG OF THE VAPOR VENT PIPING IN ORDER TO PROVIDE A VISUAL INDICATION OF THE SYSTEM OPERATION. THE VACUUM GAUGE SHALL BE INSTALLED AT THE LOWEST ACCESSIBLE LOCATION OF EACH MANIFOLD LEG IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE VACUUM GAUGES WILL BE 2-12" DIAL, LOW VACUUM DIAPHRAGM GAUGES, 1.5% FULL SCALE ACCURACY. THE VACUUM GAUGES SHALL BE DWYER SERIES LPG4 LOW PRESSURE GAUGE, 0 TO 60" H2O RANGE, MODEL NO. LPG4-D7522N, MANUFACTURED BY DWYER INSTRUMENTS, MICHIGAN CITY, IN.

12. VACUUM ALARM: ONE (1) VACUUM ALARM SHALL BE INSTALLED IN ORDER TO PROVIDE AN AUDIBLE AND VISUAL ALARM IN THE EVENT THE VACUUM FAN SHUTS DOWN AND THERE IS A LOSS OF VACUUM WITHIN THE SYSTEM PIPING. THE ALARM UNIT SHALL CONNECT TO THE PROCESS PIPING VIA A $\frac{1}{4}$" DIAMETER FLEXIBLE POLYETHYLENE TUBE AND POWERED THROUGH A 110V ELECTRICAL OUTLET. THE ALARM UNIT SHALL BE A MODEL GBR25-R, PRESSURE GAUGE / ALARM, MANUFACTURED BY OBAR SYSTEMS, INC.

13. VACUUM MONITORING POINTS: VACUUM TEST POINTS SHALL BE INSTALLED AT A MINIMUM OF FIFTEEN (15) LOCATIONS IN THE CONCRETE SLAB FOR THE PURPOSE OF TESTING THE EFFECTIVENESS OF THE SSD SYSTEM. THE VAPOR MONITORING POINTS SHALL BE DRILLED-IN-PLACE STAINLESS STEEL VAPOR PIN INSERTS. EACH MONITORING POINT SHALL BE CAPPED USING A SCREW IN PLACE FLUSH MOUNT STAINLESS STEEL COVER. EACH VAPOR PIN SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDED INSTALLATION INSTRUCTIONS. MONITORING POINTS SHALL BE STAINLESS STEEL VAPOR PINS (MODEL VPIN0522SS) AND FLUSH MOUNTED STAINLESS STEEL SECURE COVER MANUFACTURED BY COX COLVIN, PLAIN CITY, OH.

14. ALL COMPONENTS OF THE SUB SLAB DEPRESSURIZATION SYSTEM SHALL BE IN ACCORDANCE WITH ASTM E 2121-21 "STANDARD PRACTICE FOR RADON MITIGATION SYSTEMS IN EXISTING LOW-RISE RESIDENTIAL BUILDINGS" AND NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, (NYSDEC), DER-10 “TECHNICAL GUIDANCE FOR SITE INVESTIGATION AND REMEDIATION”.




| FIGURE # | SITE LOCATION MAP<br>350 BEACH 79th STREET<br>FAR ROCKAWAY, NEW YORK | DRAWN BY: B.S.<br>REVISION DATE: 8/15/2024 | EnviroTrac ENVIRONMENTAL SERVICES<br>5 OLD DOCK ROAD, YAPHANK, NEW YORK 11980<br>PHONE: (631)924–3001 FAX: (631)924–5001 |
|---|---|---|---|

| DRAWING INDEX | |
|---|---|
| DWG. No. | TITLE |
| SSDS-001.00 | TITLE SHEET |
| SSDS-002.00 | DRAWING INDEX, SITE LOCATION, ABBREVIATIONS AND NOTES |
| SSDS-003.00 | SITE PLAN |
| SSDS-004.00 | MISCELLANEOUS DETAILS |

| ABBREVIATIONS | |
|---|---|
| SSDS | SUB-SLAB DEPRESSURIZATION SYSTEM |
| DWG | DRAWING |
| GFCI | GROUND FAULT CIRCUIT INTERRUPTER |
| VMP | VACUUM MONITORING POINT |
| SCH | SCHEDULE |
| TYP | TYPICAL |

PROJECT ENGINEER

ENVIROTRAC ENGINEERING, PE PC
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SEAL AND SIGNATURE

Dale C. Konas, PE
NY Lic. No. 081035

DRAWN/REVISED BY: BS/DK
REVISION DATE: JANUARY 15, 2025
REVISION No.: AS-BUILT

DRAWING TITLE

AS-BUILT:
DRAWING INDEX, SITE LOCATION, ABBREVIATIONS AND NOTES

PREPARED FOR

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SUITE 2600
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PROJECT SITE

350 BEACH 79TH STREET
FAR ROCKAWAY, NY 11693

FIGURE NO.

SSDS-002.00

EnviroTrac
ENVIRONMENTAL SERVICES
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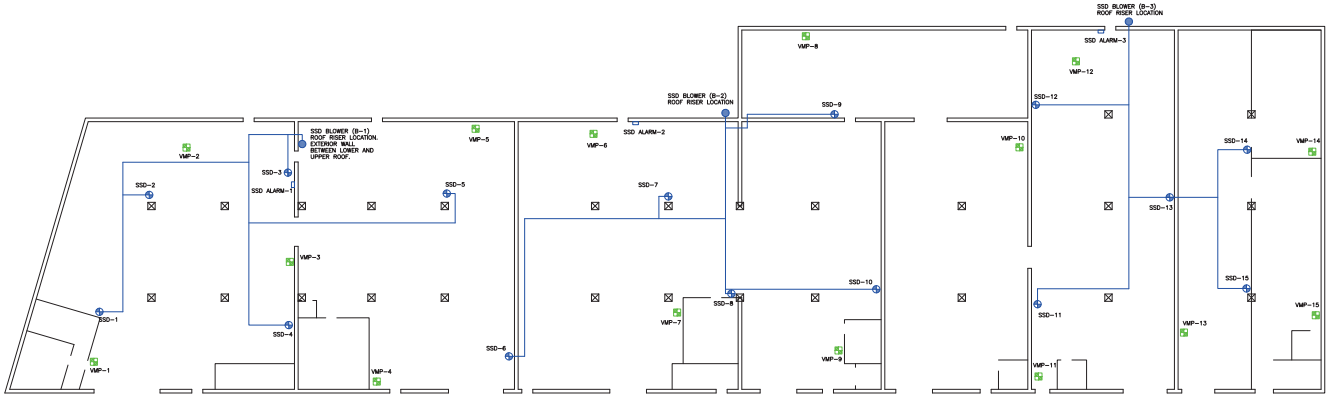
north




LEGEND:

- SSDS EXTRACTION POINT
- PIPE RISER TO ROOF
- VACUUM MONITORING POINT (VAPOR PIN)
- SSDS OVERHEAD PIPING
- SSDS VACUUM ALARM UNIT

0 16′ 32′

SCALE: 1"=16′

PROJECT ENGINEER

ENVIROTRAC ENGINEERING, PE PC
5 OLD DOCK ROAD
YAPHANK, NY 11980

SEAL AND SIGNATURE

STATE OF NEW YORK · DALE C. KONAS · LICENSED PROFESSIONAL ENGINEER · No. 081035

Dale C. Konas, PE
NY Lic. No. 081035

DRAWN/REVISED BY: BS/DK
REVISION DATE: DECEMBER 8, 2025
REVISION No.: AS-BUILT

DRAWING TITLE

AS-BUILT:
SITE PLAN - FIRST FLOOR

PREPARED FOR

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SEATTLE, WA 98101

PROJECT SITE

350 BEACH 79TH STREET
FAR ROCKAWAY, NY 11693

FIGURE NO.

SSDS-003.00

EnviroTrac
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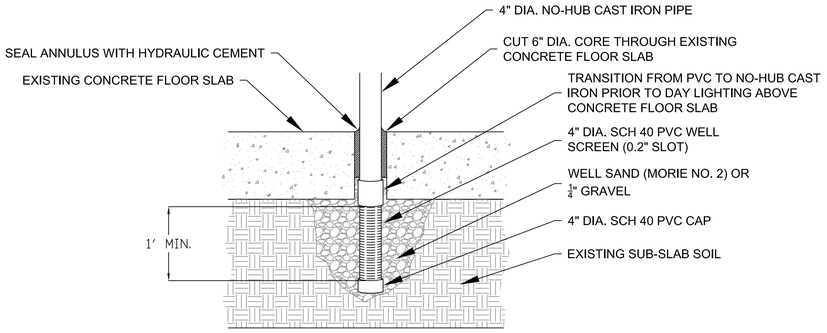
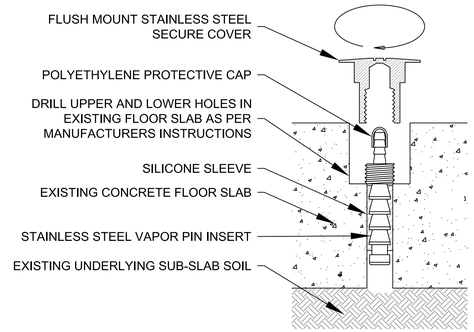
## EXTRACTION POINT DETAIL

(SSDS-1 - SSDS-15) NOT TO SCALE



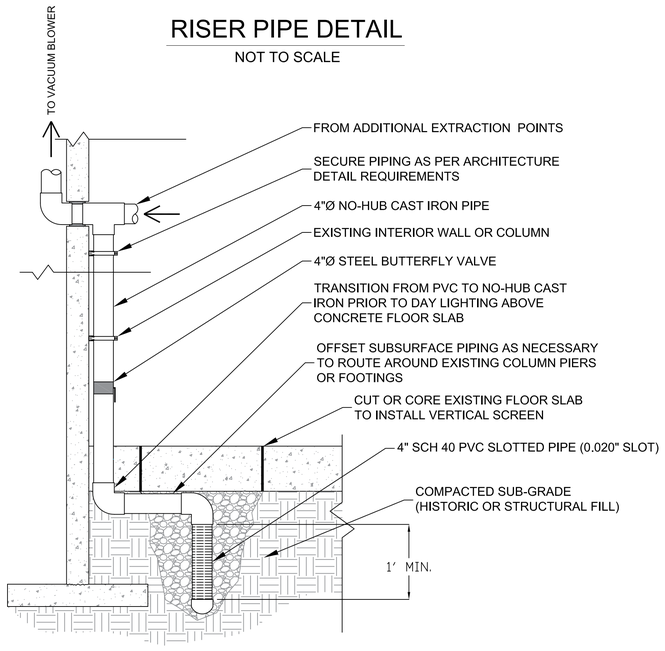

## VAPOR / VACUUM MONITORING POINT

NOT TO SCALE



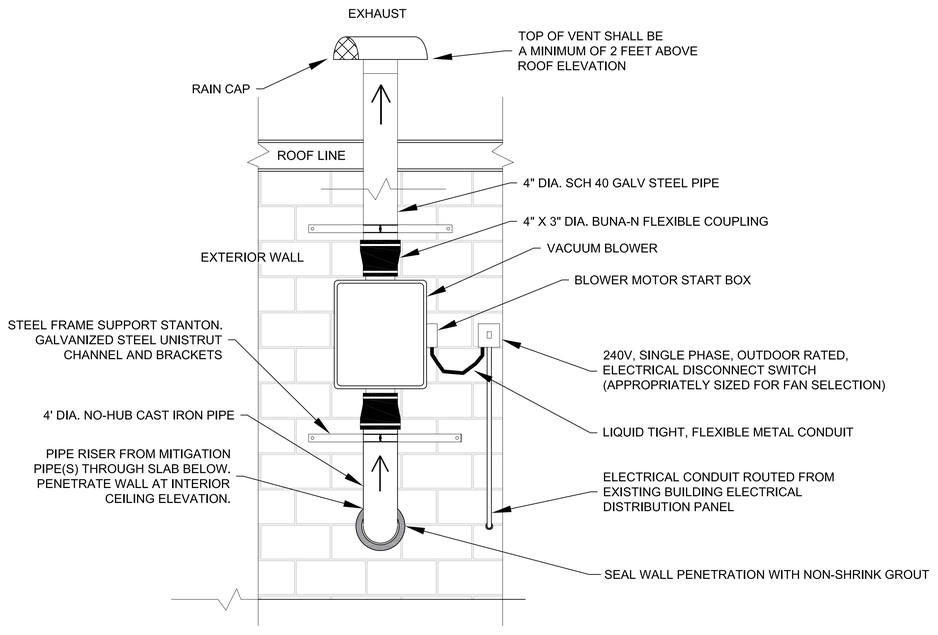

## RISER PIPE DETAIL

NOT TO SCALE




## BLOWER AND ROOF PIPING DETAIL

NOT TO SCALE




NOTES:

A. BUILDING DETAILS SHOWN FOR CONCEPTUAL PURPOSES ONLY. NOT TO BE USED FOR STRUCTURAL OR ARCHITECTURAL PURPOSES.
B. VACUUM BLOWER/FAN MAKE/MODEL: OBAR SYSTEMS INC, MODEL NO. GBR76-UD
C. VACUUM ALARM(S) MAKE/MODEL: OBAR SYSTEMS INC, MODEL NO. GBR25-R

PROJECT ENGINEER

ENVIROTRAC ENGINEERING, PE PC
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YAPHANK, NY 11980

SEAL AND SIGNATURE

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REVISION DATE: JANUARY 15, 2025
REVISION No.: AS-BUILT

DRAWING TITLE

AS-BUILT:
MISCELLANEOUS DETAILS

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PROJECT SITE

350 BEACH 79TH STREET
FAR ROCKAWAY, NY 11693

FIGURE NO.

SSDS-004.00

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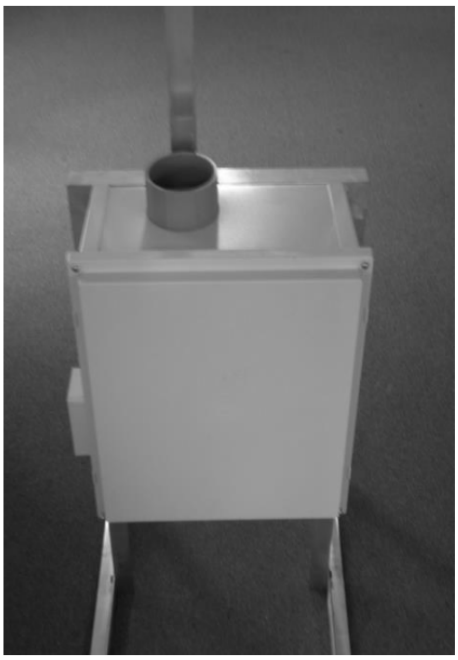
# APPENDIX A

# THE OBAR GBR76
## COMPACT RADIAL BLOWER

Based on 25 years of experience and 2 years of research and development, the patent pending GBR series of compact radial blowers provide the perfect combination of performance and design.



*GBR76 WITH ROOF MOUNT*

PERFORMANCE

- GBR76 SOE 16" WC @ 0  Max flow 155 CFM.
- GBR76 UD 40" WC @ 0 Max flow 195 CFM.
- Built in speed control to customize performance.
- Condensate bypass built in.
- 12 month warranty - 40,000 hr sealed bearings.

### DESIGN

- Our modular design means the blower and manifold assembly can be removed and replaced as a unit. This makes repairs cost effective and easy and allows contractors to upgrade systems simply by swapping assemblies.
- The GBR series is based on a bypass blower designed to handle combustible materials.
- The housing is not required to be air tight, so you can add gauges and alarms without compromising the system.
- Built in condensate bypass.
- Built in speed control.
- Quick disconnect electrical harness.
- All UL listed components including UL listed enclosure for outside use.
- Wall fastening lugs included.
- GBR series roof and wall mounts available to quickly configure the blowers for your installation while providing a custom built look.
- Compact design  16"x 14"x 8" weighing only 18 lbs.
- 3"  schedule 40 inlet and exhaust.
- Universal Drive model accepts voltage from 120-240V without alteration

**OBAR SYSTEMS INC 2969 ROUTE 23 SOUTH NEWFOUNDLAND NJ 07435  800 949 6227**

| GBR76 SOE | 0” | 2” | 4” | 6” | 8” | 10” | 12” | 16” | Wattage |
|---|---|---|---|---|---|---|---|---|---|
| SOE 16 | 150 | 140 | 129 | 118 | 105 | 90 | 75 | 35 | 150-320 |
| SOE 12 | 125 | 115 | 100 | 83 | 62 | 39 | 0 | | 110-200 |
| SOE 8 | 105 | 90 | 70 | 42 | 0 | | | | 60-120 |
| SOE 4 | 75 | 50 | 0 | | | | | | 37-50 |

**GBR SOE** performance using built in potentiometer set at sealed vacuums of 16, 12, 8, and 4” WC

| GBR76 UD | 0” | 10” | 20” | 30” | 37” | Wattage |
|---|---|---|---|---|---|---|
| 110V | 195 | 158 | 118 | 63 | 20 | 700-870 |
| 220V | 197 | 162 | 130 | 89 | 50 | 800-1100 |

# Blower Specifications

## GBR76 SOE

- **Input Voltage Range:** 108-132 Volts AC RMS, 50/60 Hz, single phase.
- **Input Current:** 6 amps AC RMS
- **Operating Temperature (Ambient Air and Working Air):** 0°C to 50°C
- **Storage Temperature:** -40°C to 85°C
- **Dielectric Testing:** 1500 Volts AC RMS 60 Hz applied for one second between input pins and ground, 3mA leakage maximum.
- **Speed Control Methods:** PWM (Pulse Width Modulation) (1 kHz to 10 kHz)
  0 to 10 VDC speed control.
  Mechanical: A potentiometer is available for speed control of the blower. The potentiometer can be preset for a specific speed. Access for speed adjustment located in motor housing.
- **Approximate Weight:** 4.8 Lbs. / 2.2 Kg
- **Regulatory Agency Certification:** Underwriters Laboratories Inc. UL507 Recognized under File E94403 and compliant under the CE Low Voltage Directive 2006/95/EC.
- **Design Features:** Designed to provide variable airflow for low NOx & CO emission in high efficiency gas fired combustion systems. Built with non-sparking materials. Blower housing assembly constructed of die cast aluminum. Impeller constructed from hardened aluminum. Rubber isolation mounts built into blower construction to dampen vibration within the motor. Two piece blower housing assembly sealed with O-ring gasket for combustion applications. Customer is responsible to check for any leakage once the blower is installed into the final application.
- **Miscellaneous:** Blower inlet, discharge, and all motor cooling inlet and discharge vents must not be obstructed. Motor ventilation air to be free of oils and other foreign particles, (i.e. breathing quality air). Blower is to be mounted so ventilation air cannot be re-circulated.
  **POWER CONNECTION:** Blower connector, AMP Universal MATE-N-LOK, part no. 1-350943-0.
  **SPEED CONNECTION:** Blower connector, Molex Mini-Fit Jr., part no. 39-30-3056.
  Mating harnesses available upon request.

## GBR76 UD

- **Input Voltage Range:** 100-240 Volts AC RMS, 50/60 Hz, single phase.
- **input Current:** 10 amps AC RMS
- **Operating Temperature (Ambient Air and Working Air):** 0°C to 50°C
- **Storage Temperature:** -40°C to 85°C
- **Dielectric Testing:** 1800 Volts AC RMS 60 Hz applied for one second between input pins and ground, 3mA leakage maximum.
- **Speed Control Methods:** Mechanical- A potentiometer is provided for speed control of the blower. The potentiometer can be preset for specific speed. Access for speed adjustment located inside motor housing.
- **Approximate Weight:** 4.8 Lbs. / 2.2 Kg
- **Regulatory Agency Certification:** Underwriters Laboratories Inc. UL507 Recognized under FIle E94403 and compliant under the CE Low Voltage Directive 2006/95/EC.
- **Design Features:** Designed to provide variable airflow for low NOx & CO emission in high efficiency gas fired combustion systems. Built with non-sparking materials. Blower housing assembly constructed of die cast aluminum. Impeller constructed from hardened aluminum. Rubber isolation mounts built into blower constuction to dampen vibration within the motor. Two piece blower housing assembly sealed with O-ring gasket for combustion applications. Customer is responsible to check for any leakage once the blower is installed into the final application. **Additional Design Features:** (1) PCB coated with silicone. (2) Both bearings utilizing light contact seals. (3) Stainless steel components in working air compartment; ie shaft, washer and nut for securing the impeller, and stainless bearing thrust washer.

- **Miscellaneous:** Blower inlet, discharge, and all motor cooling inlet and discharge vents must not be obstucted. Motor ventilation air to be free of oils and other foreign particles (i.e. breathing quality air). Blower to be mounted so ventilation air cannot be re-circulated.

**POWER CONNECTION:** Blower connector, AMP Universal MATE-N-LOK, part no. 350767-1 mates with customer supplied AMP connector, (PN#350766-1) with female terminals. PN#350536-3 or equivalent on 16GA, 600V rated wire
**GROUND LEAD:** Amp pin terminal (350547-1) on green/yellow 18 GA. 105ºC, 600V rated wire.

## **Enclosure** Specifications

**Ratings:**

Ingress Protection (EN 60529): 66/67

Electrical insulation: Totally insulated

Halogen free (DIN/VDE 0472, Part 815): yes

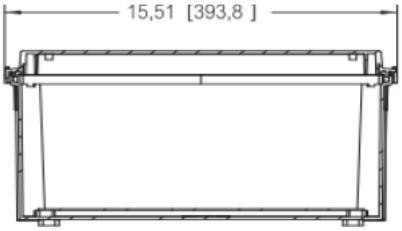
UV resistance: UL 508

Flammability Rating (UL 746 C 5): complies with UL 508

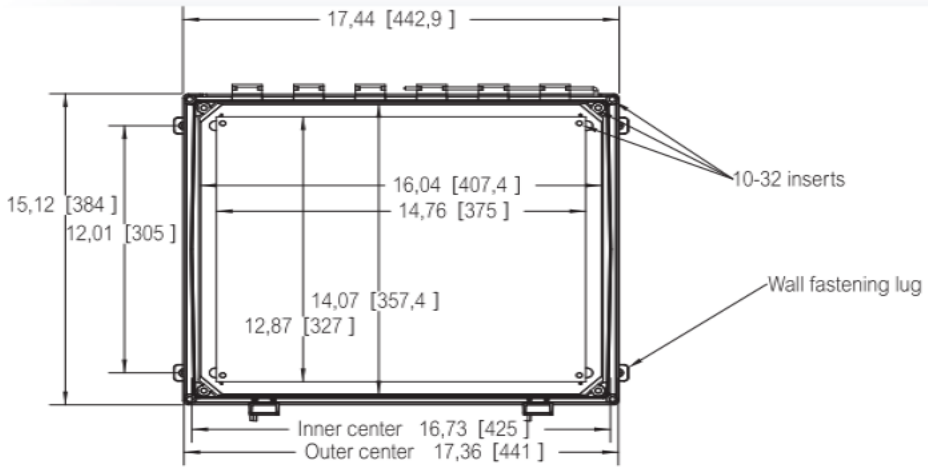
Glow Wire Test (IEC 695-2-1) °C: 960

NEMA Class: UL Type 4, 4X, 6, 6P, 12 and 13

Certificates: Underwriters Laboratories

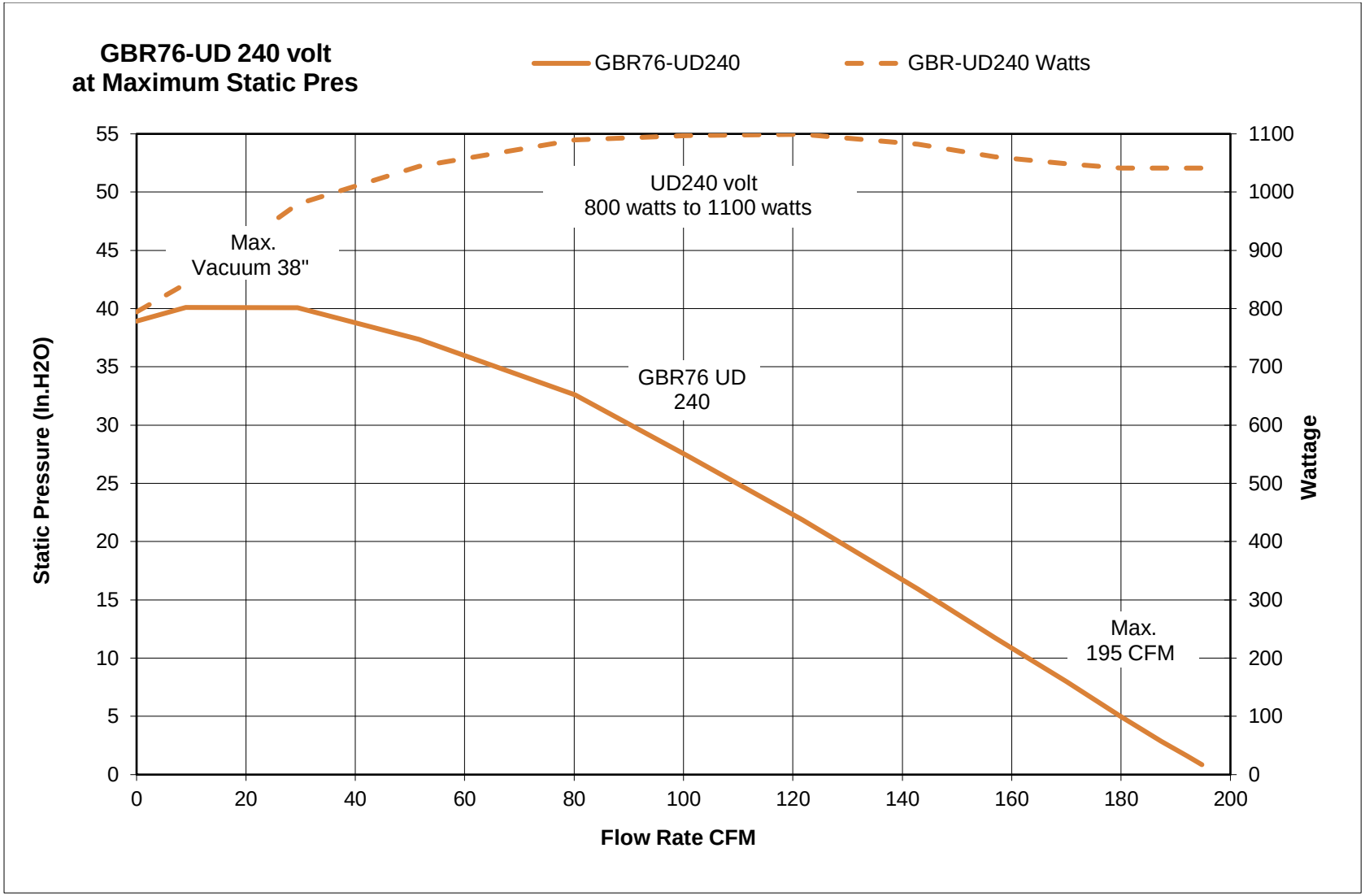



Screw cover




Top View - cover removed

**OBAR SYSTEMS INC 2969 ROUTE 23 SOUTH NEWFOUNDLAND NJ 07435 800 949 6227**


GBR76-UD 240 volt
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GBR76-UD240
GBR-UD240 Watts
UD240 volt
800 watts to 1100 watts
Max.
Vacuum 38"
GBR76 UD
240
Max.
195 CFM
Static Pressure (In.H2O)
Wattage
Flow Rate CFM
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120
140
160
180
200

# Selection Guide for GBR 25 System Gauge

The GBR 25 series alarm gauges are designed to meet the requirements of national standards for system monitors and alarms and provide for additional local alerts and remote monitoring.

| Model | Gauge | Light | Buzzer | Silence | Relay | 0-10v 4-20ma | Power Supply | Battery | Remote Alerts and Data Monitoring Capability |
|---|---|---|---|---|---|---|---|---|---|
| GBR 25R | 0-40" LCD | yes | yes | yes (disable switch) | yes 2 | no | yes | no | OBAR EDGE or any system that accepts Dry Contacts |
| GBR 25RT | 0-40" LCD | yes | yes | yes (disable switch) | yes 2 | yes | yes | no | OBAR EDG or any system that accepts 0-10v 40-20ma |
| GBR 25 | 0-40" LCD | yes | yes | yes Push to Silence* | no | no | yes | no | Local alarm only |
| GBR 25T | 0-40" LCD | yes | yes | yes Push to Silence* | no | yes | yes | no | OBAR EDG or any system that accepts 0-10v 40-20ma |

## Choosing the Right Gauge

**System pressure monitor with local visual and audible alarm only.**

While all of the gauges meet these minimum standards the **GBR 25** is the most cost effective choice.The GBR 25 is a 0-40" LCD gauge with programmable alarm settings for a visual and audible alarm. The gauge has push to silence feature that will silence the alarm and will reset when system vacuum is restored.

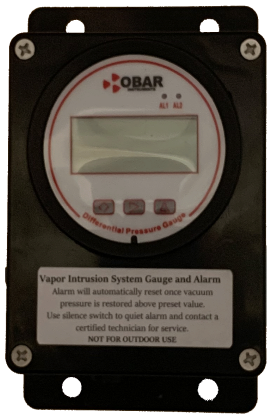
**System pressure monitor with local visual and audible alarm and output for remote data monitoring.**

The best choice would be the **GBR 25T** which has all the features of the GBR 25 and has both 0-10V and 4-20ma. Pair this gauge with the OBAR EDG wireless remote monitoring so you can view and manage your system data and manage your text and email alerts.This gauge can also be integrated with existing systems that use either 0-10V or 4-20ma (if using 4-20ma please provide voltage before ordering) If an addition local alarm is required in separate area of the building this can be accomplished in two ways. If you are using the EDG remote monitoring system a wireless relay can be triggered by the system to control an alarm. If you are using a wired monitoring system the **GBR 25RT** has a relay that can be used to control an additional alarm.

**System pressure monitor with local visual and audible alarm and relay to control additional devices or provide for a dry contact alarm.**

The **GBR 25R** has a relay that can be used to control additional alarms or notifications through a device that accepts only a dry contact signal.

**All GBR series gauges are available as single units or custom multi-gauge panels**




GBR 25

**GBR 25 Mini Digital Differential Pressure Gauge With Alarm**

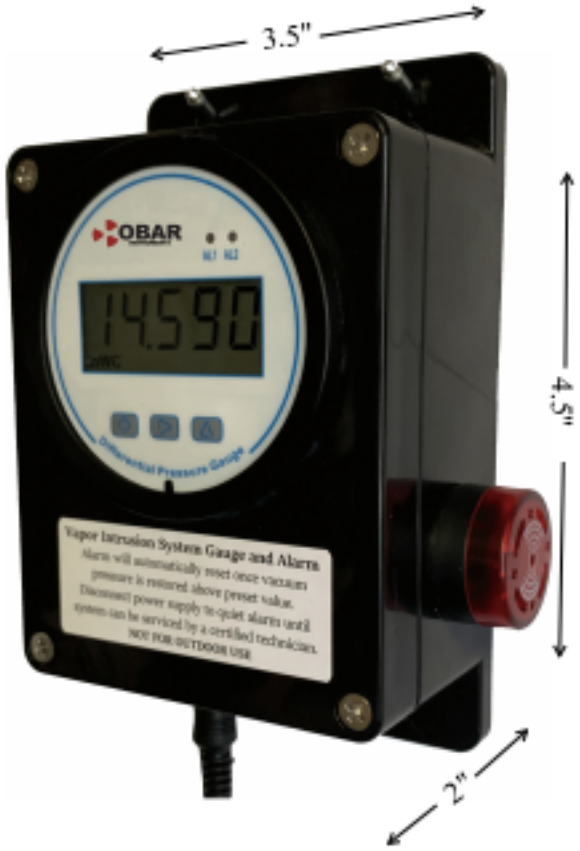
## System alarms and monitoring made simple and affordable.

Finally a product that has what you need and can be easily installed.
The GBR 25 is a compact stand alone system gauge with an audible and visual alarm that works for VOC and Radon systems operating at system pressures greater than 2" wc. Included is a second relay that can be used to trigger additional alarms.
Includes Power supply
Optional 4-20 MA or 0-10 outputs can be used to monitor system pressure.

Contact OBAR for a quote to build custom alarm panels for your needs.

### Applications and features

- Scale 0-40 inches WC eliminates need for multiple gauges.
- Visual and audible alarm included and factory set at 1" WC
  The alarm set point can be changed in the field.
- Second adjustable relay for triggering additional alarms.
- Optional 4-20 MA or 0-10 output for data.
- Accuracy is up to ±1% FS, with large LCD display.
- Function keys: zero reset, units select, display update time, automatic sleep time, alarm, etc.

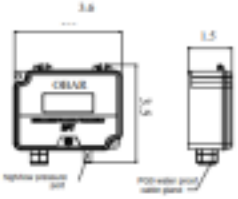



### Specifications

**Medium:** Non-combustible, non-corrosive air, insensitive to moisture, dust, condensation and oil
**Working Temp.:** 20~70°C
**Medium Temp.:** 0~60°C
**Temp. Compensation:** 0~50°C
**Working Pressure:** overload 10xFS, burst 15xFS
**Display:** 5 bits LCD, with engineering unit & backlight
**Output:** 0-10V / 4-20mA (3 wires)
**Output load:** ≤500Ω (current), ≥2KΩ (voltage)
**Relay Output:** 2×SPST, 3A/30VDC, 3A/250VAC or 1xBuzzer
**Accuracy:** up to ±1.0%FS(±2.0%FS@25Pa range)
**Long term stability:** ±0.5%FS /Year
**Thermal effect:** <0.05%FS/°C (zero), <0.08%FS/°C(FS)
**Power type** 16~28VDC/AC
**24V Power Supply included**
**Process Connection:** 5mm ID tubing, two pairs (left/back)
**Keys:** 3 touch buttons
**Protection:** IP54
**Approval:** CE
**Display update time:** selectable for 0.5/1/5/10s (default 1s)

**Other OBAR products you may be interested in.**

**DPT(DPT-F Flush Mount) Differential Pressure Transmitter**




**Pricing:** $125 per unit

**Add $20 for 4-20 mA / 0-10V version**

**Custom options and bulk order pricing available. Call or email for details.**

**OBAR Systems, Inc.** **800-949-OBAR** **wholesale@obarsystems.com**

# Low Profile Custom Alarm Panel

## Features

Pre-wired solution for SSDS systems.

Vacuum tube connections pre-labeled to corresponding gauge.

Hinge orientation can be customized.

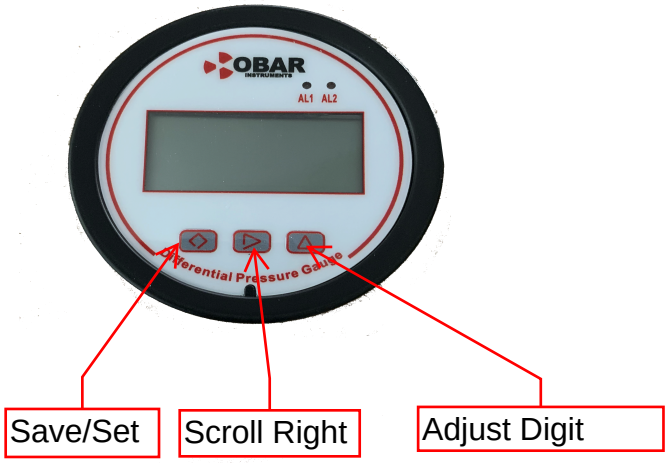
Secondary relay can be used for secondary alarm/MarCell Pro monitor or upgrade to a 4-20 mA/0-10v output for remote monitoring capability.

Low profile, wall mountable design.

Power supply included.

Custom labeling available.

# GBR 25R Relay Gauge Programing Guide




The gauge is pre-set to:
Audible and Visual alarm with visual being displayed as "Lo"
Display is set to:
inches of W.C. Refresh: every 5 seconds. Alarm: activated at pressure less than 1.0" W.C. Alarm Delay: 0

Available Programs

The GBR series gauge/alarm are programmable for the following changes indicated by P# and setting #
P081 Display pressure readings in units of: #1 pascals, #2 K-pascals, #3 mbar, #4 mm water column, #5 inches water column
P075 Refresh display: 0.5, 1, 5, or 10 seconds
P401 or 402 to set relays

Steps to Access a Program

In each case to change a program setting use the following initial steps:
Press Save/Set button and P000 will appear. Press Scroll Right button to Select first digit 0. Press Adjust Digitbutton to enter program number for that digit.
Press Scroll Right button to select second, third or first digit and press Adjust Digit button to set the program number .
Once program number is set, press Save/Set Button to begin adjusting the program setting to the desired function.
After inputting the number representing the desired function, hold the Save/Set button to input the setting for that function and the gauge will return to displaying the system pressure.

P081 Pressure Units
(Preset to Inches of WC)
1. Activate P081 programing
2. Press Adjust Digit button to select a unit.
1= Pascal, 2=K Pascal, 3= mbar,
4= mm W.C., 5= in W.C.
3. Hold Save/Set button to input new settings

P075 Refresh Delay
(Preset to refresh every 5 Sec)
1. Activate P075 programing
2. Press Adjust Digit button to select refresh delay.
Refresh delay choices are 0.5, 1, 5, 10 seconds
3. Hold Save/Set button to input new settings

P302 Alarm Audible option
(Preset Audible & Visual)
1. Activate P302 programing
2. Press Adjust Digit button to select
1 for Audible & Visual alarm
0 for Visual alarm only.
3. Hold Save/Set button to input new settings

To Re Zero Display
1. Disconnect tubing from suction pipe.
2. Hold Scroll Right button for 5 seconds
3. Display should read zero
4. Reconnect tubing into the suction pipe

P810 Factory Reset
(Factory Setting is alarm off)
1. Activate P810 programing
2. Hold Save/Set button to revert to Factory Settings

P401 and 402 Relay Activation Pressure
(Preset to 250 Pa or 1.0" WC)
1. Activate P401 or 402 programing
2. Press Adjust Digit button and select 1.
0 turns off relay
1, 2, 3 & 4 are high versus low alarm variations
3. Press Save/Set button to next set low activation pressure
4. Pressure setting is made in Pascals ( 00250.0 Pa = 1"WC )
5. Use Scroll Right and Adjust Digit button to
specify desired low activation pascal pressure
6. Press Save/Set button to set specified low pressure
7. Next display is high pressure setting used for high low variations
High pressure setting used if 2, 3 or 4 was initially programed.
8. Press Save/Set button to next set and specify 0 for Alarm Delay.
9. Press Save/Set button to next specify 0 for Restore Delay
10 Press Save/Set Button and system pressure is displayed

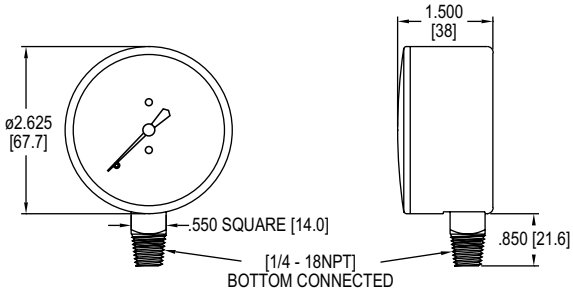
Dwyer

SERIES LPG4

# 2.5″ LOW PRESSURE GAGE

## 1.5% Full-Scale Accuracy in a 2.5″ Gage

**CALIBRATION SERVICES AVAILABLE**




Our **Series LPG4 2.5″ Low Pressure Gage** offers top of the line performance and accuracy for pressure and vacuum applications up to and including 160 in w.c. The LPG4 is constructed from a single beryllium-copper diaphragm affixed to a precision-machined brass plate. This innovative design, together with a high-precision, milled-teeth brass movement and nickel-silver pinion and bearing surface, provide the user with a top of the line low pressure instrument.

### BENEFITS/FEATURES

- Low pressure gage provides a selection to meet specific applications
- Specified with high ambient and process temperature ratings mean more robust uses and longer service-life
- High accuracy gage for applications requiring more precise measurement is a concern

### APPLICATIONS

- Air flow indication
- Liquid level
- Draft measurement

### SPECIFICATIONS

**Service:** Compatible gases and liquids.
**Wetted Materials:** Brass and beryllium copper.
**Housing:** Drawn steel, black finish.
**Lens:** Polycarbonate (removable).
**Accuracy:** ±1.5% FS.
**Pressure Limit:** 100% of range scale.
**Temperature Limits:** Process: -40 to 160°F (-40 to 70°C); Ambient: -40 to 140°F (-40 to 60°C).
**Size:** 2.5″ (63 mm).
**Process Connections:** 1/4″ male NPT.
**Enclosure Rating:** NEMA 3 (IP54).
**Weight:** 7.3 oz (0.21 kg).

### MODEL CHART

| Model | Range | Model | Range |
|---|---|---|---|
| **LPG4-D7122N** | -10 to 0 in w.c. (-2.5 to 0 kPa) | **LPG4-D8322N** | 0 to 40 in w.c. (0 to 10 kPa) |
| **LPG4-D7222N** | -15 to 0 in w.c. (-4 to 0 kPa) | **LPG4-D8422N** | 0 to 60 in w.c. (0 to 15 kPa) |
| **LPG4-D7322N** | -25 to 0 in w.c. (-6 to 0 kPa) | **LPG4-D8522N** | 0 to 80 in w.c. (0 to 20 kPa) |
| **LPG4-D7422N** | -40 to 0 in w.c. (-10 to 0 kPa) | **LPG4-D8622N** | 0 to 100 in w.c. (0 to 25 kPa) |
| **LPG4-D7522N** | -60 to 0 in w.c. (-15 to 0 kPa) | **LPG4-D8722N** | 0 to 160 in w.c. (0 to 40 kPa) |
| **LPG4-D7622N** | -80 to 0 in w.c. (-20 to 0 kPa) | **LPG4-D8922N** | -4 to 0 to 6 in w.c. (-1 to 0 to 1.5 kPa) |
| **LPG4-D7722N** | -100 to 0 in w.c. (-25 to 0 kPa) | **LPG4-D9022N** | -6 to 0 to 10 in w.c. (-1.5 to 0 to 2.5 kPa) |
| **LPG4-D7822N** | -160 to 0 in w.c. (-40 to 0 kPa) | **LPG4-D9122N** | -8 to 0 to 16 in w.c. (-2 to 0 to 4 kPa) |
| **LPG4-D7922N** | -235 to 0 in w.c. (-60 to 0 kPa) | **LPG4-D9222N** | -16 to 0 to 24 in w.c. (-4 to 0 to 6 kPa) |
| **LPG4-D8022N** | 0 to 10 in w.c. (0 to 2.5 kPa) | **LPG4-D9322N** | -24 to 0 to 40 in w.c. (-6 to 0 to 10 kPa) |
| **LPG4-D8122N** | 0 to 15 in w.c. (0 to 3.75 kPa) | **LPG4-D9422N** | -30 to 0 to 50 in w.c. (-7.5 to 0 to 12.5 kPa) |
| **LPG4-D8222N** | 0 to 25 in w.c. (0 to 6 kPa) | **LPG4-D9522N** | -40 to 0 to 60 in w.c. (-10 to 0 to 15.0 kPa) |

### OPTIONS

| Use order code: | Description |
|---|---|
| **NISTCAL-PG1** | NIST traceable calibration certificate |



USA: California Proposition 65
⚠ **WARNING:** This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

# SUBSLAB DEPRESSURIZATION SYSTEM OPERATION, MAINTENANCE, AND MONTORING REPORT - NEW STORAGE BUILDING (3-60 BEACH 79TH STREET)

## PREPARED BY ENVIROTRAC LTD.

# SUBSLAB DEPRESSURIZATION SYSTEM OPERATIONS & MAINTENANCE (O&M) MANUAL

**Self-Storage Building**
**350 Beach 79th St**
**Far Rockaway, NY 11693**

**Issue Date:**
**May 2025**

**Submitted to:**
**New York State Department of Environmental Conservation**
**625 Broadway, 11th Floor**
**Albany, New York 12233-7014**

**Prepared for:**
**Anchor QEA Engineering, PLLC**
**1201 3rd Avenue**
**Suite 2600**
**Seattle, WA 98101**

**Prepared by:**
**EnviroTrac LLC**
**5 Old Dock Road**
**Yaphank, NY 11980**
**631-924-3001**

*A Full Service Environmental Consulting and Contracting Firm*

EnviroTrac

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*System Components* ..... 2
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*System Startup* ..... 3
*System Shutdown* ..... 4
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*Instrumentation (vacuum gauge)* ..... *5*
*Miscellaneous* ..... *6*
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WARRANTEES ..... 8

**FIGURE:**

Figure 001.00 – Title Sheet - As-Built
Figure 002.00 – Drawing Index – As-Built
Figure 003.01 – Site Plan (Ground through 4th Floor) – As-Built
Figure 003.02 – Site Plan (5th through Roof) – As-Built
Figure 004.00 – Miscellaneous Details – As-Built

**APPENDIX A**

- Extraction Blower Manufacturer Instructions/Information
- Vacuum Gauge Instructions
- Alarm Specification

## SYSTEM DESCRIPTION

### *General Description*

The active sub-slab depressurization system (SSDS) has been designed and installed to prevent indoor air intrusion of Chlorinated Volatile Organic Compounds (CVOCs) vapors encountered during previous site investigation activities within the newly constructed multi-story commercial building located at 350 Beach 79th Street, Far Rockaway, NY 11693

The following text describes the start up, testing and operation for the SSD System.

The SSDS is comprised of a vacuum blower that is connected to a network of piping that is used to induce a vacuum using two (2) SSDS suction points (SSD-1 and SSD-2) that were installed in the concrete floor slab throughout the office of building ground floor. The vacuum provides a negative pressure gradient under the extent of the occupiable portion of the building, thereby eliminating the potential for soil vapor to migrate into the building.

*System Design and Installation*

Each of the suction points is constructed of 4-inch diameter schedule 40 PVC and consist of 1-foot of 0.02-slotted schedule 40 PVC screen, located beneath the concrete slab floor within the building. The extraction points each transition to cast iron pipe under the slab and are sealed with hydraulic cement to the existing concrete floor slab. Each of the SSDS suction point cast iron pipes are routed up to and along the ground floor ceiling to a common header pipe. The header pipe is then routed vertically through each floor via a riser pipe that exits the building through the finished roof. The riser pipe is terminated above the roof line where it is connected to the vacuum blower (B-1). The effluent connection of the blower is routed vertically upward and discharges approximately 4-feet above the roof line.

The vacuum blower utilized for the Self-Storage building is a model GX-4 radial blower, manufactured by RadonAway Inc and can produce a maximum vacuum of 4.5” WC and a maximum flow rate of 84 CFM. Electrical power is provided to the blower via the building electrical service, which is connected to an outdoor rated 20A, 110V GFCI electrical outlet with a weather resistant cover installed adjacent to the roof mounted vacuum blower. The common system piping header is equipped with a GBR25R vacuum alarm/Indicators, manufactured by Obar Systems Inc., which has been programmed to activate if the line vacuum drops below 0.25 “WC.

***Operating Principals***

The suction point blower, when operated, is designed to induce a negative pressure via the installed depressurization pipes located beneath the building floor slab. This induced negative pressure causes any migrating soil vapors to follow the new pressure gradient toward the depressurization point(s) and to then be extracted through the system piping and to ultimately be safely discharged to the building exterior.

***System Components***

The major components of the SSDSs consist of one (1) extraction blower and depressurization piping below the concrete slab of the Self-Storage building at 350 Beach 79th St, Far Rockaway, NY 11693. The riser piping is equipped with vacuum gauges used to monitor the applied sub-slab vacuum. An alarm warning device is connected to the riser piping and will sound when the blower is not operational. Manufacturer's manuals and cut sheet for each of the system's major components can be seen in **Appendix A**.

## OPERATING PROCEDURES

### *System Startup*

Pre-Startup

Prior to the safe and successful startup of the SSD system it is important to verify the following items.

- Verify that the electrical service connection is switched **OFF** at the system circuit breaker located in the electrical service distribution panel. The electrical service outlet for the blower is connected to the existing electrical panel in the ground floor utility room. The system alarm unit is connected to an existing electrical outlet located adjacent to the alarm panel. Prior to any repairs or modifications to the systems, the electrical service should be disconnected using the proper lockout/tag out procedures and should only be conducted by qualified personnel.

- Verify that the blower power cords are unplugged from the dedicated blower power outlet. The outlet is located on the roof of the building, adjacent to the SSDS blower. Prior to any repairs or modifications to the system, the electrical service should be disconnected using the proper lockout/tag out procedures and should only be conducted by qualified personnel.

- Verify that all components are installed correctly and are in good working order, including the blower, piping, depressurization points, and all instrumentation. Any defects or damage should be repaired or replaced prior to the startup of the system.

- Verify that all electrical connections are properly and securely connected to the SSDS components. All electrical components should be clean and free of any damage or defects. Verify that the electrical connections are of the proper voltage and power requirement for the installed blowers; and

- Verify that the system discharge stack is free of any debris that might cause any excessive back pressure on the systems.

- Energize the SSDS blower circuit by switching the circuit breaker to the **ON** position. Test the GFCI function of the roof mounted 110V outlet by triggering the **TEST** and **RESET** buttons located on the face of the outlet.

### *System Startup*

The following procedure should be followed during the startup of the SSDS and should be conducted only after the “Pre-startup” items have been completed.

1. Verify that all of the steps outlined above in the “Pre-startup” section have been successfully completed.

2. Verify that the electrical service connections are switched **ON** at the system circuit breakers located in the electrical service distribution panel (electrical panel is located on the ground floor).

3. Plug the blower into the designated roof 110V GFCI electrical outlet. Take note that the blower is operating correctly by noting if there is any excessive noise and that the inlet vacuum is within the normal operating range of the installed blowers. Normal operating vacuum should range from 0 – 4.5 inches of water column for the GX-4 blower, which can be read using the vacuum gauge located below the roof mounted blower. Note, if the blower is not operating correctly, unplug the blower and make the proper repairs.

4. Once the system is operating for a few minutes, take note of the operating vacuum at the extraction blowers using the vacuum gauge or handheld meter. This reading will be used as a baseline to determine if the systems are operating correctly in the future.

5. Plug in the vacuum alarm unit into the designated 110V electrical outlet on the ground floor. Turn the power switch located on the side of the unit to the **ON** position. At this point a vacuum reading that coincides with the system vacuum should be readable on the alarm panel screen. The alarm light should be off, and the annunciator should be silent.

***System Shutdown***

During the shutdown of the system the steps outlined below should be followed:

1. Turn the power selector switch of the alarm panel (ground floor), located on the side of the panel, to the **OFF** position.

2. Unplug the blower from the electrical outlet located near the roof mounted blower. Verify that the motor has stopped. This can be confirmed by both sound and by checking that the vacuum gauges are registering no vacuum in the pipe headers.

3. In the event that the system is being shut down for maintenance or repairs, the circuit breakers should be properly disconnected using the appropriate lock out / tag out procedures (electrical panel is located in the ground floor utility room).

4. Verify that there is zero vacuum at the suction points using the installed vacuum gauges.

***Maintenance***

During each maintenance event the following should be noted:

Blower

- The blower is spinning correctly and free of any excess noise.
- The blower is free of any damage or debris.
- The blower is generating the proper amount of flow and vacuum. This can be determined by reading the installed vacuum gauges and comparing these readings with the readings collected during the initial system startup.
- Note: The blower is designed to operate continuously without any routine maintenance or lubrication.

Instrumentation (vacuum gauges)

- Verify that the vacuum gauges are free of any damage and are properly connected to the system piping.
- Verify that the vacuum gauges are registering an adequate amount of vacuum at each of the suction pit and at each blower.
- If any of the gauges require replacement, additional units can be purchased through the manufacturer listed in **Appendix A**.

Alarm Panel

- Verify that the alarm panel is correctly reading the line vacuum on the panel display.
- Verify that the flexible tubing that is connected to the system piping is connected properly and free of any damage or excessive wear.
- Verify the operation of the alarm panel by disconnecting the vacuum tubing from the system piping while the vacuum blower is operational. Once disconnected, the alarm LED should turn **RED,** and the alarm annunciator should trigger. To rest the alarm, reconnect the vacuum tubing to the system piping connection.

Miscellaneous

- Verify that the discharge stack located on the building roof is free of any debris.
- Verify that all piping, suction pits, and any other components are clean and free of any damage that may have occurred.
- Verify that the system piping is clear of any condensation that may have accumulated during operation. In the event that condensation has collected, it can be cleared by shutting down the systems and letting the condensation drain. The systems have been designed to allow the water to drain back to the suction points.

In the event that any system degradation has been noted or the alarm warning devices are sounding, the owner's consultant should be contacted for assistance and/or to schedule any system maintenance.

**CONTACT INFORMATION (Building Owner)**

Abingdon Capital, LLC
220-46 73rd Avenue
Oakland Gardens, NY 11364
516-216-9331

**CONTACT INFORMATION (Consultant)**

EnviroTrac LLC
5 Old Dock Road
Yaphank, NY 11980
631-924-3001

## EMERGENCY PROCEDURES

In the event of an emergency requiring the shutdown of the systems, the following procedures should be followed:

1. Unplug the blower.

2. In the event that the blowers power outlets cannot be reached or are inoperable, power may be disconnected directly using the circuit breaker located in the ground floor electrical distribution panel.

3. The Property Owner and the Property Owner's Consultant should be notified.

## SEVERE WEATHER PROCEDURES

In the event of severe weather in which the system needs to be shut down and/or the electric service is turned off, the systems should be properly shutdown using the above emergency procedures and inspected for signs of damage and any needed repair at least one (1) day following the severe weather event. Please contact the Property Owner or the Property Owner's Consultant to conduct the inspection. Should no damage or repair be required, the systems can be turned back on following the above system startup procedures.

**CONTACT INFORMATION (Building Owner)**

Abingdon Capital, LLC
220-46 73rd Avenue
Oakland Gardens, NY 11364
516-216-9331

**CONTACT INFORMATION (Consultant)**

EnviroTrac LLC
5 Old Dock Road
Yaphank, NY 11980
631-924-3001

***IMPORTANT – IN THE EVENT OF A FIRE OR MEDICAL EMERGENCY, PERSONNEL SHOULD IMMEDIATELY CALL 911 FOR ASSISTANCE.**

## WARRANTEES

- EnviroTrac LLC warrantees all workmanship, construction, and operation of all equipment and materials for a period of one (1) year from the date of system completion. This warrantee does not cover any repairs of damage or component malfunctions that are not due to normal operation of the system or individual components; and

- Additionally, the extraction blowers are covered under the manufacturer's warrantee for a period of one (1) year. Details of this warrantee can be seen in the blower literature provided in **Appendix A**.

# FIGURES

# SUB-SLAB DEPRESSURIZATION SYSTEM

## AS- BUILT: DESIGN FIGURES

SITE LOCATION:
SELF STORAGE
350 BEACH 79TH STREET
FAR ROCKAWAY, NEW YORK 11693

PREPARED FOR::
ANCHOR QEA ENGINEERING, PLLC
1201 3RD AVENUE, SUITE 2600
SEATTLE, WASHINGTON 98101

MAY 2025

PREPARED BY:
ENVIROTRAC ENGINEERING PE PC
5 OLD DOCK ROAD
YAPHANK, NEW YORK 11980

PROJECT ENGINEER

ENVIROTRAC ENGINEERING, PE PC
5 OLD DOCK ROAD
YAPHANK, NY 11980

SEAL AND SIGNATURE

Dale C. Konas, PE
NY Lic. No. 081035

DRAWN/REVISED BY: DK
REVISION DATE: MAY 9, 2025
REVISION No.: AS-BUILT

DRAWING TITLE

AS-BUILT: TITLE SHEET

PREPARED FOR

ANCHOR QEA ENGINEERING, PLLC
1201 3RD AVENUE
SUITE 2600
SEATTLE, WA 98101

PROJECT SITE

SELF STORAGE
350 BEACH 79TH STREET
FAR ROCKAWAY, NY 11693

FIGURE NO.

SSDS-001.00

EnviroTrac
ENVIRONMENTAL SERVICES
5 OLD DOCK ROAD, YAPHANK, NEW YORK 11980
PHONE: (631)924-3001 FAX: (631)924-5001

NOTES:

1. VAPOR COLLECTION PIPING: 4 INCH DIAMETER SCHEDULE 40 PVC PERFORATED OR SLOTTED (0.02" SLOT) PIPING SHALL BE USED FOR THE SUBSURFACE EXTRACTION POINTS TO BE INSTALLED BELOW THE CONCRETE SLAB. A 4" SCHEDULE 40 PVC DOME CAP SHALL BE INSTALLED AT THE END OF EACH LEG.

2. SSD VENT PIPING:
   - 2.1. SUB-SURFACE SOLID PIPING: 4 INCH DIAMETER SCHEDULE 40 PVC PIPE SHALL BE CONNECTED TO THE VAPOR COLLECTION PIPING/EXTRACTION POINTS VIA A 4 INCH DIAMETER COUPLING OR 90 DEG ELBOW FITTING, LOCATED AT THE TOP OF EACH EXTRACTION POINT. EACH LEG OF THE VENT PIPING WILL BE EXTENDED TO A DESIGNATED LOCATION IN THE NEAR VICINITY OF AN EXISTING INTERIOR WALL OR COLUMN. ALL PIPE AND FITTING CONNECTIONS SHALL BE EITHER SOLVENT WELD OR THREADED CONNECTIONS.
   - 2.2. ABOVE GRADE PIPING: ALL EXPOSED ABOVE GRADE VENT PIPE SHALL BE CAST IRON, NO-HUB PIPE AND FITTINGS. ALL PIPE AND FITTING CONNECTIONS SHALL BE NEOPRENE FLEXIBLE COUPLINGS WITH STAINLESS STEEL BANDS. THIS PIPING SHALL BE EXTENDED VERTICALLY THOUGH THE BUILDING FIRST FLOOR CONCRETE FLOOR SLAB. EACH PIPING ZONE HEADER SHALL BE ROUTED ALONG THE BUILDING FIRST FLOOR CEILING AND ROUTE VERTICALLY THROUGH THE BUILDING PIPE CHASE TO THE DESIGNATED BLOWER LOCATION. THE PIPING RISER SHALL EXTEND THROUGH THE ROOF INTO THE INLET OF THE ROOF MOUNTED BLOWER. THE EXHAUST PIPING SHALL TERMINATE AT LEAST 2 FEET ABOVE THE SURFACE OF THE ROOF, IN A LOCATION AT LEAST 10 FEET AWAY FROM ANY WINDOW OR OTHER OPENING INTO THE CONDITIONED SPACES OF THE BUILDING THAT IS LESS THAN 2 FEET BELOW THE EXHAUST POINT, AND 10 FEET AWAY FROM ANY ADJOINING OR ADJACENT BUILDING.

3. IN BUILDINGS DESIGNED WITH INTERIOR FOOTINGS OR OTHER BARRIERS TO LATERAL FLOW OF SUB-SLAB SOIL GAS, VENT PIPES SHALL BE INSTALLED IN EACH ISOLATED, NON-CONNECTED FLOOR AREA. IF MULTIPLE VENT POINTS ARE USED IN NON-CONNECTED FLOOR AREAS, VENT PIPES ARE PERMITTED TO BE MANIFOLDED BELOW THE FLOOR SLAB INTO A SINGLE VENT.

4. TO RETARD SOIL GAS ENTRY, LARGE OPENINGS THROUGH CONCRETE SLABS OR OTHER FLOOR ASSEMBLIES IN CONTACT WITH THE SOIL, SUCH AS SPACES AROUND BATHTUB, SHOWER, OR TOILET DRAINS, SHALL BE FILLED OR CLOSED WITH MATERIALS THAT PROVIDE A PERMANENT AIRTIGHT SEAL SUCH AS NON-SHRINK MORTAR, GROUTS, EXPANDING FOAM, OR SIMILAR MATERIAL DESIGN FOR SUCH APPLICATION.

5. TO RETARD SOIL GAS ENTRY, SMALLER GAPS AROUND ALL PIPES, WIRE, OR OTHER OBJECTS THAT PENETRATE THE CONCRETE SLAB OR OTHER FLOOR ASSEMBLY SHALL BE MADE AIRTIGHT WITH AN ELASTOMER JOINT SEALANT OR POLYETHYLENE TAPE, AS DEFINED IN ASTM C920-87, AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

6. TO RETARD SOIL GAS ENTRY ALL CONTROL JOINTS, ISOLATION JOINTS AND ANY OTHER JOINTS IN CONCRETE SLABS OR BETWEEN SLABS AND FOUNDATION WALLS SHALL BE SEALED. A CONTINUOUS FORMED GAP "TOOLED EDGE" WHICH ALLOWS THE APPLICATION OF A SEALANT THAT WILL PROVIDE A CONTINUOUS, AIRTIGHT SEAL SHALL BE CREATED ALONG ALL JOINTS. WHEN THE SLAB HAS CURED, THE GAP WILL BE CLEARED OF ANY LOOSE MATERIAL AND FILLED WITH AN ELASTOMER JOINT SEALANT, AS DEFINED IN ASTM C920-87, AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

7. CONCRETE MASONRY FOUNDATION WALLS BELOW THE GROUND SURFACE SHALL BE CONSTRUCTED TO MINIMIZE THE TRANSPORT OF SOIL GAS FROM THE SOIL TO THE BUILDING. HOLLOW BLOCK MASONRY WALLS SHALL BE SEALED AT THE TOP TO PREVENT THE PASSAGE OF AIR FROM THE INTERIOR OF THE WALL TO THE LIVING SPACE. AT A MINIMUM, ONE COURSE OF SOLID MASONRY, ONE COURSE OF MASONRY GROUTED SOLID, OR A POURED CONCRETE BEAM AT OR ABOVE THE FINISHED GROUND SURFACE LEVEL SHALL BE USED FOR THIS PURPOSE. WHERE A BRICK VENEER OR OTHER MASONRY LEDGE IS INSTALLED, THE COURSE IMMEDIATELY BELOW THAT LEDGE SHALL ALSO BE SEALED.

8. JOINTS, CRACKS, OR OTHER OPENINGS AROUND ALL PENETRATIONS OF BOTH EXTERIOR AND INTERIOR SURFACES OF MASONRY BLOCK WALLS BELOW THE GROUND SURFACE SHALL BE SEALED WITH AN ELASTOMETRIC SEALANT THAT PROVIDES AN AIRTIGHT SEAL. PENETRATIONS OF POURED CONCRETE WALLS SHALL ALSO BE SEALED ON THE EXTERIOR SURFACE. THIS INCLUDES SEALING OF WALL TIE PENETRATIONS.

9. ALL EXPOSED AND VISIBLE INTERIOR SSD VENT PIPES SHALL BE IDENTIFIED WITH AT LEAST ONE LABEL ON EACH FLOOR LEVEL. THE LABEL SHALL READ: "ACTIVE VAPOR MITIGATION SYSTEM".

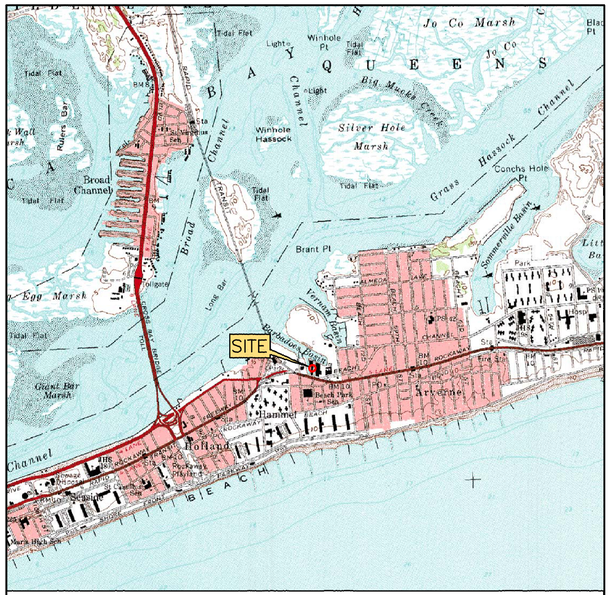
10. VENTILATION FAN(S): THE IN-LINE VACUUM BLOWER SHALL BE INSTALLED NEAR THE ROOF OF THE PROPOSED BUILDING AS DEPICTED IN THE "BLOWER AND ROOF PIPING DETAIL". THE FAN SHALL BE INSTALLED AS PER THE MANUFACTURER'S INSTRUCTIONS. A 110V, 1-PHASE, ELECTRICAL DISCONNECT SWITCH SHALL BE SUPPLIED AND INSTALLED BY A LICENSED ELECTRICIAN IN ACCORDANCE WITH ALL APPLICABLE LOCAL ELECTRICAL CODES. EACH VACUUM BLOWER SHALL BE CAPABLE OF PRODUCING A MINIMUM OF 95 CFM @ 3"H2O VACUUM. THE VACUUM BLOWER SHALL BE A RADONAWAY PRO SERIES RADON FAN, MODEL NO. GX5A, MANUFACTURED BY RADONAWAY INC, WARD HILL, MA, OR EQUAL.

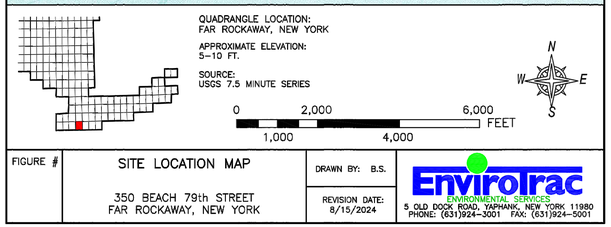
11. SYSTEM INDICATOR: A VACUUM GAUGE SHALL BE INSTALLED 0N EACH LEG OF THE VAPOR VENT PIPING IN ORDER TO PROVIDE A VISUAL INDICATION OF THE SYSTEM OPERATION. THE VACUUM GAUGE SHALL BE INSTALLED AT THE LOWEST ACCESSIBLE LOCATION OF EACH MANIFOLD LEG IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE VACUUM GAUGES WILL BE 2-1/2" DIAL, LOW VACUUM DIAPHRAGM GAUGES, 1.5% FULL SCALE ACCURACY. THE VACUUM GAUGES SHALL BE DWYER SERIES LPG4 LOW PRESSURE GAUGE, 0 TO 10" H2O RANGE, MODEL NO. LPG4-D7122N, MANUFACTURED BY DWYER INSTRUMENTS, MICHIGAN CITY, IN.

12. VACUUM ALARM: ONE (1) VACUUM ALARM SHALL BE INSTALLED IN ORDER TO PROVIDE AN AUDIBLE AND VISUAL ALARM IN THE EVENT THE VACUUM FAN SHUTS DOWN AND THERE IS A LOSS OF VACUUM WITHIN THE SYSTEM PIPING. THE ALARM UNIT SHALL CONNECT TO THE PROCESS PIPING VIA A $\frac{1}{4}$" DIAMETER FLEXIBLE POLYETHYLENE TUBE AND POWERED THROUGH A 110V ELECTRICAL OUTLET. THE ALARM UNIT SHALL BE A MODEL GBR25-R, PRESSURE GAUGE / ALARM, MANUFACTURED BY OBAR SYSTEMS, INC.THE VACUUM ALARM UNIT SHALL BE EQUIPPED WITH AN APPROPRIATELY SIZED UNINTERRUPTED POWER SOURCE (UPS) BATTERY BACKUP TO INSURE PROPER ALARM OPERATION DURING A SYSTEM POWER INTERRUPTION.

13. VACUUM MONITORING POINTS: VACUUM TEST POINTS SHALL BE INSTALLED AT A MINIMUM OF TWO (2) LOCATIONS IN THE CONCRETE SLAB FOR THE PURPOSE OF TESTING THE EFFECTIVENESS OF THE SSD SYSTEM. THE VAPOR MONITORING POINTS SHALL BE DRILLED-IN-PLACE STAINLESS STEEL VAPOR PIN INSERTS. EACH MONITORING POINT SHALL BE CAPPED USING A SCREW IN PLACE FLUSH MOUNT STAINLESS STEEL COVER. EACH VAPOR PIN SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDED INSTALLATION INSTRUCTIONS. MONITORING POINTS SHALL BE STAINLESS STEEL VAPOR PINS (MODEL VPIN0522SS) AND FLUSH MOUNTED STAINLESS STEEL SECURE COVER MANUFACTURED BY COX COLVIN, PLAIN CITY, OH.

14. ALL COMPONENTS OF THE SUB SLAB DEPRESSURIZATION SYSTEM SHALL BE IN ACCORDANCE WITH ASTM E1465-06 "STANDARD PRACTICE FOR RADON CONTROL OPTIONS FOR THE DESIGN AND CONSTRUCTION OF NEW LOW-RISE RESIDENTIAL BUILDINGS" AND NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, (NYSDEC), DER-10 "TECHNICAL GUIDANCE FOR SITE INVESTIGATION AND REMEDIATION".




| DRAWING INDEX | |
|---|---|
| DWG. No. | TITLE |
| SSDS-001.00 | TITLE SHEET |
| SSDS-002.00 | DRAWING INDEX, SITE LOCATION, ABBREVIATIONS AND NOTES |
| SSDS-003.01 | SITE PLAN - SSDS LAYOUT |
| SSDS-003.02 | SITE PLAN - SSDS LAYOUT |
| SSDS-004.00 | MISCELLANEOUS DETAILS |

| ABBREVIATIONS | |
|---|---|
| SSDS | SUB-SLAB DEPRESSURIZATION SYSTEM |
| DWG | DRAWING |
| GFCI | GROUND FAULT CIRCUIT INTERRUPTER |
| VMP | VACUUM MONITORING POINT |
| SCH | SCHEDULE |
| TYP | TYPICAL |

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DRAWING TITLE

AS-BUILT:
DRAWING INDEX, SITE LOCATION, ABBREVIATIONS AND NOTES

PREPARED FOR

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FIGURE NO.

SSDS-002.00

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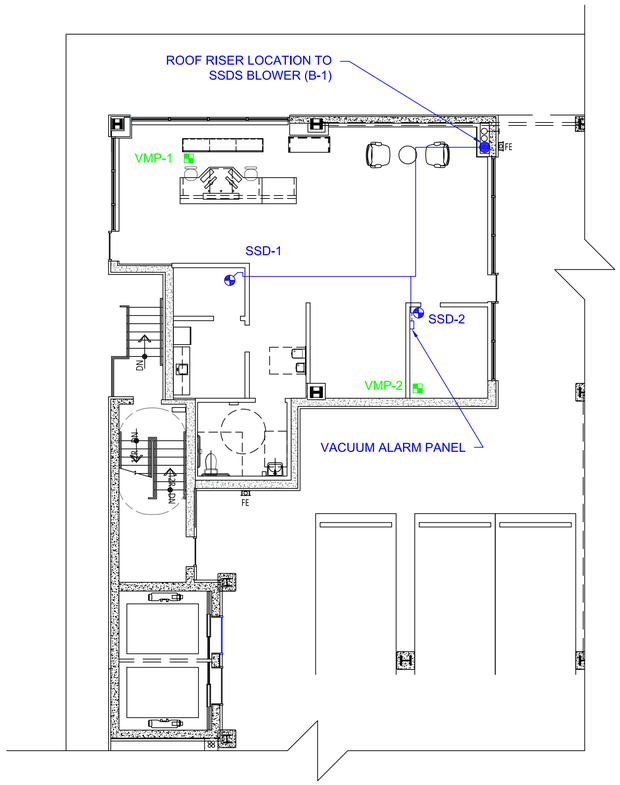
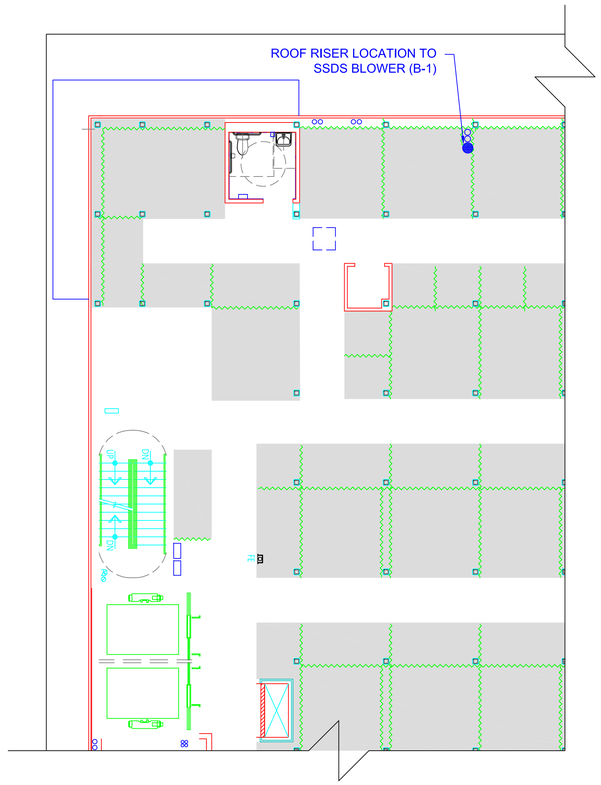
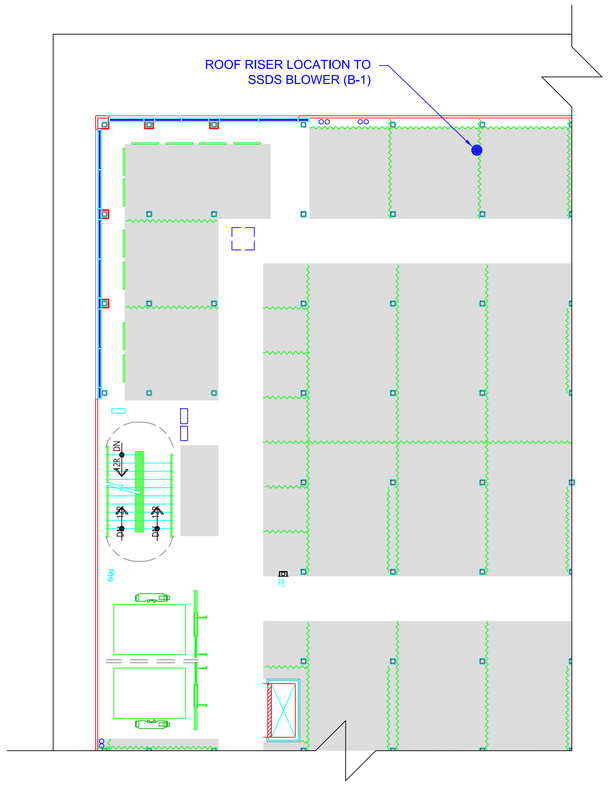



SSDS PLAN VIEW - GROUND FLOOR




SSDS PLAN VIEW - 1ST FLOOR



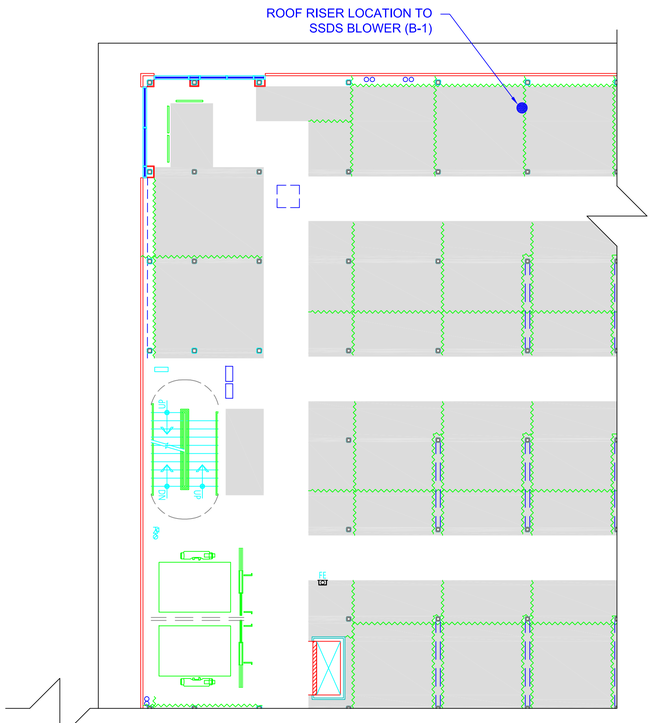

SSDS PLAN VIEW - 2ND FLOOR

north

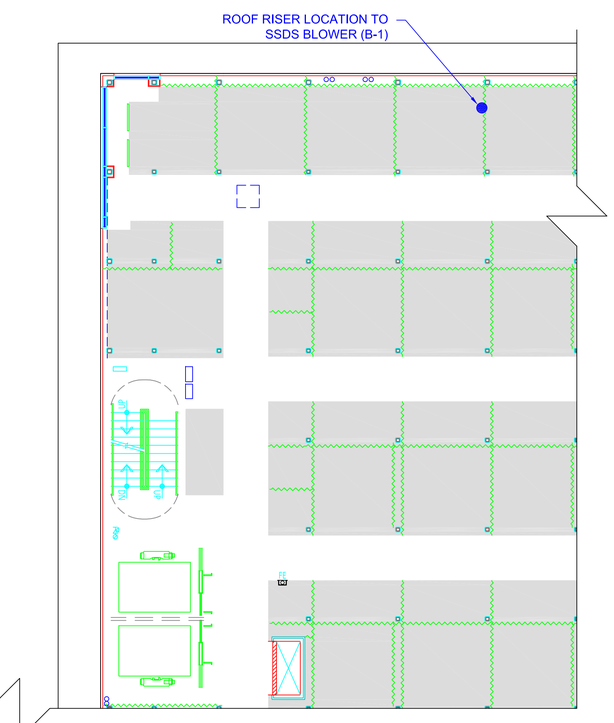
LEGEND:

- SSDS EXTRACTION POINT
- PIPE RISER TO ROOF
- VACUUM MONITORING POINT (VAPOR PIN)
- SSDS OVERHEAD PIPING
- VACUUM ALARM SIGNAL CABLE

0 8'
SCALE: 1"=8'




SSDS PLAN VIEW - 3RD FLOOR




SSDS PLAN VIEW - 4TH FLOOR

PROJECT ENGINEER

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DRAWN/REVISED BY: DK
REVISION DATE: MAY 9, 2025
REVISION No.: AS-BUILT

DRAWING TITLE

AS-BUILT:
SITE PLAN - SSDS LAYOUT

PREPARED FOR

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PROJECT SITE

SELF STORAGE
350 BEACH 79TH STREET
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FIGURE NO.

SSDS-003.01

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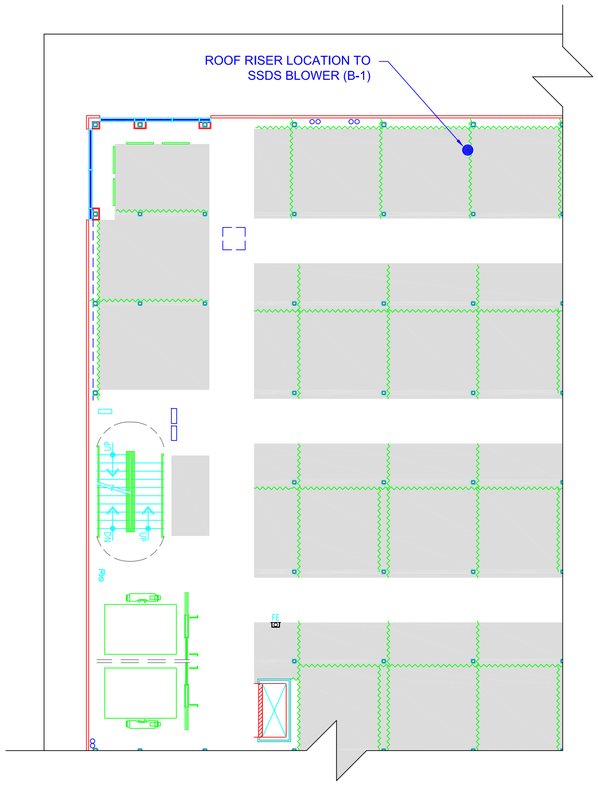
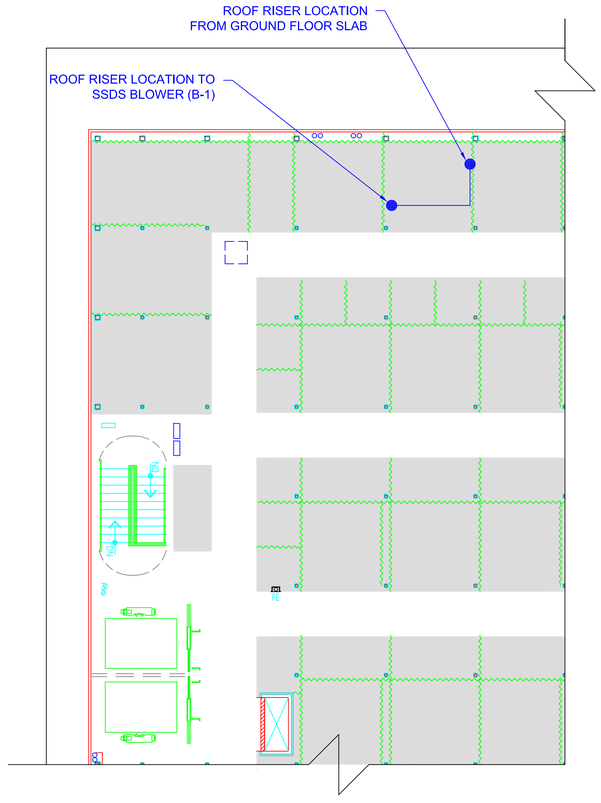
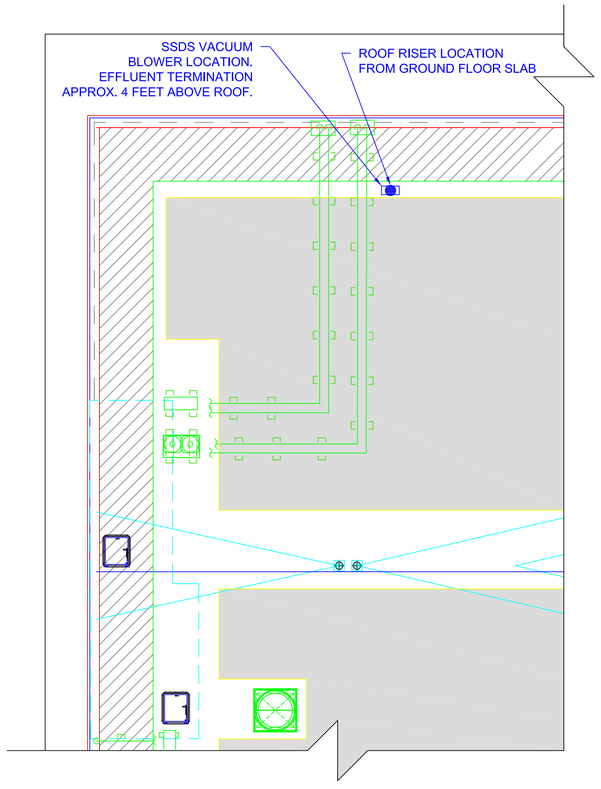



SSDS PLAN VIEW - 5TH FLOOR




SSDS PLAN VIEW - 6TH FLOOR




SSDS PLAN VIEW - ROOF

LEGEND:

- SSDS EXTRACTION POINT
- PIPE RISER TO ROOF
- VACUUM MONITORING POINT (VAPOR PIN)
- SSDS HEADER PIPING
- VACUUM ALARM SIGNAL CABLE

0 8'

SCALE: 1"=8'

PROJECT ENGINEER

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DRAWING TITLE

AS-BUILT:
SITE PLAN - SSDS LAYOUT

PREPARED FOR

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PROJECT SITE

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FIGURE NO.

SSDS-003.02

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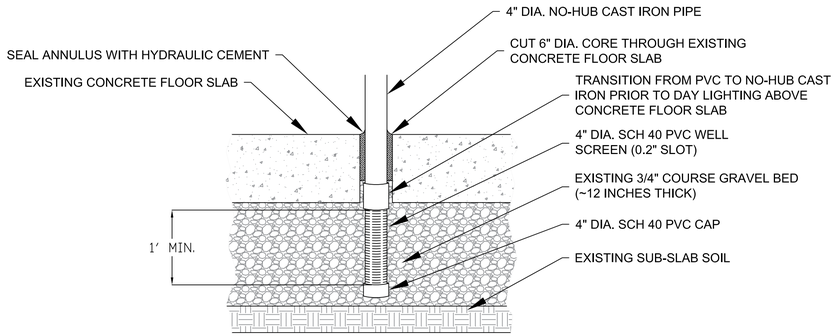
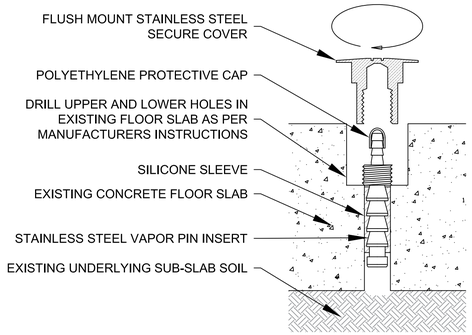
## EXTRACTION POINT DETAIL

(SSDS-1 & SSDS-2) NOT TO SCALE



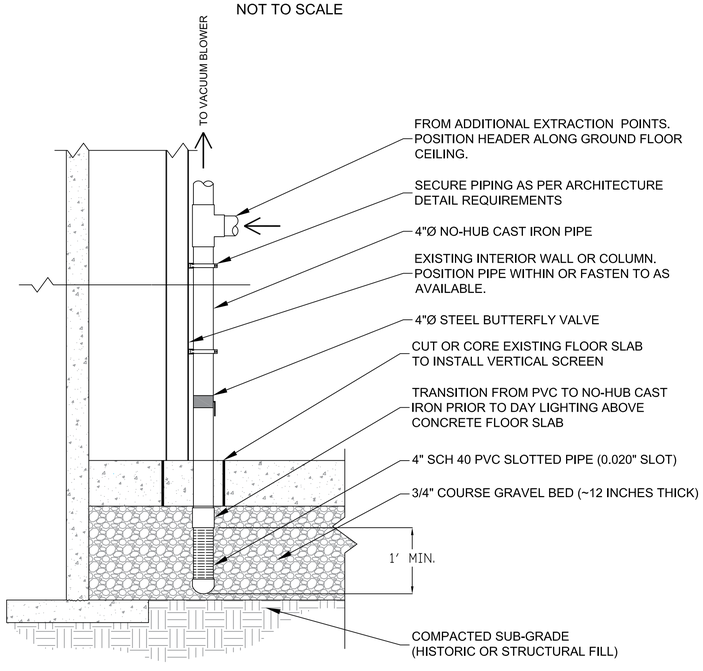

## VAPOR / VACUUM MONITORING POINT

NOT TO SCALE




## RISER PIPE DETAIL

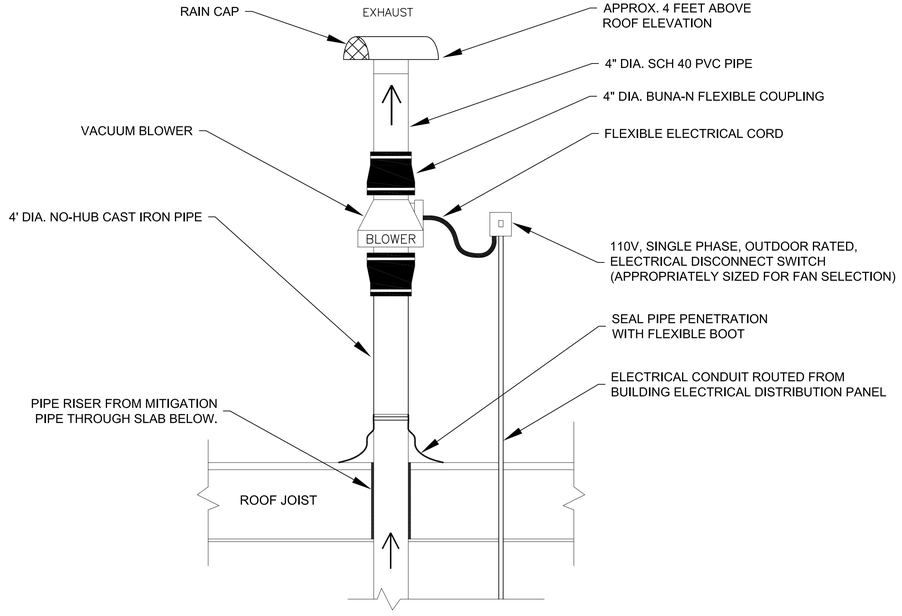
NOT TO SCALE




NOTE: BUILDING DETAILS SHOWN FOR CONCEPTUAL PURPOSES ONLY. NOT TO BE USED FOR STRUCTURAL OR ARCHITECTURAL PURPOSES.

## BLOWER AND ROOF PIPING DETAIL

NOT TO SCALE

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NOTES:

A. BUILDING DETAILS SHOWN FOR CONCEPTUAL PURPOSES ONLY. NOT TO BE USED FOR STRUCTURAL OR ARCHITECTURAL PURPOSES.
B. VACUUM BLOWER/FAN MAKE/MODEL: RADONAWAY INC, MODEL NO. GX4
C. VACUUM ALARM(S) MAKE/MODEL: OBAR SYSTEMS INC, MODEL NO. GBR25-R

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# APPENDIX A

RadonAway®

# GX PRO SERIES FANS

## Radon and Vapor Intrusion Mitigation Fans

Experience the power of a GX Series Fan! Capable of operating at over 4" of vacuum, our GX fans will blow you away. GX fans are recommended for moderate to tight soils.

MADE IN USA — Made in USA with U.S. and imported parts.

ETL Listed — Intertek

5 YEAR WARRANTY — All RadonAway® inline radon fans are covered by our 5-year, hassle-free warranty.

## Vapor Tite™ Technology & Eternalast™

Vapor Tite™ sealing technology is an induction welding process where the housing is permanently bonded together, inhibiting radon and soil gas leakage.

Eternalast™ polycarbonate plastic housing protects the fan from color fade over time, keeping the exterior coloration brilliant throughout the system duration.

## Features

- Optimal for moderate to tight soils
- Eternalast™ polycarbonate plastic housing
- Vapor Tite™ technology to inhibit radon and soil gas leakage
- Water-hardened thermally-protected motor
- Quiet operation
- Rated for commercial and residential use
- Rated for indoor and outdoor use
- ETL Listed

radonaway.com

# GX PRO SERIES

## TECHNICAL SPECIFICATIONS

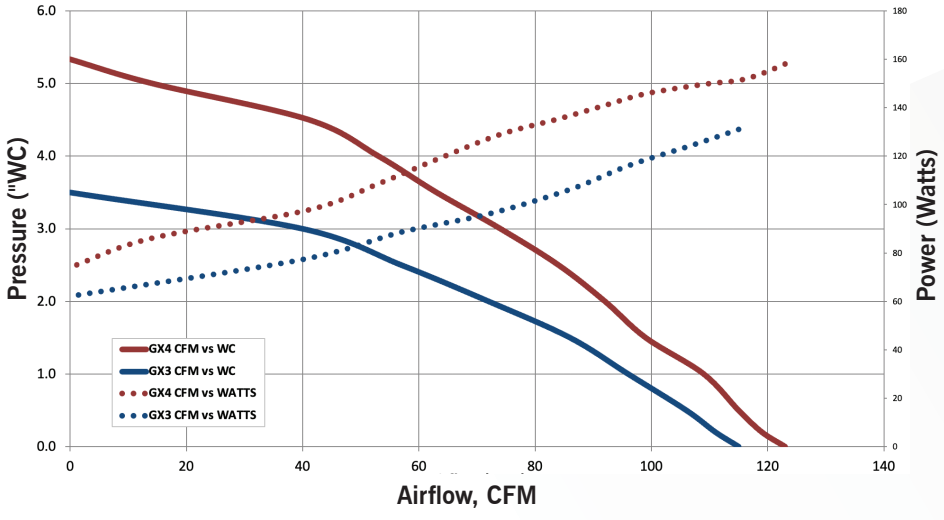
| MODEL | P/N | FAN DUCT DIAMETER | WATTS | RECOM. MAX. OP. PRESSURE "WC | TYPICAL CFM vs. STATIC PRESSURE WC | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1.0" | 1.5" | 2.0" | 2.5" | 3.0" | 3.5" | 4.0" | 4.5" |
| GX3 | 28584 | 3" | 60-135 | 3.3 | 96 | 86 | 72 | 57 | 40 | - | - | - |
| GX4 | 28585 | 3" | 74-158 | 4.8 | - | - | - | 84 | 74 | 63 | 53 | 41 |

MADE IN USA

ETL Listed

All RadonAway® inline radon fans are covered by our 5-year, hassle-free warranty.

## PERFORMANCE CURVE




## FAN DIMENSIONS

| MODEL | A | B | C |
|---|---|---|---|
| GX3 | 3.5" | 11.9" | 10.9" |
| GX4 | 3.5" | 11.9" | 10.9" |

RadonAway®

P/N 02083
Rev B 0723

# GX Pro Series Fans
# Installation Instructions

DO NOT CONNECT POWER SUPPLY UNTIL FAN IS COMPLETELY INSTALLED.
MAKE SURE ELECTRICAL SERVICE TO FAN IS LOCKED IN "OFF" POSITION.
DISCONNECT POWER BEFORE SERVICING FAN.

1. **WARNING!** For General Ventilating Use Only. Do Not Use to Exhaust Hazardous, Corrosive or Explosive Materials, Gases or Vapors. See Vapor Intrusion Application Note #AN001 for important information on VI Applications. RadonAway.com/vapor-intrusion

2. **NOTE:** Fan is suitable for use with solid state speed controls; however, use of speed controls is not generally recommended.

3. **WARNING!** Check voltage at the fan to insure it corresponds with nameplate.

4. **WARNING!** Normal operation of this device may affect the combustion airflow needed for safe operation of fuel burning equipment. Check for possible backdraft conditions on all combustion devices after installation.

5. **NOTICE!** There are no user serviceable parts located inside the fan unit.
   **Do NOT attempt to open.** Return unit to the factory. (See Warranty, p. 8, for details.)

6. **WARNING!** Do not leave fan unit installed on system piping without electrical power for more than 48 hours. Fan failure could result from this non-operational storage.

7. **WARNING!** TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

   a) Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer. (See p. 8.)

   b) Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.

   c) Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire rated construction.

   d) Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent backdrafting. Follow the heating equipment manufacturers' guidelines and safety standards such as those published by any National Fire Protection Association, and the American Society for Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), and the local code authorities.

   e) When cutting or drilling into a wall or ceiling, do not damage electrical wiring and other hidden utilities.

   f) Ducted fans must always be vented to outdoors.

   g) If this unit is to be installed over a tub or shower, it must be marked as appropriate for the application and be connected to a GFCI (Ground Fault Circuit Interrupter) protected branch circuit.

# 1.0 SYSTEM DESIGN CONSIDERATIONS

## 1.1 INTRODUCTION

The GX Pro Series Radon Fan is intended for use by trained, professional, certified/licensed radon mitigators. The purpose of these instructions is to provide additional guidance for the most effective use of GX Pro Series Radon Fans. These instructions should be considered supplemental to current industry standards and federal, state, county and local building codes and regulations. In the event of a conflict, those standards, codes, practices and regulations take precedence over these instructions.

## 1.2 FAN SEALING

The GX Pro Series Radon Fan is factory sealed; no additional caulk or other materials are required to inhibit air leakage.

## 1.3 ENVIRONMENTALS

The GX Pro Series Radon Fan is designed to perform year-round in all but the harshest climates without additional concern for temperature or weather. For installations in an area of severe cold weather, please contact RadonAway for assistance. When not in operation, the fan should be stored in an area where the temperature is never less than 32 degrees F or more than 100 degrees F.

## 1.4 ACOUSTICS

The GX Pro Series Radon Fan, when installed properly, operate with little or no noticeable noise to the building occupants. The velocity of the outgoing air should be considered in the overall system design. In some cases a “rushing” sound of the outlet air may be audible. In these instances, the use of a RadonAway Exhaust Muffler is recommended.

## 1.5 GROUND WATER

In the event that a temporary high water table results in water at or above slab level, water may be drawn into the riser pipes, thus blocking air flow to the GX Pro Series Radon Fan. The lack of cooling air may result in the fan cycling on and off as the internal temperature rises above the thermal cutoff. Should this condition arise, it is recommended that the fan be turned off until the water recedes, allowing for return to normal operation.

## 1.6 SLAB COVERAGE

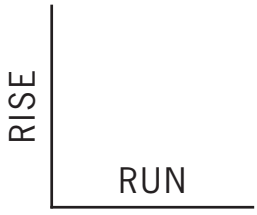
The GX Pro Series Radon Fan can provide coverage up to 2000+ sq. ft. per slab penetration. This will primarily depend on the sub-slab material in any particular installation. In general, the tighter the material, the smaller the area covered per penetration. Appropriate selection of the RadonAway Radon Fan best suited for the sub-slab material can improve the slab coverage. Additional suction points can be added as required. It is recommended that a small pit (5 to 10 gallons in size) be created below the slab at each suction hole.

## 1.7 CONDENSATION & DRAINAGE

Condensation is formed in the piping of a mitigation system when the air in the piping is chilled below its dew point. This can occur at points where the system piping goes through unheated space such as an attic, garage or outside. The system design must provide a means for water to drain back to a slab hole to remove the condensation. In order to allow for proper drainage, airflow should be kept below 90 CFM when using 3" pipe. The GX Pro Series Radon Fan MUST be mounted vertically plumb and level, with the outlet pointing up for proper drainage through the fan. Avoid mounting the fan in any orientation that will allow water to accumulate inside the fan housing. The GX Pro Series Radon Fan is NOT suitable for underground burial.

For GX Pro Series Radon Fan piping, the following table provides the minimum recommended pipe diameter and pitch under several system conditions.

| Pipe Diameter | Minimum Rise per Ft of Run* | | |
|---|---|---|---|
| | @25 CFM | @50 CFM | @100 CFM |
| 4" | 1/8" | 1/4" | 3/8" |
| 3" | 1/4" | 3/8" | - |




See p. 6-7 for detailed specifications.

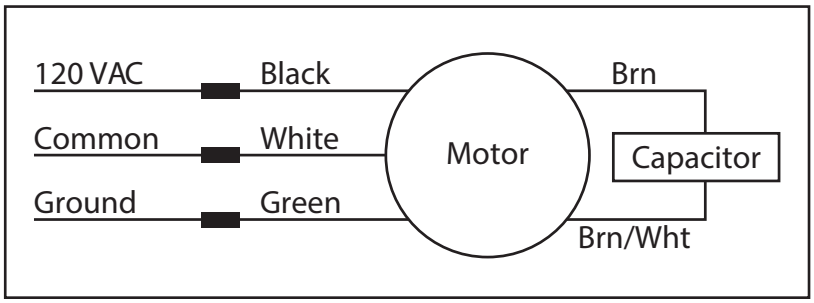
## 1.8 SYSTEM MONITOR & LABEL

As may be required, system monitors, alarms and labels are available for separate purchase. The GX3 Fan is compatible with a 4.5" U-Tube Manometer (such as P/N 50017) and the GX3, GX4, and GX5 Fans are compatible with a 6.5" U-Tube Manometer (such as P/N 50036). You may choose to also use an audible alarm (P/N 28001-2, 28001-4, 28421 or 28535). A System Label (provided with Manometers P/N 50017 and 50036) with instructions for contacting the installing contractor for service and identifying the necessity for periodic radon tests to be conducted by the building occupants, as may be required, can be conspicuously placed in a location where the occupants frequent and can see the label.

## 1.9 ELECTRICAL WIRING

The GX Pro Series Radon Fan operates on standard 120V, 60Hz AC. All wiring must be performed in accordance with National Fire Protection (NFPA) National Electrical Code, Standard #70, current edition, for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician. Outdoor installations require the use of a UL Listed watertight conduit. Ensure that all exterior electrical boxes are outdoor rated and properly sealed to prevent water penetration into the box. A means, such as a weep hole, recommended to drain the box.

### GX Pro Series Radon Fans Wiring Diagram



# 2.0 INSTALLATION

The GX Pro Series Radon Fan can be mounted indoors or outdoors. (It is suggested that current industry standards and federal, state, county and local building codes and regulations be followed in choosing the fan location.) The GX Pro Series Radon Fan may be mounted directly on the system piping or fastened to a supporting structure by means of an optional mounting bracket.

The ducting from the fan to the outside of the building has a strong effect on noise and fan energy use. Use the shortest, straightest duct routing possible for best performance, and avoid installing the fan with smaller ducts than recommended. Insulation around the ducts can reduce energy loss and inhibit mold growth. Fans installed with existing ducts may not achieve their rated airflow.

## 2.1 MOUNTING

Mount the GX Pro Series Radon Fan vertically with outlet up, using flexible couplings to connect the fan to the pipe. Ensure the unit is plumb and level. When mounting directly on the system piping assure that the fan does not contact any building surface to avoid vibration noise. An optional mounting bracket (P/N 25007) is available, as are foam or rubber grommets and other items for vibration isolation.

## 2.2 SYSTEM PIPING

Complete piping run, as may be required by current industry standards and federal, state, county and local building codes and regulations, using flexible couplings as a means of disconnect for servicing the unit and for vibration isolation. As the fan is typically outside of the building thermal boundary and is venting to the outside, installation of insulation around the fan is not required. If desired, a vent muffler (such as P/N 24003 or 24007), available separately, may be installed at the end of the pipe.

## 2.3 ELECTRICAL CONNECTION

Connect wiring with wire nuts provided, observing proper connections (See Section 1.9). Note that the fan is not intended for connection to rigid metal conduit.

## 2.4 OPERATION CHECKS & ANNUAL SYSTEM MAINTENANCE

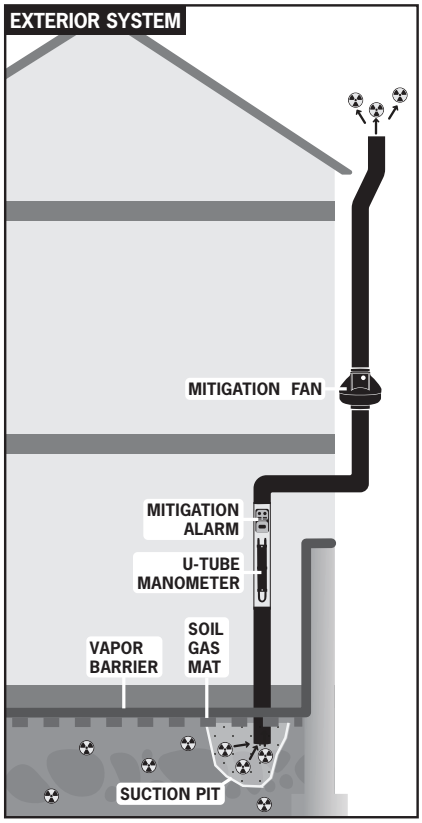
_____ **Verify** all connections are tight and **leak-free**.

_____ **Ensure** the GX Pro Series Radon Fan and all ducting are **secure and vibration-free**.

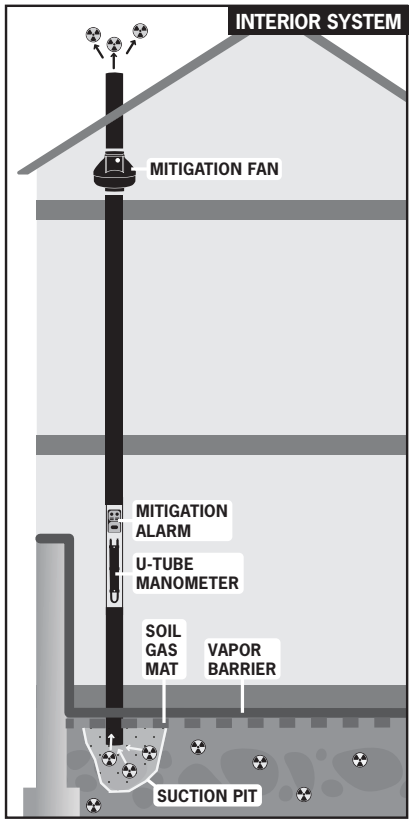
_____ **Verify system vacuum pressure** with manometer.
**Ensure** vacuum pressure is within normal operating range and **less than** the maximum recommended operating pressure.
(Based on sea-level operation, at higher altitudes reduce by about 4% per 1000 feet)
(Further reduce Maximum Operating Pressure by 10% for High Temperature environments.)
*See Product Specifications. If this is exceeded, increase the number of suction points.*

_____ **Verify Radon levels** by testing to applicable current industry standards.

**TYPICAL GX OUTDOOR INSTALLATION**




**TYPICAL GX INDOOR INSTALLATION**

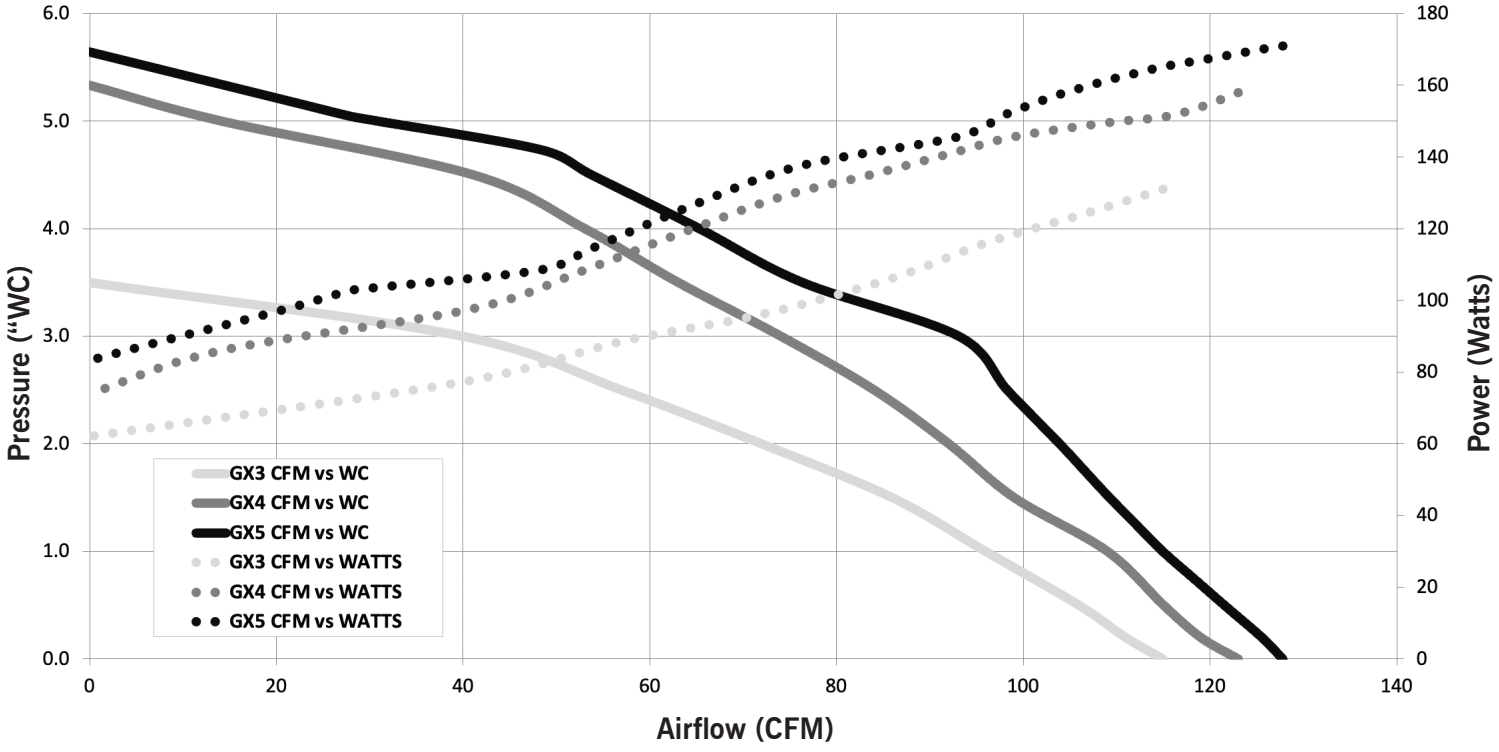


## THE FOLLOWING CHARTS SHOW THE PERFORMANCE OF THE GX PRO SERIES RADON FANS

## GX PRO SERIES RADON FANS PRODUCT SPECIFICATIONS

| Typical CFM vs. Static Pressure "WC | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Model** | **1.5"** | **2.0"** | **2.5"** | **3.0"** | **3.5"** | **4.0"** | **4.5"** | **5.0"** |
| GX3 | 86 | 72 | 57 | 40 | - | - | - | - |
| GX4 | - | - | 84 | 74 | 63 | 53 | 41 | - |
| GX5 | - | - | 98 | 93 | 76 | 65 | 54 | 31 |

## GX PRO SERIES PERFORMANCE CURVES



**THE FOLLOWING CHARTS SHOW THE PERFORMANCE OF THE GX PRO SERIES RADON FANS**

## GX PRO SERIES RADON FANS PRODUCT SPECIFICATIONS (CONTINUED)

| Model | Power Consumption<br>120VAC, 60Hz, 1.8 Amp Maximum | Maximum Recommended Operation Pressure*<br>(Sea Level Operation)** |
|---|---|---|
| GX3 | 60 - 135 watts | 3.3" WC |
| GX4 | 74 - 158 watts | 4.8" WC |
| GX5 | 75 - 180 watts | 5.2" WC |

**Reduce by 10% for High Temperature Operation. **Reduce by 4% per 1000 ft. of altitude.*

| Model | Size | Weight | Inlet/Outlet |
|---|---|---|---|
| GX3 | 10.9"H x 11.9" Dia. | 7 lbs 10 oz | 3.5" OD<br>(3.0" PVC Sched 40 size compatible) |
| GX4 | | 8 lbs 1 oz | |
| GX5 | | 8 lbs 15 oz | |

## GX PRO SERIES RADON FAN ADDITIONAL SPECIFICATIONS

| Model | Recommended Ducting | Recommended PVC Pipe Mounting | Thermal Cutout | Insulation Class |
|---|---|---|---|---|
| GX3 | 3" or 4"<br>PVC pipe | Inline pipe mount with flex couplings<br>(optional bracket available) | 120°C / 248°F | Class B<br>Insulation |
| GX4 | | | | |
| GX5 | | | | |

**Continuous Duty**
**3000 RPM**
**Thermally Protected**
**Residential and Commercial**
**Rated for Indoor or Outdoor Use**

LISTED
Electric Fan

Intertek
77728

Conforms to
UL STD. 507

Certified to
CAN/CSA STD.
C22.2 No.113

# IMPORTANT INSTRUCTIONS TO INSTALLER

Inspect the RadonAway® GX Pro Series Radon Fan for shipping damage within 15 days of receipt. **Notify RadonAway® of any damages immediately.** RadonAway is not responsible for damages incurred during shipping. However, for your benefit, RadonAway does insure shipments.

There are no user serviceable parts inside the fan. **Do not attempt to open the housing.** Return unit to factory. (See Warranty below).

Install the GX Pro Series Radon Fan in accordance with all current industry standards and federal, state, county and local building codes and regulations.

**Provide a copy of this instruction or comparable radon system and testing information to the building occupants after completing system installation.**

## Warranty

RadonAway® warrants that the GX Pro Series Radon Fan (the "Fan") will be free from defects in materials and workmanship for a of 12 months from the date of purchase or 18 months from the date of manufacture, whichever is sooner (the "Warranty Term").

RadonAway® will replace any fan which fails due to defects in materials or workmanship during the Warranty Term. This Warranty is contingent on installation of the Fan in accordance with the instructions provided. This Warranty does not apply where any repairs or alterations have been made or attempted by others, or if the unit has been abused or misused. Warranty does not cover damage in shipment unless the damage is due to the negligence of RadonAway®.

The Fan must be returned (at Owner's cost) to the RadonAway® factory. Any Fan returned to the factory will be discarded unless the Owner provides specific instructions along with the Fan when it is returned regardless of whether or not the Fan is actually replaced under this warranty. Proof of purchase must be supplied upon request for service under this Warranty.

**5-YEAR EXTENDED WARRANTY WITH PROFESSIONAL INSTALLATION.**

RadonAway® will extend the Warranty Term of the fan to 60 months (5 years) from date of purchase or 66 months from date of manufacture, whichever is sooner, provided that the fan is installed by a professional radon mitigation contractor. Proof of purchase and/or proof of professional installation may be required for service under this warranty. No extended warranty is offered outside the Continental United States and Canada beyond the standard 12 months from the date of purchase or 18 months from the date of manufacture, whichever is sooner.

RadonAway® is not responsible for installation, removal or delivery costs associated with this Warranty.

**LIMITATION OF WARRANTY**

**EXCEPT AS STATED ABOVE, THE GX PRO SERIES RADON FAN IS PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

**IN NO EVENT SHALL RADONAWAY® BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR RELATING TO, THE FAN OR THE PERFORMANCE THEREOF. RADONAWAY'S AGGREGATE LIABILITY HEREUNDER SHALL NOT IN ANY EVENT EXCEED THE AMOUNT OF THE PURCHASE PRICE OF SAID PRODUCT. THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY SHALL BE THE REPAIR OR REPLACEMENT OF THE PRODUCT, TO THE EXTENT THE SAME DOES NOT MEET WITH RADONAWAY'S WARRANTY AS PROVIDED ABOVE.**

For service under this Warranty, contact RadonAway® for a Return Material Authorization (RMA) number and shipping information. No returns can be accepted without an RMA. If factory return is required, the customer assumes all shipping costs, including insurance, to and from factory.

RadonAway®
3 Saber Way, Ward Hill, MA 01835 USA
TEL (800) 767-3703
Email to: returns@radonaway.com

Record the following information for your records:

Serial Number:_____ Purchase Date:_____

**GBR 25 Mini Digital Differential Pressure Gauge With Alarm**

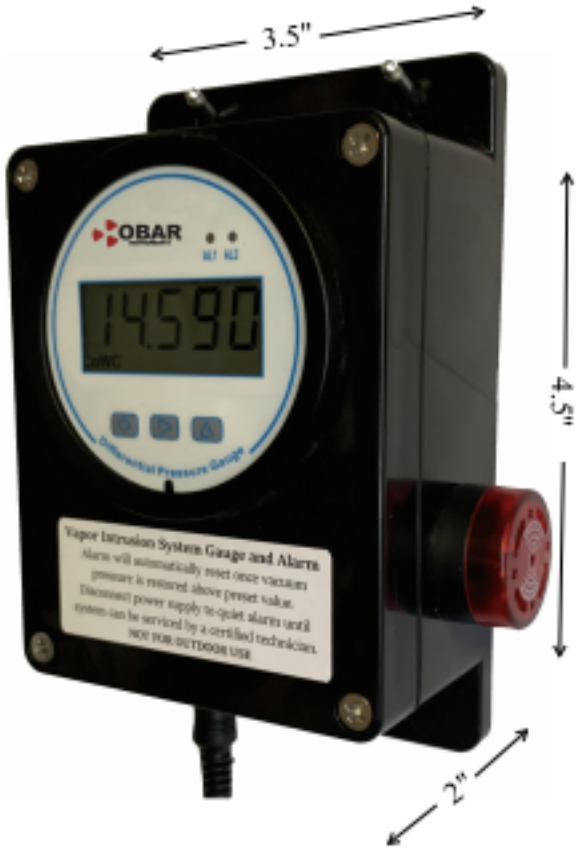
## System alarms and monitoring made simple and affordable.

Finally a product that has what you need and can be easily installed.
The GBR 25 is a compact stand alone system gauge with an audible and visual alarm that works for VOC and Radon systems operating at system pressures greater than 2" wc. Included is a second relay that can be used to trigger additional alarms.
Includes Power supply
Optional 4-20 MA or 0-10 outputs can be used to monitor system pressure.

Contact OBAR for a quote to build custom alarm panels for your needs.

### Applications and features

- Scale 0-40 inches WC eliminates need for multiple gauges.
- Visual and audible alarm included and factory set at 1" WC
  The alarm set point can be changed in the field.
- Second adjustable relay for triggering additional alarms.
- Optional 4-20 MA or 0-10 output for data.
- Accuracy is up to ±1% FS, with large LCD display.
- Function keys: zero reset, units select, display update time, automatic sleep time, alarm, etc.

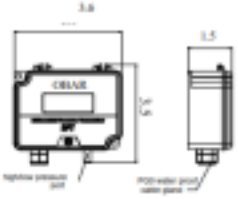



### Specifications

**Medium:** Non-combustible, non-corrosive air, insensitive to moisture, dust, condensation and oil
**Working Temp.:** 20~70°C
**Medium Temp.:** 0~60°C
**Temp. Compensation:** 0~50°C
**Working Pressure:** overload 10xFS, burst 15xFS
**Display:** 5 bits LCD, with engineering unit & backlight
**Output:** 0-10V / 4-20mA (3 wires)
**Output load:** ≤500Ω (current), ≥2KΩ (voltage)
**Relay Output:** 2×SPST, 3A/30VDC, 3A/250VAC or 1xBuzzer
**Accuracy:** up to ±1.0%FS(±2.0%FS@25Pa range)
**Long term stability:** ±0.5%FS /Year
**Thermal effect:** <0.05%FS/°C (zero), <0.08%FS/°C(FS)
**Power type** 16~28VDC/AC
**24V Power Supply included**
**Process Connection:** 5mm ID tubing, two pairs (left/back)
**Keys:** 3 touch buttons
**Protection:** IP54
**Approval:** CE
**Display update time:** selectable for 0.5/1/5/10s (default 1s)

**Other OBAR products you may be interested in.**

**DPT(DPT-F Flush Mount) Differential Pressure Transmitter**




**Pricing:** $125 per unit

**Add $20 for 4-20 mA / 0-10V version**

**Custom options and bulk order pricing available. Call or email for details.**

**OBAR Systems, Inc.** **800-949-OBAR** **wholesale@obarsystems.com**

# Low Profile Custom Alarm Panel

## Features

Pre-wired solution for SSDS systems.

Vacuum tube connections pre-labeled to corresponding gauge.

Hinge orientation can be customized.

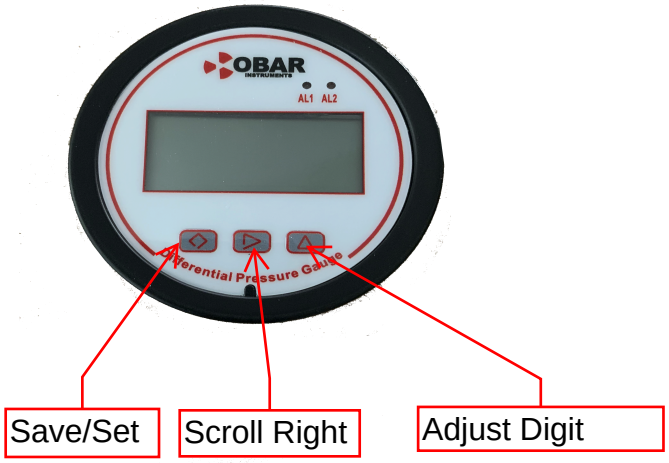
Secondary relay can be used for secondary alarm/MarCell Pro monitor or upgrade to a 4-20 mA/0-10v output for remote monitoring capability.

Low profile, wall mountable design.

Power supply included.

Custom labeling available.

# GBR 25R Relay Gauge Programing Guide




The gauge is pre-set to:
Audible and Visual alarm with visual being displayed as "Lo"
Display is set to:
inches of W.C. Refresh: every 5 seconds. Alarm: activated at pressure less than 1.0" W.C. Alarm Delay: 0

Available Programs

The GBR series gauge/alarm are programmable for the following changes indicated by P# and setting #
P081 Display pressure readings in units of: #1 pascals, #2 K-pascals, #3 mbar, #4 mm water column, #5 inches water column
P075 Refresh display: 0.5, 1, 5, or 10 seconds
P401 or 402 to set relays

Steps to Access a Program

In each case to change a program setting use the following initial steps:
Press Save/Set button and P000 will appear. Press Scroll Right button to Select first digit 0. Press Adjust Digitbutton to enter program number for that digit.
Press Scroll Right button to select second, third or first digit and press Adjust Digit button to set the program number .
Once program number is set, press Save/Set Button to begin adjusting the program setting to the desired function.
After inputting the number representing the desired function, hold the Save/Set button to input the setting for that function and the gauge will return to displaying the system pressure.

P081 Pressure Units
(Preset to Inches of WC)
1. Activate P081 programing
2. Press Adjust Digit button to select a unit.
1= Pascal, 2=K Pascal, 3= mbar,
4= mm W.C., 5= in W.C.
3. Hold Save/Set button to input new settings

P075 Refresh Delay
(Preset to refresh every 5 Sec)
1. Activate P075 programing
2. Press Adjust Digit button to select refresh delay.
Refresh delay choices are 0.5, 1, 5, 10 seconds
3. Hold Save/Set button to input new settings

P302 Alarm Audible option
(Preset Audible & Visual)
1. Activate P302 programing
2. Press Adjust Digit button to select
1 for Audible & Visual alarm
0 for Visual alarm only.
3. Hold Save/Set button to input new settings

To Re Zero Display
1. Disconnect tubing from suction pipe.
2. Hold Scroll Right button for 5 seconds
3. Display should read zero
4. Reconnect tubing into the suction pipe

P810 Factory Reset
(Factory Setting is alarm off)
1. Activate P810 programing
2. Hold Save/Set button to revert to Factory Settings

P401 and 402 Relay Activation Pressure
(Preset to 250 Pa or 1.0" WC)
1. Activate P401 or 402 programing
2. Press Adjust Digit button and select 1.
0 turns off relay
1, 2, 3 & 4 are high versus low alarm variations
3. Press Save/Set button to next set low activation pressure
4. Pressure setting is made in Pascals ( 00250.0 Pa = 1"WC )
5. Use Scroll Right and Adjust Digit button to
specify desired low activation pascal pressure
6. Press Save/Set button to set specified low pressure
7. Next display is high pressure setting used for high low variations
High pressure setting used if 2, 3 or 4 was initially programed.
8. Press Save/Set button to next set and specify 0 for Alarm Delay.
9. Press Save/Set button to next specify 0 for Restore Delay
10 Press Save/Set Button and system pressure is displayed

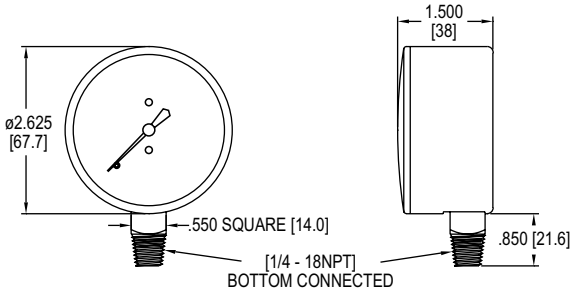
Dwyer

SERIES LPG4

# 2.5″ LOW PRESSURE GAGE

## 1.5% Full-Scale Accuracy in a 2.5″ Gage

**CALIBRATION SERVICES AVAILABLE**




Our **Series LPG4 2.5″ Low Pressure Gage** offers top of the line performance and accuracy for pressure and vacuum applications up to and including 160 in w.c. The LPG4 is constructed from a single beryllium-copper diaphragm affixed to a precision-machined brass plate. This innovative design, together with a high-precision, milled-teeth brass movement and nickel-silver pinion and bearing surface, provide the user with a top of the line low pressure instrument.

### BENEFITS/FEATURES

- Low pressure gage provides a selection to meet specific applications
- Specified with high ambient and process temperature ratings mean more robust uses and longer service-life
- High accuracy gage for applications requiring more precise measurement is a concern

### APPLICATIONS

- Air flow indication
- Liquid level
- Draft measurement

### SPECIFICATIONS

**Service:** Compatible gases and liquids.
**Wetted Materials:** Brass and beryllium copper.
**Housing:** Drawn steel, black finish.
**Lens:** Polycarbonate (removable).
**Accuracy:** ±1.5% FS.
**Pressure Limit:** 100% of range scale.
**Temperature Limits:** Process: -40 to 160°F (-40 to 70°C); Ambient: -40 to 140°F (-40 to 60°C).
**Size:** 2.5″ (63 mm).
**Process Connections:** 1/4″ male NPT.
**Enclosure Rating:** NEMA 3 (IP54).
**Weight:** 7.3 oz (0.21 kg).

### MODEL CHART

| Model | Range | Model | Range |
|---|---|---|---|
| **LPG4-D7122N** | -10 to 0 in w.c. (-2.5 to 0 kPa) | **LPG4-D8322N** | 0 to 40 in w.c. (0 to 10 kPa) |
| **LPG4-D7222N** | -15 to 0 in w.c. (-4 to 0 kPa) | **LPG4-D8422N** | 0 to 60 in w.c. (0 to 15 kPa) |
| **LPG4-D7322N** | -25 to 0 in w.c. (-6 to 0 kPa) | **LPG4-D8522N** | 0 to 80 in w.c. (0 to 20 kPa) |
| **LPG4-D7422N** | -40 to 0 in w.c. (-10 to 0 kPa) | **LPG4-D8622N** | 0 to 100 in w.c. (0 to 25 kPa) |
| **LPG4-D7522N** | -60 to 0 in w.c. (-15 to 0 kPa) | **LPG4-D8722N** | 0 to 160 in w.c. (0 to 40 kPa) |
| **LPG4-D7622N** | -80 to 0 in w.c. (-20 to 0 kPa) | **LPG4-D8922N** | -4 to 0 to 6 in w.c. (-1 to 0 to 1.5 kPa) |
| **LPG4-D7722N** | -100 to 0 in w.c. (-25 to 0 kPa) | **LPG4-D9022N** | -6 to 0 to 10 in w.c. (-1.5 to 0 to 2.5 kPa) |
| **LPG4-D7822N** | -160 to 0 in w.c. (-40 to 0 kPa) | **LPG4-D9122N** | -8 to 0 to 16 in w.c. (-2 to 0 to 4 kPa) |
| **LPG4-D7922N** | -235 to 0 in w.c. (-60 to 0 kPa) | **LPG4-D9222N** | -16 to 0 to 24 in w.c. (-4 to 0 to 6 kPa) |
| **LPG4-D8022N** | 0 to 10 in w.c. (0 to 2.5 kPa) | **LPG4-D9322N** | -24 to 0 to 40 in w.c. (-6 to 0 to 10 kPa) |
| **LPG4-D8122N** | 0 to 15 in w.c. (0 to 3.75 kPa) | **LPG4-D9422N** | -30 to 0 to 50 in w.c. (-7.5 to 0 to 12.5 kPa) |
| **LPG4-D8222N** | 0 to 25 in w.c. (0 to 6 kPa) | **LPG4-D9522N** | -40 to 0 to 60 in w.c. (-10 to 0 to 15.0 kPa) |

### OPTIONS

| Use order code: | Description |
|---|---|
| **NISTCAL-PG1** | NIST traceable calibration certificate |



USA: California Proposition 65
⚠ **WARNING:** This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

# APPENDIX L – QUALITY ASSURANCE PROJECT PLAN

July 2025
350 Beach 79th Far Rockaway

ANCHOR QEA

# Quality Assurance Project Plan

Prepared for 79 Arverne Development LLC
220-46 73rd Avenue
Bayside, New York 11364

July 2025
350 Beach 79th Far Rockaway

# Quality Assurance Project Plan

**Prepared for**
79 Arverne Development LLC
220-46 73rd Avenue
Bayside, New York 11364

**Prepared by**
Anchor QEA Engineering, PLLC
54 Genesee St
Suite 100A
Camillus, NY 13031

Project Number: E80327-05.02
\\WCL-FS1\Syracuse\Projects\Harmony Group\Far Rockaway - Remedial Construction Support\To Be Migrated\09 Draft Reports and Presentations\SMP\Appendices\Appendix K - QAPP\QAPP.docx

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# ABBREVIATIONS

| | |
|---|---|
| ASTM | ASTM International |
| CCV | continuing calibration verification |
| CoC | chain-of-custody |
| DQO | data quality objective |
| EPA | U.S. Environmental Protection Agency |
| FC | Field Coordinator |
| GC | gas chromatography |
| HASP | Health and Safety Plan |
| MD | matrix duplicate |
| MDL | method detection limit |
| MRL | method reporting limit |
| MS | matrix spike |
| MSD | matrix spike duplicate |
| NAD83 | North American Datum of 1983 |
| NAVD88 | North American Vertical Datum of 1988 |
| NELAP | National Environmental Laboratory Association Program |
| NIST | National Institute of Standards and Technology |
| PM | Project Manager |
| QA | quality assurance |
| QAPP | Quality Assurance Project Plan |
| QC | quality control |
| RL | reporting limit |
| RPD | relative percent difference |
| SDG | sample delivery group |
| Site | Bison City Rod & Gun Club in Buffalo, New York |
| SOP | Standard Operating Procedure |
| SVOC | semivolatile organic compound |
| VOC | volatile organic compound |

# 1 Introduction

This QA/QC Plan supports the Site Management Plan (SMP) for the Far Rockaway Beach 79th Street Site in Queens, NY, developed under the New York State Brownfield Cleanup Program (BCP). This plan outlines QA/QC procedures for long-term monitoring and maintenance activities, including:

- Quarterly groundwater sampling to assess the effectiveness of in-situ chemical reduction and monitored natural attenuation (MNA)
- As-needed indoor air sampling in support of the sub-slab depressurization systems (SSDS)
- Soil and waste characterization if intrusive work is performed in accordance with the Excavation Work Plan (EWP).

This QA/QC Plan complies with NYSDEC's DER-10 and is consistent with the NYSDEC-approved Quality Assurance Project Plan (QAPP) included in the Site's Remedial Design Document (RDD).

## 1.1 Purpose

This Quality Assurance Project Plan (QAPP) has been prepared to specify recommended quality assurance (QA) procedures to be followed for future Operation, Maintenance, and Monitoring at the 350 Beach 79th Site in Far Rockaway, Queens, New York (the Site). The specific QAPP objectives include:

- Ensure data collected are of known and acceptable quality.
- Maintain consistency across sample collection, handling, analysis, and reporting.
- Provide defensible data to support decision-making, particularly for:
    - Effectiveness of remedy performance (CarBstrate™ injections, sub-slab depressurization systems [SSDSs]).
    - Ongoing risk management (soil disturbance and vapor intrusion).
    - Compliance with regulatory requirements.

## 1.2 Project Organization

This QAPP has been prepared by Anchor QEA Engineering, PLLC, on behalf of 79 Arverne Development LLC (Owner). The success of this program is based on the concept that the implementation of this program is the responsibility of all project participants. The key roles and responsibilities for implementing this QAPP should be determined/assigned prior to sampling and include the following:

- **Project Manager (PM)** – responsible for
    - Allocating technical and human resources and schedule management.
    - Providing overall programmatic guidance to support staff.

  - Verifying that all documents, procedures, and project activities meet the objectives contained within this QAPP.
  - Resolving project concerns or conflicts related to technical matters.
- **Field Coordinator (FC) –** responsible for:
  - Day-to-day technical and QA/quality control (QC) oversight for sample collection activities.
  - Verifying that appropriate protocols for sample collection, preservation, and holding times are observed.
  - Submitting environmental samples to the designated laboratories for chemical and physical analyses.
- **QA Manager** – responsible for:
  - Providing QA oversight for both the field sampling and laboratory programs.
  - Verifying that samples are documented appropriately.
  - Coordinating with the analytical laboratories.
  - Verifying data quality.
  - Overseeing data validation.
  - Supervising project QA coordination and data validation.
  - Working with the Laboratory PM to resolve QC issues as they affect the viability of the project data.
  - Working with data validators to verify that all analytical data are in conformance with the requirements of this QAPP.
- **Data Manager** – responsible for:
  - Compiling field observations and analytical data into a database.
  - Reviewing the data for completeness and consistency.
  - Appending the database with qualifiers assigned by the data validator.
  - Verifying that the data obtained is in a format suitable for inclusion in the appropriate databases.
- **Laboratory PM** – responsible for:
  - Overseeing all laboratory operations associated with the receipt of the environmental samples, chemical/physical analyses, and laboratory report preparation.

Reviewing all laboratory reports and preparing case narratives describing any anomalies and exceptions during analyses.

# 2 Investigation and Sampling Procedures

The scope of investigations presented in this QAPP include the following:

- Periodic groundwater monitoring
- Periodic indoor air monitoring (as needed)
- Soil sampling (as needed for management/disposal)

Sampling will be conducted in accordance with the project Health and Safety Plan (HASP; Appendix X of the Site Management Plan). Samples will be analyzed according to the U.S. Environmental Protection Agency (EPA) promulgated Standard Method, or ASTM International (ASTM) methods. Regardless of the method used, all preparation and analytical holding times must meet the requirements for that analytical group and as outlined in Table 1. Holding times will be calculated from the sample collection date and time. The method detection limits (MDLs) and method reporting limits (MRLs) for the analytes are laboratory-specified for the project based on its most recent MDL studies. Analyte lists for groundwater and air samples are listed in Tables 2 and 3.

## 2.1 Utility Locating and Surveying

Anticipated monitoring will be performed on the Site, in permanent post-remedial monitoring wells (PMW-1 through PMW-8), inside occupied buildings (as needed for testing indoor air), and in soil generated for site maintenance. Anticipated ongoing monitoring activities will not require utility clearance. However, prior to any subsurface intrusive work investigation, target locations will be mapped and private and public utilities will be located to identify potential conflicts. When fieldwork has been completed, actual locations completed will be surveyed.

### *2.1.1 Utility Locating*

Prior to any intrusive fieldwork, utility location work will be completed to identify potential obstructions or conflicts with target locations. Site characterization target locations will be marked using white paint or flags using a handheld GPS. These markings will be visible during utility locators for public utilities notified as part of the New York Dig Safe program (811). Responses from the Dig Safe notification will be documented to ensure all public utilities have been marked.

Following public utility marking, a private utility location subcontractor will mobilize to the Site to complete a geophysical survey for additional buried utilities. Tools such as ground penetrating radar, magnetometer, and pipe and cable locators will be used. The firm will focus on the proposed locations and investigate to "clear" a 5-foot radius around each proposed subsurface investigation location, allowing for adjustments by the drilling firm in the field to ensure the drill is advanced in an area clear of subsurface utilities.

### *2.1.2 Surveying*

As necessary, locating and mapping media sampling locations in the field prior to the start of intrusive activities will be completed using GPS methods. GPS survey tools are a standard means to identify target locations that may later be adjusted for various reasons. Minimum procedures for data acquisition, analysis, and QA to establish survey/positioning of field investigation locations will include the following:

- Proposed location coordinates will be determined in the field using GPS equipment accurate to ± 1 meter at a minimum.
- Changes in location will be reviewed with the Field Coordinator (FC) and PM prior to any move/adjustment.
- Coordinates for proposed investigation locations will be identified prior to mobilization and reviewed with National Grid and the New York State Department of Environmental Conservation.
- All elevation data recorded will be in North American Vertical Datum of 1988 (NAVD88) and all horizontal coordinates will be relative to North American Datum of 1983 (NAD83), State Plane New York Long Island.

Following completion of all site characterization fieldwork, a licensed New York surveyor will mobilize to the Site to collect position and elevation data for investigation locations, as appropriate. Standard land-based survey techniques will be used and minimum procedures for data acquisition will include the following:

- All elevation data recorded will be in NAVD88, and all horizontal coordinates will be relative to NAD83, State Plane New York Long Island.
- The survey is to be performed at a horizontal accuracy of less than 1 foot.

## 2.2 Sample Collection

The following sections describe procedures to be followed in the field for soil, groundwater, and indoor air sample collection, as applicable.

### *2.2.1 Sampling Equipment*

The following is a general list of equipment that may be necessary for groundwater sample, soil waste characterization sampling, and indoor air sampling:

- Appropriate sample bottles (kept closed and in the laboratory-shipped coolers until the samples are collected) provided by the laboratory
- TO-15 SUMMA canisters per NYSDOH protocols for indoor air sampling.
- Chain-of-custody (CoC), labels, tags, seals, and record forms

- Logbook, field sampling records, and indelible ink markers
- Laboratory-grade decontamination detergents (such as Alconox or Liquinox), reagent-grade solvents, and de-ionized, organic-free water to be used for decontaminating equipment between sampling stations
- Squirt bottles
- Ruler and measuring tape
- Garbage bags and plastic sheeting
- Paper towels and/or wipes
- Direct-push drill rig and associated equipment
- Buckets, wash basins, and scrub brushes to be used for decontaminating equipment
- Steam cleaner or hot water wash and containment pad
- Groundwater sample pump
- Dedicated tubing and 0.45-micron capsule filter (as needed)
- Digital camera or camera and film to document sampling procedures and sample locations
- Whiteboard to include in photographs to label samples/photographs
- Shipping labels and forms
- Knife
- Packing/shipping material to prevent damage to sample bottles during shipping
- Strapping, clear plastic, and duct tape
- Re-sealable plastic bags
- Ice
- Portable field instruments, including photoionization detector and GPS

Other sampling materials and equipment may be utilized as warranted by field conditions encountered at time of sampling. Appropriate health and safety equipment and personal protective equipment will be used per the HASP.

### *2.2.2 Equipment Decontamination*

Between investigation locations and prior to sample collection, all non-dedicated/non-disposable equipment (i.e., drill rods, sample barrel, bowls, groundwater samplers, and field measurement equipment that contacts soil and/or groundwater) will be washed with potable water and a laboratory-grade, phosphate-free, detergent (such as Alconox). Equipment will be given a final rinse of distilled or de-ionized water. Larger equipment (e.g., drill-rig, drilling rods and sample core barrel) may be decontaminated with a hot-water wash. Decontamination may occur at the sampling location if all liquids are contained in pails, buckets, 55-gallon drums, or similar containers. Equipment impacted by nonaqueous phase liquid may be cleaned with a cleanser such as CitraSolv. Between rinses, equipment will be placed on polyethylene sheeting or aluminum foil. At no time will

decontaminated equipment be placed directly on the ground. Equipment will be wrapped in polyethylene plastic or aluminum foil and stored. Waste materials generated during sampling activities will be disposed of as required.

### *2.2.3 Field Records*

Field logbooks and entries will be maintained by field staff to provide a daily record of significant events, observations, and measurements during the field investigation. All entries will be signed and dated at the bottom of each page.

Information pertinent to the field investigation and/or sampling activities will be recorded in the logbooks. The logbooks will be bound with consecutively numbered pages. Entries in the logbook will include, at a minimum, the following information:

- Name and title of author, date and time of entry, and physical/environmental/weather conditions during field activity
- Purpose of sampling activity
- Location of sampling activity
- Name of field contact
- Name of field crew members
- Name and organization of any site visitors
- Sample media (e.g., soil)
- Sample collection method
- Number and volume of sample(s) collected
- Description of sampling point(s)
- Sample location coordinates
- Date and time of sample collection
- Sample identification number(s)
- Field observations
- Any field measurements made (e.g., water level elevation)
- References for all maps and photographs of the sampling site(s)
- Information pertaining to sample documentation, such as dates and method of sample shipments, CoC record numbers, and overnight shipping air bill number

All original data recorded in field logbooks, sample tags, and CoC records will be written with waterproof ink. None of these accountable, serialized documents will be destroyed.

If an error is made on an accountable document assigned to one individual, that individual will make all corrections simply by crossing a single line through the error, placing the initials of the individual making the correction and date next to the crossed-out information, and entering the correct

information. The erroneous information will not be erased. All field personnel will be instructed on the proper field logging techniques for maintaining the integrity of the documentation.

### *2.2.4 General Sample Collection and Processing Procedures*

Potential post-remediation media samples to be collected from the site include:

- Groundwater
- Indoor air
- Generated soil waste

Brief sample collection procedures for each of these media are presented below:

*Groundwater Monitoring*

- Performed quarterly at wells PMW-1 through PMW-8.
- Samples collected using low-flow or dedicated pump techniques.
- Field parameters (dissolved oxygen (DO), pH, Oxidation Reduction Potential (ORP), conductivity, turbidity) measured and recorded in-situ.
- Trip blanks, field duplicates, and equipment blanks included per QAPP.
- Laboratory analysis for:
    - Chlorinated volatile organic compounds (CVOCs)
    - Monitored Natural Attenuation (MNA) Reductive Dechlorination Indicators
        - Ammonia-nitrogen (indicating that the system is becoming reduced)
        - Nitrate-nitrogen, sulfate, dissolved iron, dissolved manganese – terminal electron acceptors that need depletion before methanogenesis occurs, proceeds effectively, or becomes the dominant in situ process)
        - Methane, ethane, ethene (indicators of complete dechlorination/degradation)
        - Alkalinity (indicator of microbial activity and buffering capacity)
        - Total Organic Carbon (TOC) (indicative of available molecular hydrogen (H2) to support reductive dechlorination)

*Indoor Air Monitoring*

- Conducted post-SSDS installation or in response to site changes.
- Sampling locations: indoor spaces above impacted areas and outdoor background.
- TO-15 SUMMA canisters used per NYSDOH protocols.
- At least one duplicate and one field blank per event.
- Laboratory analysis for TO-15/TO-15 SIM list

*Soil Waste Characterization*

- Triggered by intrusive work under the EWP.
- Waste profile samples collected from staging or excavation areas.
- Analysis includes Toxicity Characteristic Leaching Procedure (TCLP) VOCs/SVOCs, TCLP, and metals **per disposal facility requirements**.
- At least one QA/QC duplicate for every 20 samples.

At a minimum, the following information will be recorded in the field logbook:

- Site
- Sample location identification
- Date and time
- Initials of sampling personnel
- Time associated with sample collection

### *2.2.5 Field Quality Assurance/Quality Control Samples*

A trip blank will accompany each cooler transporting sample aliquots that will be analyzed for volatile organic compounds (VOCs) to the laboratory. Trip blanks are used in conjunction with VOC analyses to assist in assessing field accuracy and representativeness and are a measure of contamination introduced during sample storage and transport. The sources of the contamination may be associated with the transportation of containers to and from a site, ambient conditions present at a site, and/or other samples shipped with the trip blank. It should be noted that an assessment of accuracy cannot be made by evaluating trip blank data unsupported by other data quality indicators (e.g., matrix spikes [MSs]). The trip blanks will be numbered sequentially and appended with the date.

Equipment blanks will be generated at a minimum frequency of one per collection event per sample matrix that uses non-dedicated sampling equipment. An equipment blank is a way to measure contamination attributed to the sample collection equipment. Contaminant-free water is poured over sampling equipment and then collected for analysis. The presence of measurable concentrations of contaminants in an equipment blank indicates the potential for cross-contamination. The equipment blanks will be numbered sequentially and appended with the date. Equipment blanks will be analyzed for chlorinated volatile organic compounds (CVOCs).

To determine the reproducibility and homogeneity of samples, field duplicates will be collected. The frequency of collection of these samples is 1 per up to 20 field samples per matrix. Duplicate samples will be assigned a unique sample number that correlates with the source sample number. The duplicate sample number and sample number for the source sample will be recorded in the field logbook.

MS/matrix spike duplicate (MSD) samples (MSD for organics) will be requested at a frequency of 1 set per 20 field samples. Sufficient additional sample mass or volume to conduct these QC analyses will be collected for each designated sample, as necessary.

# 3 Sample Handling Procedures/Sample Custody

Sample custody procedures will be followed to verify that samples are always in the custody of a responsible person and to provide a record of those responsible for the samples. CoC begins at the time of preparation for the field activity, and the procedures apply to field sampling activities, sample shipping, laboratory analytical procedures, and data reporting. Samples are considered to be in one's custody if they are in the custodian's possession or view, in a secured location (under lock) with restricted access, or in a container that is secured with official seals such that the sample cannot be reached without breaking the seals.

## 3.1 Sample Custody and Shipping Requirements

CoC procedures will be followed for all samples throughout the collection, handling, and analysis process. The principal document used to track possession and transfer of samples is the CoC form. Each sample identification will be listed on an electronic or hand-written CoC form the day it is collected. All data entries will be made using an indelible ink pen. Corrections will be made by drawing a single line through the error, writing in the correct information, and then dating and initialing the change. Blank lines and spaces on the CoC form will be lined-out, dated, and initialed by the individual maintaining custody.

A CoC form will accompany each sample shipment to the analytical laboratories. Each person who has custody of the samples will verify that the samples are not left unattended unless properly secured. Copies of all CoC forms will be retained in the project files.

All samples will be shipped, couriered, or hand-delivered to the analytical laboratory in a timely manner so holding times are not compromised. Samples collected on a Friday may be held until the following Monday for shipment, provided this does not jeopardize any hold time requirements. Specific sample shipping procedures are as follows:

- Each cooler or container with the samples for analyses will be hand delivered the day of sample collection, couriered, or shipped via overnight delivery to the appropriate analytical laboratory. In the event that Saturday delivery is required, the FC will contact the analytical laboratory before 3 p.m. on Friday to verify that the laboratory is aware of the number of containers shipped and the airbill tracking numbers for those containers.
- Coolant ice will be sealed in separate plastic bags and placed in the shipping containers.
- Individual samples will be placed in a sealable plastic bag, packed to prevent breakage, and transported in a sealed ice chest or other suitable container.
- Glass jars will be separated in the shipping container by shock-absorbent material (e.g., bubble wrap) to prevent breakage.

- If the samples are transferred using a commercial shipping company, the following procedures will be followed:
  - The shipping containers will be clearly labeled with sufficient information (name of project, time and date container was sealed, person sealing the container, and consultant's office name and address) to enable positive identification.
  - The shipping waybill number will be documented on all CoC forms accompanying the samples.
  - CoC forms will be enclosed in a plastic bag and placed inside the cooler.
  - A minimum of two signed and dated CoC seals will be placed on adjacent sides of each cooler prior to shipping.
  - Each cooler will be wrapped securely with strapping tape, labeled "Glass – Fragile" and "This End Up," and clearly labeled with the laboratory's shipping address and the consultant's return address.

Upon transfer of sample possession to the analytical laboratory, the person transferring custody of the sample container will sign the CoC form. Upon receipt of samples at the laboratory, the person receiving the sample will sign the CoC form. The shipping container seals will be broken (if applicable), and the receiver will record the condition of the samples on a sample receipt form. CoC forms will be used internally in the laboratory to track sample handling and final disposition.

# 4 Quality Assurance/Quality Control

Field and laboratory activities will be conducted in such a manner that the results meet specified quality objectives and are fully defensible. Guidance for QA/QC is derived from the protocols developed for EPA SW-846, the EPA Contract Laboratory Program (EPA 2017a, 2017b), and the cited methods.

## 4.1 Field Quality Control

Sampling personnel will identify and label samples consistently to verify that field samples are traceable. Labels should be used in conjunction with the CoCs and this QAPP to provide all information necessary for the laboratory to conduct required analyses properly. QA samples will be collected in the field to verify project data quality objectives (DQOs) are met. Samples will be placed in appropriate containers and preserved for shipment to the laboratory in accordance with the requirements presented in Table 1.

### *4.1.1 Field Quality Assurance Sampling*

Field QA procedures will consist of following procedures for acceptable practices for sample collection and handling. This also includes periodic and routine equipment inspection.

QA samples will be collected along with the environmental samples. QA samples are useful in identifying possible problems resulting from sample collection or sample processing in the field. The collection of QA samples includes equipment rinsate blanks, trip blanks, and field duplicates. Rinsate blanks will be collected at a frequency of one per collection method per event. If target analytes are detected in the rinsate blank at levels above the reporting limits (RLs), blank results will be compared to the sample results, and results within five times the concentration of the blank may be qualified. A trip blank will accompany all sample aliquots for VOC analyses and will be analyzed at a frequency of one per cooler containing the samples. Trip blanks indicate any VOC contamination that might be introduced during storage and transport. If VOCs are detected in the trip blanks, the storage and transport methods will be reviewed and modified to eliminate possible sources of contamination. Field duplicates will be collected at a frequency of one per sampling event or 1 in 20 sample locations processed per matrix (whichever is more frequent), provided sufficient sample mass/volume can be collected.

QA samples will also include the collection of additional sample mass or volume as required to verify that the laboratory has sufficient sample mass or volume to run the matrix-specified analytical QA/QC (MD/MS/MSD) samples for analyses as specified in Table 4. Additional sample mass or volume to meet this requirement will be collected at a frequency of one per matrix per sampling

event or 1 in 20 samples processed, whichever is more frequent. The samples designated for Blind Duplicate, MS/MSD analyses should be clearly marked on the CoC.

All field QA samples will be documented on the field forms and verified by the QA Manager or designee.

### *4.1.2 Sample Containers*

Sample containers and preservatives will be provided by the laboratory. The laboratory will maintain documentation certifying the cleanliness of bottles and the purity of preservatives provided. Container requirements are listed in Table 1.

### *4.1.3 Sample Identification and Labels*

Each sample collected as part of this investigation will be given a unique identification. With this type of identification, no two samples will have the same label. Labels or tags that include the sample number will be attached to each sample container.

Each sample will have an adhesive plastic or waterproof paper label affixed to the container and will be labeled at the time of collection. If the label is not waterproof, it will be covered with clear packing tape to render it waterproof. The following information will be recorded on the container label at the time of collection:

- Project name
- Sample identification
- Date and time of sample collection
- Preservative type (if applicable)
- Analysis to be performed

## 4.2 Data Quality Objectives and Criteria

The QA objective for the project is to develop and implement procedures that will provide data of known, documented quality. Field and laboratory quality QA/QC requirements ensure that acceptable levels of data quality will be maintained throughout the sampling and analysis program. The criteria commonly used to specify QA goals include precision, accuracy, representativeness, comparability, completeness, and sensitivity. These criteria are described in more detail in the following sections and project quantitative goals are listed in Table 5.

### 4.2.1 Precision

Precision is the ability of an analytical method or instrument to reproduce its own measurement. It is a measure of the variability, or random error, in sampling, sample handling, and laboratory analyses. ASTM recognizes two levels of precision (ASTM 2002):

1. Repeatability: the random error associated with measurements made by a single test operator on identical aliquots of test material in a given laboratory with the same apparatus under constant operating conditions
2. Reproducibility: the random error associated with measurements made by different test operators in different laboratories using the same method but different equipment to analyze identical samples of test material

In the laboratory, "within-batch" precision is measured using duplicate sample or QC analyses and is expressed as the relative percent difference (RPD) between the measurements. The "batch-to-batch" precision is determined from the variance observed in the analyses of standard solutions or laboratory control samples from multiple analytical batches.

Field precision will be evaluated by the collection of field duplicates for chemistry samples at a frequency of 1 in 20 samples. Field chemistry duplicate precision will be screened against an RPD of 50%. However, no data will be qualified based solely on field homogenization duplicate precision.

Precision measurements can be affected by the nearness of a chemical concentration to the MDL, where the percent error (expressed as RPD) increases. The equation used to express precision is as follows:

$$RPD = \frac{(C_1 - C_2)x\ 100\%}{(C_1 + C_2)/2}$$

where:

| | | |
|---|---|---|
| $RPD$ | = | relative percent difference |
| $C_1$ | = | larger of the two observed values |
| $C_2$ | = | smaller of the two observed values |

### 4.2.2 Accuracy

Accuracy is a measure of the closeness of an individual measurement (or an average of multiple measurements) to the true or expected value. Accuracy is determined by calculating the value of results from analyses of laboratory control samples, standard reference materials, and standard solutions. In addition, MS samples are also measured, which indicate the accuracy or bias in the actual sample matrix. Accuracy is expressed as percent recovery of the measured value, relative to the true or expected value. If a measurement process produces results that are not the true or

expected values, the process is said to be biased. Bias is the systematic error either inherent in a method of analysis (e.g., extraction efficiencies) or caused by an artifact of the measurement system (e.g., contamination). Analytical laboratories utilize several QC measures to eliminate analytical bias, including systematic analysis of method blanks, laboratory control samples, and independent calibration verification standards. Because bias can be positive or negative, and because several types of bias can occur simultaneously, only the net (or total) bias can be evaluated in a measurement.

Laboratory accuracy will be evaluated using quantitative laboratory control sample, MS, surrogate spike, and calibration standard recoveries compared with method-specified performance criteria or criteria listed in Table 5. Accuracy can be expressed as a concentration compared to the true or reference value or as a percent recovery in those analyses where reference materials are not available and spiked samples are analyzed. The equation used to express accuracy is as follows:

$$\%R = 100\% \; x \; (S - U)/Csa$$

where:

| | | |
|---|---|---|
| $\%R$ | = | percent recovery |
| $S$ | = | measured concentration in the spiked aliquot |
| $U$ | = | measured concentration in the unspiked aliquot |
| $Csa$ | = | actual concentration of spike added |

Field accuracy will be controlled by adherence to sample collection procedures outlined in this QAPP.

### *4.2.3 Representativeness*

Representativeness expresses the degree to which data accurately and precisely represent an environmental condition.

### *4.2.4 Comparability*

Comparability expresses the confidence with which one dataset can be evaluated in relation to another dataset. For this program, comparability of data will be established through the use of standard analytical methodologies and reporting formats and through common traceable calibration standards and reference materials.

### 4.2.5 Completeness

Completeness is a measure of the amount of data that are determined to be valid in proportion to the amount of data collected. Completeness will be calculated as follows:

$$C = \frac{(Number\ of\ acceptable\ data\ points)\ x\ 100}{Total\ number\ of\ data\ points}$$

The DQO for completeness for all components of this project is 95%. Data that have been qualified as estimated because the QC criteria were not met will be considered valid for the purpose of assessing completeness. Data that have been rejected will not be considered valid for the purpose of assessing completeness.

### 4.2.6 Sensitivity

Sensitivity is a measure of analytical detection and RLs. In general, the lowest technologically achievable MDLs and RLs will be targeted for this project.

The MDL is defined as the minimum concentration at which a given target analyte can be measured and reported with 99% confidence that the analyte concentration is greater than zero. Laboratory RLs are defined as the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. Laboratory MDLs and RLs will be used to evaluate the method sensitivity and/or applicability prior to the acceptance of a method for this program.

The sample-specific MDLs and RLs will be reported by the laboratory and will take into account any factors relating to the sample analysis that might decrease or increase these limits (e.g., dilution factor, percent moisture, and analytical mass/volume). In the event that MDLs and RLs are elevated due to matrix interferences and subsequent dilutions or reductions in sample aliquots, the data will be evaluated by the sampling team and the laboratory to determine if an alternative course of action is required or possible. If this situation cannot be resolved readily, NYSDEC will be contacted to discuss an acceptable resolution. The sample-specific RL will be the value provided in the project database.

## 4.3 Laboratory Quality Control

Laboratory QC procedures, where applicable, include initial and continuing instrument calibrations, standard reference materials, laboratory control samples, matrix replicates, MSs, surrogate spikes (for organic analyses), and method blanks. A summary of the DQOs is provided in Table 5. QA/QC sample analytical frequencies are provided in Table 4.

The analyst will review the results of the QC samples from each sample group immediately after a sample group has been analyzed. The QC sample results will then be evaluated to determine if control limits have been exceeded. If control limits are exceeded in the sample group, the QA Manager will be contacted immediately, and corrective action (e.g., method modifications followed by reprocessing the affected samples) will be initiated prior to processing a subsequent group of samples.

### *4.3.1 Laboratory Instrument Calibration and Frequency*

An initial calibration will be performed on each laboratory instrument to be used prior to the start of the project, after each major interruption to the analytical instrument, and when any ongoing calibration does not meet method control criteria. Calibration verification will be analyzed following each initial calibration and will meet method criteria prior to analyses of samples. Continuing calibration verifications (CCVs) will be analyzed at method-required frequencies to track instrument performance. The frequency of CCVs varies with method. For gas chromatography (GC)/mass spectrometer method (VOCs), one CCV will be analyzed every 12 hours. For inorganic methods that utilize instrumentation, 1 will be analyzed for every 10 samples analyzed and at the end of each run. If the continuing calibration is out of control, the analysis will be terminated until the source of the control failure is eliminated or reduced to meet control specifications, which may include analyzing a new initial calibration. Any project samples analyzed while the instrument calibration was out of control will be re-analyzed.

Instrument blanks or continuing calibration blanks provide information on the established baseline stability. Continuing calibration blanks will be analyzed immediately prior to or immediately following a CCV at the instrument for each type of applicable analysis.

### *4.3.2 Laboratory Duplicates/Replicates*

Analytical duplicates provide information on the precision of the analysis and are useful in assessing potential sample heterogeneity and matrix effects. Analytical duplicates and replicates are subsamples of the original sample that are prepared and analyzed separately.

### *4.3.3 Matrix Spikes and Matrix Spike Duplicates*

Analyses of MS samples provide information on the extraction efficiency of the method on the sample matrix, as well as any interferences introduced by the sample matrix. By analyzing MS samples in duplicate, information on the precision of the method is also provided.

### *4.3.4 Method Blanks*

Method blanks are prepared and analyzed in the same manner as project samples to assess possible laboratory contamination at all stages of sample preparation and analysis. The method blank for all analyses must be less than the MRL of any single target analyte. If a laboratory method blank exceeds this criterion for any analyte, and the concentration of the analyte in any of the samples is less than five times the concentration found in the blank (ten times for common contaminants), analyses must stop and the source of contamination must be eliminated or reduced. Affected samples should be re-prepared and re-analyzed, if possible.

### *4.3.5 Laboratory Control Samples*

Laboratory control samples are analyzed to assess possible laboratory bias at all stages of sample preparation and analyses. The laboratory control sample is a matrix-dependent spiked sample prepared at the time of sample extraction along with the preparation of the sample, MS, and method blank. The laboratory control sample will provide information on the precision of the analytical process and, when analyzed in duplicate, will provide accuracy information as well.

### *4.3.6 Laboratory Deliverables*

Data packages will be checked for completeness immediately upon receipt from the laboratory to verify that data and QA/QC information requested are present. The analytical laboratory will be required, where applicable, to report the following:

- **Project Narrative**. This summary, in the form of a cover letter, will include a discussion of any problems encountered during analyses. This summary should include (but not be limited to) QA/QC, sample shipment, sample storage, and analytical difficulties. Any problems encountered, actual or perceived, and their resolutions will be documented in as much detail as appropriate.
- **CoC Records**. Legible copies of the CoC forms will be provided as part of the data package. This documentation will include the time of receipt and condition of the samples received by the laboratory. Additional internal tracking of sample custody by the laboratory will also be documented on a sample receipt form. The form must include sample shipping container temperatures measured at the time of sample receipt.
- **Sample Results**. The data package will summarize the results for each sample analyzed. The summary will include the following information when applicable:
  - Field sample identification code and the corresponding laboratory identification code
  - Sample matrix
  - Date of sample preparation/extraction
  - Date and time of analysis
  - Mass and/or volume used for preparation and analysis

  - Final dilution or concentration factors for the sample
  - Identification of the instrument used for analysis
  - MDLs and MRLs accounting for sample-specific factors (e.g., dilution and total solids)
  - Analytical results with reporting units identified
  - Data qualifiers and their definitions
  - An electronic data deliverable (EDD) with data in a format consistent with NYSDEC's EQuIS database.
- **QA/QC Summaries**. These sections will contain the results of the laboratory QA/QC procedures. Each QA/QC sample analysis will be documented with the same information required for the sample results. No recovery or blank corrections will be made by the laboratory. The required summaries are as follows (additional information may be requested):
  - **Instrument Performance Checks**. Injection times and percent relative ion abundances will be reported and compared to method criteria. Associated samples and analysis times will also be reported.
  - **Calibration Data Summary**. These summaries will report the concentrations of the initial calibration and continuing calibration standards and the date and time of analyses. The response factor, percent relative standard deviation, percent drift/difference, percent recovery, and retention time for each analyte will be listed, as appropriate. Calibration results for standards will be documented to indicate instrument sensitivity.
  - **Internal Standard Area Summary**. Internal standard areas will be reported and evaluated against method criteria.
  - **Method Blank Analysis**. The method blank analysis associated with each sample and the concentration of all target analytes identified in these blanks will be reported.
  - **Surrogate Spike Recovery**. All surrogate spike recoveries for organic analyses will be reported. The names and concentrations of compounds added, percent recoveries, and range of acceptable recoveries will be provided.
  - **MS Recovery**. MS recovery data for all applicable analyses will be reported. The names and concentrations of compounds added, percent recoveries, and range of acceptable recoveries will be listed. The percent recoveries and RPD values for MSD analyses will be reported.
  - **MD**. The RPD values for MD analyses will be reported.
  - **Laboratory Control Sample**. Laboratory control sample recovery data will be reported. The names and concentrations of compounds added, percent recoveries, and range of acceptable recoveries will be included. The percent recoveries and RPD values for laboratory control sample duplicate analyses will be included.

- **Original Data**. Legible copies of the original data generated by the laboratory will include the following information:
  - Sample extraction, preparation, and cleanup logs including methods used
  - Instrument analysis logs for all instruments used on days of calibration and sample analyses
  - Calculation worksheets as applicable
  - Ion chromatograms for all samples, standards, blanks, calibrations, spikes, replicates, and reference materials as applicable
  - Copies of full scan chromatograms and quantitation reports for GC/mass spectrometer analyses of samples, standards, blanks, calibrations, spikes, replicates, and reference materials
  - Enhanced spectra of detected compounds with associated best-match spectra for each sample

## 4.4 Instrument/Equipment Testing, Inspection, and Maintenance Requirements

This section describes procedures for testing, inspection, and maintenance of field and laboratory equipment.

### *4.4.1 Field Instruments/Equipment*

The sampling firm must maintain an inventory of field instruments and equipment. The frequency and types of maintenance will be based on the manufacturer's recommendations and/or previous experience with the equipment.

The FC will be responsible for the preparation, documentation, and implementation of the preventive maintenance program. The equipment maintenance information will be documented in the instrument's calibration log. The frequency of maintenance is dependent on the type and stability of the equipment, methods used, intended use of the equipment, and manufacturer's recommendations. Detailed information regarding the calibration and frequency of equipment calibration is provided in each specific manufacturer's instruction manuals.

All maintenance records will be verified prior to each sampling event. The FC will be responsible for verifying that required maintenance has been performed prior to using the equipment in the field. For this project, maintenance inspections will include the following activities:

- The drilling subcontractor will be responsible for confirming proper operation of the drilling equipment daily. This verification may consist of internal diagnostics on field screening instruments as well as function of direct-push drilling equipment.

- The licensed surveyor will be responsible for confirming proper operation of all survey equipment utilized to locate actual sampling locations both horizontally and vertically. This verification may consist of internal diagnostics on instruments or visiting a location with known coordinates.

Any problems will be noted in the field logbook and corrected prior to continuing sampling operations.

### *4.4.2 Laboratory Instruments/Equipment*

In accordance with the QA program, the laboratory will maintain an inventory of instruments and equipment, and the frequency of maintenance will be based on the manufacturer's recommendations and/or previous experience with the equipment.

The laboratory preventative maintenance program, as detailed in the laboratory QA Plan, is organized to maintain proper instrument and equipment performance and to prevent instrument and equipment failure during use. The program considers instrumentation, equipment, and parts that are subject to wear; deterioration or other changes in operational characteristics; the availability of spare parts; and the frequency at which maintenance is required. Any equipment that has been overloaded, has been mishandled, gives suspect results, or has been determined to be defective will be taken out of service, tagged with the discrepancy noted, and stored in a designated area until the equipment has been repaired. After repair, the equipment will be tested to verify that it is in proper operational condition. The client will be promptly notified in writing if defective equipment casts doubt on the validity of analytical data. The client will also be notified immediately regarding any delays due to instrument malfunctions that could impact holding times.

Laboratories will be responsible for the preparation, documentation, and implementation of the preventative maintenance program. Maintenance records will be checked according to the schedule on an annual basis and recorded by laboratory personnel. The Laboratory QA Manager or designee will be responsible for verifying compliance.

#### 4.4.2.1 Laboratory Instrument/Equipment Calibration

As part of their QC programs, laboratories perform two types of calibrations. A periodic calibration is performed at prescribed intervals (e.g., balances, drying ovens, refrigerators, and thermometers), and operational calibrations are performed daily at a specified frequency or prior to analysis (i.e., initial calibrations) according to method requirements. Calibration procedures and frequency are discussed in the laboratory QA Plan. Calibrations are discussed in the laboratory SOPs for analyses.

The Laboratory QA Manager will be responsible for ensuring that the laboratory instrumentation is calibrated in accordance with specifications. Implementation of the calibration program will be the

responsibility of the respective laboratory Group Supervisors. Recognized procedures (EPA, ASTM, or manufacturer's instructions) will be used when available.

Physical standards (i.e., weights or certified thermometers) will be traceable to nationally recognized standards such as the National Institute of Standards and Technology (NIST). Chemical reference standards will be NIST standard reference materials or vendor-certified materials traceable to these standards.

The calibration requirements for each method and respective corrective actions will be accessible, either in the laboratory SOPs or in the laboratory's QA Plan for each instrument or analytical method in use. All calibrations will be preserved on electronic media.

## 4.5 Inspection/Acceptance of Supplies and Consumables

Inspection and acceptance of field supplies, including laboratory-prepared sampling bottles, will be performed by the FC. All primary chemical standards and standard solutions used for this project, either in the field or laboratory, will be traceable to documented, reliable commercial sources. Standards will be validated to determine their accuracy by comparison with an independent standard. Any impurities found in the standard will be documented.

## 4.6 Data Management

Field data sheets will be checked for completeness and accuracy by the FC prior to delivery to the Data Manager. Data generated in the field will be documented in electronic or hard copy format and provided to the Data Manager, who is responsible for the data entry into the database. All manually entered data will be verified by a second party. After data entry and verification are complete, field documentation will be filed in the main project file.

Laboratory data will be provided to the Data Manager in EQuIS electronic format. Laboratory data that are electronically provided and loaded into the database will be checked against the laboratory hard copy data. Data will be validated or reviewed manually, and qualifiers, if assigned, will be entered manually. The accuracy of all manually entered data will be verified by a second party. Data tables and reports will be exported from EQuIS to Microsoft Excel tables.

# 5 Data Reduction, Validation, and Usability

Once data are received from the laboratory, a number of QC procedures will be followed to provide an accurate evaluation of the data quality. Specific procedures will be followed to assess data precision, accuracy, and completeness.

## 5.1 Compliance Assessments

Laboratory and field performance audits include on-site QA system and equipment reviews for sampling, calibration, and measurement. Laboratory audits will not be conducted as part of this study; however, all laboratory audit reports will be made available to the project QA Manager upon request. The laboratory is required to have written procedures addressing internal QA/QC. These procedures have been submitted, and the project QA Manager will review them to verify compliance with this QAPP. The laboratory must verify that personnel engaged in analytical tasks have appropriate training. The laboratory will provide written details of any and all method modifications planned prior to project commencement.

## 5.2 Response and Corrective Actions

The following sections identify the responsibilities of key project team members and actions to be taken in the event of an error, problem, or non-conformance to protocols identified in this document.

### *5.2.1 Field Activities*

The FC will be responsible for correcting equipment malfunctions during the field sampling effort. The project QA Manager will be responsible for resolving situations identified by the FC that may result in non-compliance with this QAPP. All corrective measures will be immediately documented in the field logbook.

### *5.2.2 Laboratory*

The laboratory is required to comply with its SOPs. The Laboratory PM will be responsible for ensuring that appropriate corrective actions are initiated as required for conformance with this QAPP. All laboratory personnel will be responsible for reporting problems that may compromise the data quality.

The Laboratory PM will be notified if any QC sample exceeds the project-specified control limits. The analyst will identify and correct the anomaly before continuing with the sample analysis. If the laboratory's internal corrective action does not resolve the non-conformance, the Laboratory PM will notify the QA Manager. A narrative describing the anomaly, the steps taken to identify and correct

the anomaly, and the treatment of the relevant sample batch (i.e., recalculation, re-analysis, and re-extraction) will be submitted with the data package in the form of a cover letter.

## 5.3 Data Review, Validation, and Verification

During the validation process, analytical data will be evaluated for project, method, and laboratory QC compliance, and their validity and applicability for program purposes will be determined. Based on the findings of the validation process, data validation qualifiers may be assigned. The validated project data, including qualifiers, will be entered into the project database, thus enabling this information to be retained or retrieved as needed.

## 5.4 Validation and Verification Methods

Data validation includes the following: signed entries by the field and laboratory technicians on field data sheets and laboratory datasheets, respectively; review for completeness and accuracy by the FC and Laboratory Manager; review by the QA Manager for outliers and omissions; and the use of QC criteria to accept or reject specific data. All data will be entered into the EQuIS database and a raw data file printed or exported. A second data manager or designee will perform a cursory verification of the database raw data file. If errors are found, further verification will be performed to verify that all data are accurate. Any errors found will be corrected in the database.

All laboratory data will be reviewed and verified to determine whether DQOs have been met and that appropriate corrective actions have been taken, when necessary. The project QA Manager or a designee will be responsible for the final review of data generated from sample analysis.

The first level of review will take place in the laboratory as the data are generated. The Laboratory Department Manager or designee will be responsible for ensuring that the data generated meet minimum QA/QC requirements and that the instruments were operating under acceptable conditions during data generation. DQOs will also be assessed at this point by comparing the results of QC measurements with pre-established criteria as a measure of data acceptability.

The analysts and/or Laboratory Department Manager will prepare a preliminary QC checklist for each parameter and for each sample delivery group (SDG) as soon as analysis of an SDG has been completed. Any deviations from the DQOs on the checklist will be brought to the attention of the Laboratory Manager to determine whether corrective action is needed and to determine the impact on the reporting schedule.

Data packages will be checked for completeness immediately upon receipt from the laboratory to verify that data and QA/QC information requested are present. Stage 2A validation (EPA 2009) will be conducted on the data. Data validation will be conducted by a reviewer using current National

Functional Guideline documents (EPA 2017a, 2017b) as guidance by considering the following information, as applicable per method and level of validation:

- CoC documentation and sample receipt condition
- Holding times
- Instrument performance checks
- Initial calibrations
- Continuing calibrations
- Method blanks
- Surrogate recoveries
- Internal standard recoveries
- Detection limits
- RLs
- Laboratory control samples
- MS/MSD samples
- Field and laboratory duplicates
- Rinsate blanks
- Standard reference material results
- Raw data review

The data will be validated in accordance with the project-specific DQOs described above, analytical method criteria, and the laboratory's internal performance standards based on its SOPs. Validated data will be exported from the EQuIS database in New York State Department of Environmental Conservation's Environmental Information Management System (EIMS) or as otherwise directed by the Division of Environmental Remediation. A Data Usability Summary Report will be submitted describing the results of the validation, and including an evaluation of the analytical data to determine whether or not the data meet the site/project-specific criteria for data quality and use.

# 6 Corrective Action

Corrective action is the process of identifying, recommending, approving, and implementing measures to counter unacceptable procedures or out-of-QC performance that can affect data quality. Corrective action can occur during field activities, laboratory analyses, data validation, and data assessment. Corrective action proposed and implemented should be documented in QA reports to management. Corrective action should be implemented only after the approval of the PM and the QA Manager. If immediate corrective action is required, approvals secured by telephone should be documented.

For non-compliance problems, a formal corrective action program will be determined and implemented at the time that the problem is identified. The person who identifies the problem is responsible for notifying the PM and QA Manager. Implementation of corrective action will be confirmed in writing through the same channels.

Non-conformance with the established QC procedures in the QAPP will be identified and corrected in accordance with the QAPP. The FC, QA Manager, or their designees will issue a non-conformance report describing non-conformance action depending on if the non-conformance is related to the field or laboratory activities.

## 6.1 Field Corrective Action

Corrective action in the field may be required when the sample network is changed (e.g., more or fewer samples, or sampling locations other than those identified in the Field Sampling Plan or QAPP), or when sampling procedures and/or field analytical procedures require modification due to unexpected conditions. The need for corrective action and recommendations will be communicated to the PM, who will approve the corrective action and verify that the corrective action has been implemented. Corrective actions will be implemented and documented in a bound field logbook. No personnel should initiate corrective action without prior communication of findings through proper channels.

If corrective action taken will result in fewer samples collected, fewer parameters analyzed, alternate sampling locations, or other changes that might result in non-attainment of QA objectives, then the PM must be advised of the proposed corrective action and must concur with its implementation.

## 6.2 Corrective Action During Data Quality Review and Data Assessment

The need for corrective action may be identified during data quality review or data assessment. Potential types of corrective action may include resampling by the field team or repreparation and/or re-analyses of samples by the laboratory. These actions are dependent upon the ability to mobilize the field team, and whether the data to be collected are necessary to meet the required DQOs. If a

corrective action situation is identified, the PM and QA Manager will recommend the implementation of corrective action. The QA Manager will implement and document the approved corrective action.

## 6.3 Quality Assurance Reports to Management

QA reports to management will only be required if corrective action has been initiated during any phase of this project. The content of the QA report will include a summary of the issue requiring the corrective action, action performed, results of the follow-up inspection, and the impact on any data.

# 7 References

ASTM (ASTM International), 2002. *Standard Practices for Use of the Term Precision and Bias in ASTM Test Methods.* 177-90a.

EPA (U.S. Environmental Protection Agency), 2009. *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use*. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. USEPA 540-R-08-005. January 2009.

EPA, 2017a. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Methods Data Review*. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. EPA-540-R-2017-001. January 2017.

EPA, 2017b. *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. EPA 540 R 2017-002. January 2017.

# Tables

**Table 1**
**Sample Sizes, Containers, and Hold Times**

| Parameter | Sample Size | Container Size and Type | Preservative | Maximum Holding Time |
|---|---|---|---|---|
| **Soil Waste Characterization Samples** | | | | |
| TCLP VOCs | 100 g | 250 mL glass, wide mouth | Cool/0–6°C<br>no chemical preservative | 14 days (extraction)<br>14 days (analysis) |
| TCLP SVOCs | 100 g | 250 mL glass, wide mouth | Cool/0–6°C<br>no chemical preservative | 12 days (extraction)<br>14 days (analysis) |
| TCLP Metals | 100 g | 250 mL glass, wide mouth | Cool/0–6°C<br>no chemical preservative | 180 days (Hg 28 days) |
| Total PCBs | 100 g | 250 mL glass, wide mouth | Cool/0–6°C<br>no chemical preservative | 14 days (leaching)<br>40 days (analysis) |
| Ignitability | 100 g | 500 mL metal or glass | None | Analyze ASAP (≤7 days recommended) |
| Corrosivity | 100 g | 500 mL metal or glass | None | 14 days |
| Reactivity (cyanide/sulfide) | 100 g | 500 mL metal or glass | Cool/0–6°C<br>no chemical preservative | 14 days |
| **Groundwater Samples** | | | | |
| Total suspended solids | 1 L | 1-L HDPE | Cool/0–6°C | 7 days |
| Ammonia-nitrogen | 500 mL | HDPE plastic unfiltered | $H_2SO_4$ to pH < 2, chilled ≤6°C | 28 days |
| Nitrate-nitrogen | 500 mL | HDPE plastic unfiltered | $H_2SO_4$ to pH < 2, chilled ≤6°C | 28 days |
| Sulfate | 500 mL | HDPE plastic unfiltered | None, chilled ≤6°C | 28 days |
| Dissolved iron | 250mL | HDPE plastic filtered (0.45 um) | $H_2SO_4$ to pH < 2, chilled ≤6°C | 180 days |
| Dissolved manganese | 250 mL | HDPE plastic filtered (0.45 um) | $H_2SO_4$ to pH < 2, chilled ≤6°C | 180 days |
| Methane | 40 mL | VOA vial (glass no headspace) | No preservative, chilled ≤6°C | 14 days |
| Ethane | 40 mL | VOA vial (glass no headspace) | No preservative, chilled ≤6°C | 14 days |
| Ethene | 40 mL | VOA vial (glass no headspace) | No preservative, chilled ≤6°C | 14 days |
| Alkalinity | 500 mL | HDPE plastic unfiltered | None, chilled ≤6°C | 14 days |
| Total Organic Carbon | 250 mL | Amber glass, unfiltered | $H_2SO_4$ to pH < 2, chilled ≤6°C | 28 days |
| VOCs | 120 mL | 3 x 40-mL septum-sealed VOA containers | Cool/0–6°C; HCl to pH <2, store in the dark. | 14 days to analysis |
| SVOCs | 2 L | 2 x 1-L amber glass with PTFE-lined lid | Cool/0–6°C; store in the dark | 7 days to extraction<br>40 days to analysis |

**Table 1**
**Sample Sizes, Containers, and Hold Times**

| Parameter | Sample Size | Container Size and Type | Preservative | Maximum Holding Time |
|---|---|---|---|---|
| Metals | 50 mL | 500-mL HDPE | Cool/0–6°C; field filter dissolved samples or within 24 hours; $HNO_3$ to pH <2 | 180 days |
| **Indoor Air Samples** | | | | |
| TO-15 VOCs | 6 L | 6-liter SUMMA canister (pre-cleaned, passivated stainless steel) | None required | 30 days from sample collection |

Notes:
g: gram
HCl: hydrochloric acid
HDPE: high-density polyethylene
$HNO_3$: nitric acid
L: liter
mL: milliliter
oz: ounce
PTFE: polytetrafluoroethylene
SVOC: semivolatile organic compound
VOA: volatile organic analyte
VOC: volatile organic compound
WM-G: wide-mouth glass

**Table 2**
**Indoor Air Analyte List, Methods, and Reporting and Detection Limits**

| Parameter | Analytical Method | Reporting Limit | Method Detection Limit |
|---|---|---|---|
| **TO-15 Volatile Organic Compounds (µg/m$^3$)** | | | |
| Tetrachloroethylene (PCE) | EPA TO-15 | 0.25 | 0.1 |
| Trichloroethylene (TCE) | EPA TO-15 | 0.25 | 0.1 |
| cis-1,2-Dichloroethene (cis-1,2-DCE) | EPA TO-15 | 0.25 | 0.1 |
| Vinyl Chloride (VC) | EPA TO-15 | 0.2 | 0.05 |
| Benzene | EPA TO-15 | 0.2 | 0.05 |
| Toluene | EPA TO-15 | 0.5 | 0.2 |
| Ethylbenzene | EPA TO-15 | 0.5 | 0.1 |
| Xylenes (total) | EPA TO-15 | 0.5 | 0.1 |
| Chloroform | EPA TO-15 | 0.25 | 0.1 |
| Carbon Tetrachloride | EPA TO-15 | 0.25 | 0.1 |

Notes:
1. Container - 6-liter SUMMA canister, certified clean and batch-tested.
2. Holding time - maximum 30 days from sampling date to analysis.
3. 24-hour integrated sampling
4. Reporting limits may vary slightly depending on laboratory calibration and batch performance, but should comply with NYSDOH Air Guidance Values and project-specific action levels.

ASTM: ASTM International
EPA: U.S. Environmental Protection Agency
mg/kg: milligrams per kilogram
SM: Standard Method
TCL: Target Compound List

**Table 3**
**Groundwater Analyte List, Methods, and Reporting and Detection Limits**

| Parameter | Analytical Method | Groundwater Screening Levels[1] | Reporting Limit (mg/L) | Method Detection Limit |
|---|---|---|---|---|
| **Conventional Parameters (mg/L)** | | | | |
| Ammonia-nitrogen | EPA 350.1 | NA | 0.10 | 0.01 |
| Nitrate-nitrogen | EPA 353.2 | NA | 0.10 | 0.01 |
| Sulfate | EPA 300.0 | NA | 0.50 | 0.05 |
| Dissolved iron | EPA 200.7 or 200.8 | NA | 0.01 | 0.005 |
| Dissolved manganese | | NA | 0.005 | 0.002 |
| Methane | RSK-175 | NA | 0.001 | 0.0005 |
| Ethane | | NA | 0.001 | 0.0005 |
| Ethene | | NA | 0.001 | 0.0005 |
| Alkalinity | EPA 310.1 | NA | 1.0 | 1.0 |
| Total Organic Carbon | EPA 415.1 | NA | 0.50 | 0.10 |
| **TCL Volatile Organic Compounds (µg/L)** | | | | |
| Methylene chloride | EPA 8260 | 5 | 3.0 | 0.289 |
| 1,1-Dichloroethane | EPA 8260 | 5 | 0.75 | 0.21 |
| Chloroform | EPA 8260 | 7 | 0.75 | 0.162 |
| Carbon tetrachloride | EPA 8260 | 0.4 | 0.5 | 0.134 |
| 1,2-Dichloropropane | EPA 8260 | 1 | 1.75 | 0.133 |
| Dibromochloromethane | EPA 8260 | 50 | 0.5 | 0.149 |
| 1,1,2-Trichloroethane | EPA 8260 | 1 | 0.75 | 0.144 |
| Tetrachloroethene | EPA 8260 | 0.7 | 0.5 | 0.181 |
| Chlorobenzene | EPA 8260 | 5 | 0.5 | 0.178 |
| Trichlorofluoromethane | EPA 8260 | 5 | 2.5 | 0.161 |
| 1,2-Dichloroethane | EPA 8260 | 0.6 | 0.5 | 0.132 |
| 1,1,1-Trichloroethane | EPA 8260 | 5 | 0.5 | 0.158 |
| Bromodichloromethane | EPA 8260 | 50 | 0.5 | 0.192 |
| trans-1,3-Dichloropropene | EPA 8260 | 0.4 | 0.5 | 0.164 |
| cis-1,3-Dichloropropene | EPA 8260 | 0.4 | 0.5 | 0.144 |
| 1,3-Dichloropropene, Total | EPA 8260 | 0.4 | 0.5 | 0.144 |
| 1,1-Dichloropropene | EPA 8260 | 5 | 2.5 | 0.173 |
| Bromoform | EPA 8260 | 50 | 2.0 | 0.248 |
| 1,1,2,2-Tetrachloroethane | EPA 8260 | 0.2 | 0.5 | 0.144 |
| Benzene | EPA 8260 | 1 | 0.5 | 0.159 |
| Toluene | EPA 8260 | 5 | 0.75 | 0.161 |
| Ethylbenzene | EPA 8260 | 5 | 0.5 | 0.168 |
| Chloromethane | EPA 8260 | 5 | 2.5 | 0.176 |
| Bromomethane | EPA 8260 | 5 | 1.0 | 0.256 |
| Vinyl chloride | EPA 8260 | 0.3 | 1.0 | 0.0699 |
| Chloroethane | EPA 8260 | 5 | 1.0 | 0.134 |
| 1,1-Dichloroethene | EPA 8260 | 0.7 | 0.5 | 0.142 |

**Table 3**
**Groundwater Analyte List, Methods, and Reporting and Detection Limits**

| Parameter | Analytical Method | Groundwater Screening Levels[1] | Reporting Limit (mg/L) | Method Detection Limit |
|---|---|---|---|---|
| trans-1,2-Dichloroethene | EPA 8260 | 5 | 0.75 | 0.163 |
| 1,2-Dichloroethene (total) | EPA 8260 | -- | 0.5 | 0.163 |
| Trichloroethene | EPA 8260 | 5 | 0.5 | 0.175 |
| 1,2-Dichlorobenzene | EPA 8260 | 3 | 2.5 | 0.184 |
| 1,3-Dichlorobenzene | EPA 8260 | 3 | 2.5 | 0.186 |
| 1,4-Dichlorobenzene | EPA 8260 | 3 | 2.5 | 0.187 |
| Methyl tert butyl ether | EPA 8260 | 10 | 1.0 | 0.2 |
| p/m-Xylene | EPA 8260 | 5 | 1.0 | 0.3 |
| o-Xylene | EPA 8260 | 5 | 1.0 | 0.3 |
| Xylene (Total) | EPA 8260 | 5 | 1.0 | 0.3 |
| cis-1,2-Dichloroethene | EPA 8260 | 5 | 0.5 | 0.187 |
| Dibromomethane | EPA 8260 | 5 | 5.0 | 0.363 |
| 1,4-Dichlorobutane | EPA 8260 | -- | 5.0 | 0.464 |
| 1,2,3-Trichloropropane | EPA 8260 | 0.04 | 5.0 | 0.176 |
| Styrene | EPA 8260 | 5 | 1.0 | 0.359 |
| Dichlorodifluoromethane | EPA 8260 | 5 | 5.0 | 0.245 |
| Acetone | EPA 8260 | 50 | 5.0 | 1.46 |
| Carbon disulfide | EPA 8260 | 60 | 5.0 | 0.299 |
| 2-Butanone | EPA 8260 | 50 | 5.0 | 1.94 |
| Vinyl acetate | EPA 8260 | -- | 5.0 | 0.311 |
| 4-Methyl-2-pentanone | EPA 8260 | -- | 5.0 | 0.416 |
| 2-Hexanone | EPA 8260 | 50 | 5.0 | 0.515 |
| Ethyl methacrylate | EPA 8260 | 3 | 5.0 | 0.606 |
| Acrylonitrile | EPA 8260 | 5 | 5.0 | 0.43 |
| Bromochloromethane | EPA 8260 | 5 | 2.5 | 0.138 |
| Tetrahydrofuran | EPA 8260 | 50 | 5.0 | 0.525 |
| 2,2-Dichloropropane | EPA 8260 | 5 | 2.5 | 0.204 |
| 1,2-Dibromoethane | EPA 8260 | 0.0006 | 2.0 | 0.193 |
| 1,3-Dichloropropane | EPA 8260 | 5 | 2.5 | 0.212 |
| 1,1,1,2-Tetrachloroethane | EPA 8260 | 5 | 0.5 | 0.164 |
| Bromobenzene | EPA 8260 | 5 | 2.5 | 0.152 |
| n-Butylbenzene | EPA 8260 | 5 | 0.5 | 0.192 |
| sec-Butylbenzene | EPA 8260 | 5 | 0.5 | 0.181 |
| tert-Butylbenzene | EPA 8260 | 5 | 2.5 | 0.185 |
| o-Chlorotoluene | EPA 8260 | 5 | 2.5 | 0.17 |
| p-Chlorotoluene | EPA 8260 | 5 | 2.5 | 0.185 |
| 1,2-Dibromo-3-chloropropane | EPA 8260 | 0.04 | 2.5 | 0.327 |
| Hexachlorobutadiene | EPA 8260 | 0.5 | 0.5 | 0.217 |
| Isopropylbenzene | EPA 8260 | 5 | 0.5 | 0.187 |

**Table 3**
**Groundwater Analyte List, Methods, and Reporting and Detection Limits**

| Parameter | Analytical Method | Groundwater Screening Levels[1] | Reporting Limit (mg/L) | Method Detection Limit |
|---|---|---|---|---|
| p-Isopropyltoluene | EPA 8260 | 5 | 0.5 | 0.188 |
| Naphthalene | EPA 8260 | 10 | 2.5 | 0.216 |
| n-Propylbenzene | EPA 8260 | 5 | 0.5 | 0.173 |
| 1,2,3-Trichlorobenzene | EPA 8260 | 5 | 2.5 | 0.234 |
| 1,2,4-Trichlorobenzene | EPA 8260 | 5 | 2.5 | 0.22 |
| 1,3,5-Trimethylbenzene | EPA 8260 | 5 | 2.5 | 0.174 |
| 1,3,5-Trichlorobenzene | EPA 8260 | 5 | 2 | 0.127 |
| 1,2,4-Trimethylbenzene | EPA 8260 | 5 | 2.5 | 0.191 |
| trans-1,4-Dichloro-2-butene | EPA 8260 | 5 | 2.5 | 0.173 |
| Ethyl ether | EPA 8260 | -- | 2.5 | 0.15 |
| Methyl Acetate | EPA 8260 | -- | 10 | 0.234 |
| Ethyl Acetate | EPA 8260 | -- | 10 | 0.716 |
| Isopropyl Ether | EPA 8260 | -- | 2.0 | 0.425 |
| Cyclohexane | EPA 8260 | -- | 10 | 0.271 |
| Ethyl-Tert-Butyl-Ether | EPA 8260 | -- | 2.0 | 0.179 |
| Tertiary-Amyl Methyl Ether | EPA 8260 | -- | 2.0 | 0.278 |
| 1,4-Dioxane | EPA 8260 | -- | 250 | 41.1 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | EPA 8260 | 5 | 10 | 0.148 |
| Methyl cyclohexane | EPA 8260 | -- | 10 | 0.396 |
| 1,4-Diethylbenzene | EPA 8260 | -- | 2.0 | 0.392 |
| 4-Ethyltoluene | EPA 8260 | -- | 2.0 | 0.34 |
| 1,2,4,5-Tetramethylbenzene | EPA 8260 | 5 | 2.0 | 0.542 |
| **TCL Semivolatile Organic Compounds (µg/L)** | | | | |
| Bis(2-chloroethyl)ether | EPA 8270D | 0.03 | 0.5 | 0.0929 |
| Phenol | EPA 8270D | 2 | 0.5 | 0.0512 |
| 2-Chlorophenol | EPA 8270D | -- | 0.5 | 0.0912 |
| 1,3-Dichlorobenzene | EPA 8270D | 3 | 0.5 | 0.0783 |
| 1,4-Dichlorobenzene | EPA 8270D | 3 | 0.5 | 0.0828 |
| 1,2-Dichlorobenzene | EPA 8270D | 3 | 0.5 | 0.0680 |
| Bis(2-chloroisopropyl)ether | EPA 8270D | 5 | 0.5 | 0.1080 |
| 2-Methylphenol | EPA 8270D | -- | 0.5 | 0.1040 |
| Hexachloroethane | EPA 8270D | 5 | 0.5 | 0.1020 |
| N-Nitroso-di-n-propylamine | EPA 8270D | -- | 0.5 | 0.1230 |
| 4-Methylphenol | EPA 8270D | -- | 0.5 | 0.1130 |
| Nitrobenzene | EPA 8270D | 0.4 | 0.5 | 0.1020 |
| Isophorone | EPA 8270D | 50 | 0.5 | 0.1260 |
| 2-Nitrophenol | EPA 8270D | -- | 0.5 | 0.1150 |
| 2,4-Dimethylphenol | EPA 8270D | 50 | 2.0 | 0.2410 |
| Bis(2-chloroethoxy)methane | EPA 8270D | 5 | 0.5 | 0.0854 |

**Table 3**
**Groundwater Analyte List, Methods, and Reporting and Detection Limits**

| Parameter | Analytical Method | Groundwater Screening Levels[1] | Reporting Limit (mg/L) | Method Detection Limit |
|---|---|---|---|---|
| 2,4-Dichlorophenol | EPA 8270D | 5 | 0.5 | 0.0996 |
| 1,2,4-Trichlorobenzene | EPA 8270D | 5 | 0.5 | 0.0961 |
| Naphthalene | EPA 8270D | 10 | 0.5 | 0.0876 |
| 4-Chloroaniline | EPA 8270D | 5 | 0.5 | 0.1280 |
| Hexachlorobutadiene | EPA 8270D | 0.5 | 0.5 | 0.0855 |
| P-Chloro-M-Cresol | EPA 8270D | -- | 0.5 | 0.1030 |
| 2-Methylnaphthalene | EPA 8270D | -- | 0.5 | 0.0911 |
| 1,2,4,5-Tetrachlorobenzene | EPA 8270D | 5 | 0.5 | 0.0797 |
| Hexachlorocyclopentadiene | EPA 8270D | 5 | 0.5 | 0.1530 |
| Pentachloronitrobenzene | EPA 8270D | ND | 0.5 | 0.1690 |
| 2,4,6-Trichlorophenol | EPA 8270D | -- | 0.5 | 0.1520 |
| 2,4,5-Trichlorophenol | EPA 8270D | -- | 0.5 | 0.0913 |
| 2-Chloronaphthalene | EPA 8270D | 10 | 0.5 | 0.0899 |
| 2-Nitroaniline | EPA 8270D | 5 | 0.5 | 0.1380 |
| Acenaphthylene | EPA 8270D | -- | 0.5 | 0.1120 |
| Dimethylphthalate | EPA 8270D | 50 | 0.5 | 0.1170 |
| 2,6-Dinitrotoluene | EPA 8270D | 0.07 | 0.5 | 0.1680 |
| Acenaphthene | EPA 8270D | 20 | 0.5 | 0.0955 |
| 3-Nitroaniline | EPA 8270D | 5 | 0.5 | 0.1110 |
| 2,4-Dinitrophenol | EPA 8270D | 10 | 5.0 | 0.7280 |
| Dibenzofuran | EPA 8270D | -- | 0.5 | 0.0910 |
| 2,4-Dinitrotoluene | EPA 8270D | 5 | 0.5 | 0.1630 |
| 4-Nitrophenol | EPA 8270D | -- | 2.5 | 0.5900 |
| 2,3,4,6-Tetrachlorophenol | EPA 8270D | -- | 0.5 | 0.1430 |
| Fluorene | EPA 8270D | 50 | 0.5 | 0.1040 |
| 4-Chlorophenyl phenyl ether | EPA 8270D | -- | 0.5 | 0.0792 |
| Diethylphthalate | EPA 8270D | 50 | 0.5 | 0.1800 |
| Azobenzene | EPA 8270D | 5 | 0.5 | 0.1280 |
| 4-Nitroaniline | EPA 8270D | 5 | 0.5 | 0.1120 |
| 4,6-Dinitro-2-Methylphenol | EPA 8270D | -- | 2.0 | 0.5100 |
| NitrosoDiPhenylAmine(NDPA)/DPA | EPA 8270D | 50 | 0.5 | 0.0720 |
| 4-Bromophenyl phenyl ether | EPA 8270D | -- | 0.5 | 0.0997 |
| Hexachlorobenzene | EPA 8270D | 0.04 | 0.5 | 0.1220 |
| Pentachlorophenol | EPA 8270D | 2 | 2.0 | 0.4300 |
| Phenanthrene | EPA 8270D | 50 | 0.5 | 0.1110 |
| Anthracene | EPA 8270D | 50 | 0.5 | 0.1370 |
| Carbazole | EPA 8270D | -- | 0.5 | 0.1430 |
| Di-n-butylphthalate | EPA 8270D | 50 | 0.5 | 0.0996 |
| Fluoranthene | EPA 8270D | 50 | 0.5 | 0.1560 |

**Table 3**
**Groundwater Analyte List, Methods, and Reporting and Detection Limits**

| Parameter | Analytical Method | Groundwater Screening Levels[1] | Reporting Limit (mg/L) | Method Detection Limit |
|---|---|---|---|---|
| Pyrene | EPA 8270D | 50 | 0.5 | 0.1700 |
| Butylbenzylphthalate | EPA 8270D | 50 | 0.5 | 0.0848 |
| 3,3'-Dichlorobenzidine | EPA 8270D | 5 | 0.5 | 0.1930 |
| Benz(a)anthracene | EPA 8270D | 0.002 | 0.5 | 0.1840 |
| Chrysene | EPA 8270D | 0.002 | 0.5 | 0.1420 |
| Bis(2-Ethylhexyl)phthalate | EPA 8270D | 5 | 0.5 | 0.0809 |
| Di-n-octylphthalate | EPA 8270D | 50 | 1.0 | 0.0786 |
| Benzo(b)fluoranthene | EPA 8270D | 0.002 | 0.5 | 0.0655 |
| Benzo(k)fluoranthene | EPA 8270D | 0.002 | 0.5 | 0.1610 |
| Benzo(a)pyrene | EPA 8270D | 0.002 | 0.5 | 0.0602 |
| Indeno(1,2,3-cd)Pyrene | EPA 8270D | 0.002 | 0.5 | 0.0896 |
| Dibenz(a,h)anthracene | EPA 8270D | -- | 0.5 | 0.0641 |
| Benzo(ghi)perylene | EPA 8270D | -- | 0.5 | 0.1090 |
| Aniline | EPA 8270D | 5 | 1.0 | 0.1270 |
| Acetophenone | EPA 8270D | -- | 1.0 | 0.2070 |
| Atrazine | EPA 8270D | 7.5 | 0.5 | 0.1600 |
| Benzaldehyde | EPA 8270D | -- | 2.0 | 0.1190 |
| Benzidine | EPA 8270D | 5 | 20.0 | 0.4640 |
| Caprolactam | EPA 8270D | -- | 2.0 | 0.1230 |
| n-Nitrosodimethylamine | EPA 8270D | -- | 0.5 | 0.0720 |
| Biphenyl | EPA 8270D | 5 | 0.5 | 0.1110 |
| Benzyl Alcohol | EPA 8270D | -- | 0.5 | 0.1230 |
| Pyridine | EPA 8270D | 50 | 0.5 | 0.1630 |
| Benzoic Acid | EPA 8270D | -- | 40.0 | 3.0100 |
| **Total and Dissolved Metals (mg/L)** | | | | |
| Aluminum | EPA 6020B | -- | 0.01 | 0.0033 |
| Antimony | EPA 6020B | 0.003 | 0.004 | 0.0004 |
| Arsenic | EPA 6020B | 0.05 | 0.0005 | 0.0002 |
| Barium | EPA 6020B | 1 | 0.0005 | 0.0002 |
| Beryllium | EPA 6020B | 0.003 | 0.0003 | 0.0001 |
| Cadmium | EPA 6020B | 0.005 | 0.0002 | 0.0001 |
| Calcium | EPA 6020B | -- | 0.1 | 0.0394 |
| Chromium | EPA 6020B | 0.05 | 0.001 | 0.0002 |
| Cobalt | EPA 6020B | -- | 0.0005 | 0.0002 |
| Copper | EPA 6020B | 0.2 | 0.001 | 0.0004 |
| Iron | EPA 6020B | -- | 0.050 | 0.0191 |
| Lead | EPA 6020B | 0.05 | 0.001 | 0.0003 |
| Magnesium | EPA 6020B | 35 | 0.070 | 0.0242 |
| Manganese | EPA 6020B | -- | 0.001 | 0.0004 |

**Table 3**
**Groundwater Analyte List, Methods, and Reporting and Detection Limits**

| Parameter | Analytical Method | Groundwater Screening Levels[1] | Reporting Limit (mg/L) | Method Detection Limit |
|---|---|---|---|---|
| Mercury | EPA 7474 | 0.0007 | 0.0001 | 0.000026 |
| Nickel | EPA 6020B | 0.1 | 0.002 | 0.0006 |
| Potassium | EPA 6020B | -- | 0.100 | 0.0309 |
| Selenium | EPA 6020B | 0.01 | 0.005 | 0.0017 |
| Silver | EPA 6020B | 0.05 | 0.0004 | 0.0002 |
| Sodium | EPA 6020B | -- | 0.100 | 0.0293 |
| Thallium | EPA 6020B | 0.0005 | 0.0005 | 0.0001 |
| Vanadium | EPA 6020B | -- | 0.005 | 0.0016 |
| Zinc | EPA 6020B | 2 | 0.010 | 0.0034 |

Notes:

1. New York State Groundwater Effluent Limitations, Class GA (NYDEC 1998)

NYSDEC (New York State Department of Environmental Conservation), 1998. *Ambient Water Quality Standards and*

--: not applicable

µg/L: micrograms per liter

CAS RN: Chemical Abstracts Service Registry Number

EPA: U.S. Environmental Protection Agency

mg/L: milligrams per liter

ND: "a non-detectable concentration by the approved analytical methods referenced in section 700.3"

SM: Standard Method

TCL: Target Compound List

**Table 4**

**Groundwater Laboratory Quality Control Sample Analysis Summary**

| Analysis Type | Initial Calibration | Ongoing Calibration | Duplicates | Matrix Spikes | Matrix Spike Duplicates | Method Blanks | Surrogate Spikes | Laboratory Control Samples |
|---|---|---|---|---|---|---|---|---|
| Ammonia-nitrogen | ≥ 5 points, linear fit | Every 10 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | N/A | 1 per 20 samples |
| Nitrate-nitrogen | ≥ 5 points, linear fit | Every 10 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | N/A | 1 per 20 samples |
| Sulfate | ≥ 5 points, linear fit | Every 10 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | N/A | 1 per 20 samples |
| Dissolved iron | ≥ 5 points, linear/log fit | Every 10 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | N/A | 1 per 20 samples |
| Dissolved manganese | ≥ 5 points, linear/log fit | Every 10 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | N/A | 1 per 20 samples |
| Methane | ≥ 5 points, linear fit | Every 10 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | N/A | 1 per 20 samples |
| Ethane | ≥ 5 points, linear fit | Every 10 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | N/A | 1 per 20 samples |
| Ethene | ≥ 5 points, linear fit | Every 10 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | N/A | 1 per 20 samples |
| Alkalinity | ≥ 5 points, linear fit | Every 10 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | N/A | 1 per 20 samples |
| Total Organic Carbon | ≥ 5 points, linear fit | Every 10 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | Yes (TOC surrogates) | 1 per 20 samples |
| VOCs | As needed[d] | Every 12 hours | N/A | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | Every sample | 1 per 20 samples |
| SVOCs | As needed[d] | Every 12 hours | N/A | 1 per 20 samples | 1 per 20 samples | 1 per 20 samples | Every sample | 1 per 20 samples |
| Metals | Daily[c] | Every 10 samples | 1 per 20 samples | 1 per 20 samples | N/A | 1 per 20 samples | NA | 1 per 20 samples |

Notes:

a. Calibration and certification of drying ovens and weighing scales are conducted bi-annually.

b. Scale should be calibrated with Class 5 weights daily; weights must bracket the weight of sample and weighing vessel.

c. Initial calibration verification and calibration blank must be analyzed at the beginning of each batch.

d. Initial calibrations are considered valid until the ongoing continuing calibration no longer meets method specifications. At that point, a new initial calibration is performed.

**Table 4**

**Groundwater Laboratory Quality Control Sample Analysis Summary**

N/A: not applicable
SVOC: semivolatile organic compound
VOC: volatile organic compound

**Table 5**
**Data Quality Objectives**

| Parameter | Precision[a] | Accuracy[b] | Completeness |
|---|---|---|---|
| **Soil Samples** | | | |
| TCLP VOCs | ± 20% RPD | 70–130% RPD | 95% |
| TCLP SVOCs | ± 30% RPD | 70–130% RPD | 95% |
| PCBs | ± 25% RPD | 70-130% RPD | 95% |
| TCLP Metals | ± 20% RPD | 80–120% RPD | 95% |
| ignitability | replicate consistency required | Positive/negative control verification with known ignitable/non-ignitable standards | 95% |
| corrosivity | ±0.1 pH unit in replicate samples | Calibration verification using standard buffer solutions (pH 4, 7, 10) | 95% |
| reactivity | ≤ 30% RPD for spike duplicates (if performed) | 75–125% recovery in matrix spikes or LCS, where applicable | 95% |
| **Groundwater Samples** | | | |
| Ammonia-nitrogen | ± 20% RPD | 80-120% | 95% |
| Nitrate-nitrogen | ± 20% RPD | 80-120% | 95% |
| Sulfate | ± 20% RPD | 80-120% | 95% |
| Dissolved iron | ± 20% RPD | 80-120% | 95% |
| Dissolved manganese | ± 20% RPD | 80-120% | 95% |
| Methane | ± 25% RPD | 75-125% | 95% |
| Ethane | ± 25% RPD | 75-125% | 95% |
| Ethene | ± 25% RPD | 75-125% | 95% |
| Alkalinity | ± 20% RPD | 80-120% | 95% |
| Total Organic Carbon | ± 20% RPD | 80-120% | 95% |
| VOCs | ± 35% RPD | 60–140% R | 95% |
| SVOCs | ± 35% RPD | 60–140% R | 95% |
| Total and dissolved metals | ± 20% RPD | 80–120% R | 95% |
| **Indoor Air Samples** | | | |
| TO-15 list | ≤ 30% RPD | 70-130% | 95% |

Notes:
a. When the sample concentration is greater than five times the reporting limit.
b. Accuracy goals apply to laboratory control samples and matrix spike samples, as applicable to the analysis.
N/A: not applicable
R: recovery
RPD: relative percent difference
SVOC: semivolatile organic compound
VOC: volatile organic compound

# APPENDIX M – SITE MANAGEMENT FORMS

Site Management Forms included in this appendix include the following:

- Annual Inspection Form
- SSDS Inspection Form
- Summary of Green Remediation Metrics for Site Management

# ANNUAL INSPECTION FORM

# *Annual Inspection Form*

*Contract No.:* _____
*Report Date:* _____
*Report No.:* _____

*Anchor QEA Field Rep.:* _____
*Project Name/Location:* *350 Beach 79th, Far Rockaway, NY*

| Report Submitted To | | Weather Temp. And Precipitation | | Time of Site Visit/Observation |
|---|---|---|---|---|
| Client: | | AM: | | |
| CC: | | PM: | | |

| Invasive Activity in Reporting Period | | |
|---|---|---|
| **Construction Task** | **Location of Work** | **Comment/Notes** |
| | | |

| **Notes on general site conditions at time of inspection.** |
|---|
| |
| **Notes on site management activities conducted including (where appropriate) post-construction sampling and health and safety inspection.** |
| |
| **Notes on Site records status.** |
| |

| **Site-Wide Annual Inspection** | | |
|---|---|---|
| **Institutional Control** | **Compliance** | **Comment/Notes** |

ANCHOR QEA

# *Annual Inspection Form*

*Contract No.:* _____
*Report Date:* _____
*Report No.:* _____

*Anchor QEA Field Rep.:* _____
*Project Name/Location:* *350 Beach 79th, Far Rockaway, NY*

| | | |
|---|---|---|
| Property use is commercial use. | Y / N | |
| All engineering controls are operated and maintained as specified in the SMP. | Y / N | |
| Groundwater use at the site is restricted as described in the SMP. | Y / N | |
| Groundwater and other environmental or public health monitoring are performed as defined in the SMP. | Y / N | |
| Data and information pertinent to site management were reported as defined in SMP. | Y / N | |
| Activities that disturbed the remaining contaminated material were conducted in accordance with SMP. | Y / N | |
| Monitoring to assess the performance and effectiveness of the remedy was performed as defined in SMP. | Y / N | |
| Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy was performed as defined in SMP. | Y / N | |
| Potential for vapor intrusion must be evaluated for any new building(s) newly developed and any existing building(s) as defined in SMP. | Y / N | |
| Vegetable gardens and farming on the Site are prohibited as defined in SMP. | Y / N | |
| **Engineering Control** | **Compliance** | **Comment/Notes** |
| Site Cover | Y / N | |
| SSDS – Lot 14 – Pre-existing Building | Y / N | |
| SSDS – Lot 18 – Self-Storage Building | Y / N | |

# *Annual Inspection Form*

*Contract No.:* _____
*Report Date:* _____
*Report No.:* _____

*Anchor QEA Field Rep.:* _____
*Project Name/Location:* *350 Beach 79th, Far Rockaway, NY*

| **Notes on site cover** |
|---|
| *Area(s) of disturbance to site cover should be identified on attached Figure 1.* |

| **Diary** | |
|---|---|
| Time | |
| Time | |
| Time | |
| Time | |
| Time | |
| Time | |
| Time | |
| Time | |
| Time | |
| Time | |
| Time | |
| Time | |
| Time | |
| Time | |
| Time | |
| Time | |

# *Annual Inspection Form*

*Contract No.:* _____
*Report Date:* _____
*Report No.:* _____

*Anchor QEA Field Rep.:* _____
*Project Name/Location:* 350 Beach 79th, Far Rockaway, NY

| **Other Observations** |
|---|
| |
| |
| |
| |
| |
| |
| |
| |
| |

| **Photographs** | |
|---|---|
| | |
| Comment: | Comment: |
| | |
| Comment: | Comment: |

# EXISTING BUILDING SSDS INSPECTION FORM

| EXISTING BUILDING SSDS COMPLIANCE INSPECTION FORM | | |
|---|---|---|
| **Name of Inspector:** | | **Inspection Date :** |
| **Construction Completion Date: 12/4/2024** | | **Date of Last Periodic Compliance Inspection:** |
| **Site Name:** | | |
| **Site Address: 357 Beach 79th Street** | | **County:** |
| **Name and Address Current Property Owner(s):** | | |
| **Name of Site Contact:** | | **Telephone Number:** |
| **Address:** | | |
| **Operators Name: (if applicable)** | | **Telephone Number:** |
| **Persons Present During Inspection include Affiliations:** | | |

| Date | Site Address | Inspector name and title |
|---|---|---|
| | | |
| **Remedy Description of Cover Systems** | | |
| **1. Review of the current remedy** | | |
| Identify the current remedy: | | |
| □ Vapor Barrier | □ Cover Slab | □ Active SSDS |
| How many SSDS Systems are used (if applicable)? | | |
| **2. Review of the current remedy goals** | | |
| What schedule has been established for monitoring each system in CCR? Annual Inspection and monitoring | | |
| **Blowers and Piping** | | |
| Since the last O&M review for this system, has evidence of excessive corrosion of system components been observed? If yes, what actions have been taken and/or are planned in response? | | □ Yes<br>□ No |
| Since the last O&M review, have blower operational characteristics, such as flow rate, pressure, and discharge temperatures, been consistently within equipment design parameters? | | □ Yes<br>□ No |
| Since the last O&M review, if water is manually removed from the extraction blower water separator, has water accumulation been observed that could adversely impact blower operation?<br>If yes, what actions have been taken and/or are planned in response? | | □ Yes<br>□ No<br>□ N/A |
| Since the last O&M review, have all blowers, water separators, valves, and piping components been consistently operational? | | □ Yes<br>□ No |
| **SSDS - Zone 1 (Southern Blower B-1)** | | |
| Extraction Point Vacuum Guage Reading | SSD-1 = | Inch water |
| | SSD-2 = | Inch water |
| | SSD-3 = | Inch water |
| | SSD-4 = | Inch water |
| | SSD-5 = | Inch water |
| Vapor Monitoring Point Vacuum Reading | VMP-1 = | Inch water |
| | VMP-2 = | Inch water |
| | VMP-3 = | Inch water |
| | VMP-4 = | Inch water |
| | VMP-5 = | Inch water |
| Alarms Condition | | □ Function<br>□ Damage |
| Was the Subslab Depressurization System (SSDS) operating upon arrival?<br>If "No," explain below why the system was not running, efforts taken to restart the SSDS and if the system was operational when leaving. If successful in making the SSDS operational, complete the remainder of the checklist. | | □ Yes<br>□ No |
| List below all pertinent observations and actions taken during this Inspection: | | |
| **SSDS - Zone 2 (Central Blower B-2)** | | |
| Extraction Point Vacuum Guage Reading | SSD-6 = | Inch water |
| | SSD-7 = | Inch water |
| | SSD-8 = | Inch water |
| | SSD-9 = | Inch water |
| | SSD-10 = | Inch water |
| Vapor Monitoring Point Vacuum Reading | VMP-6 = | Inch water |
| | VMP-7 = | Inch water |
| | VMP-8 = | Inch water |
| | VMP-9 = | Inch water |
| | VMP-10 = | Inch water |
| Alarms Condition | | □ Function<br>□ Damage |
| Was the Subslab Depressurization System (SSDS) operating upon arrival?<br>If "No," explain below why the system was not running, efforts taken to restart the SSDS and if the system was operational when leaving. If successful in making the SSDS operational, complete the remainder of the checklist. | | □ Yes<br>□ No |
| List below all pertinent observations and actions taken during this Inspection: | | |
| **SSDS - Zone 3 (Northern Blower B-3)** | | |
| Extraction Point Vacuum Guage Reading | SSD-11 = | Inch water |
| | SSD-12 = | Inch water |
| | SSD-13 = | Inch water |
| | SSD-14 = | Inch water |
| | SSD-15 = | Inch water |
| Vapor Monitoring Point Vacuum Reading | VMP-11 = | Inch water |
| | VMP-12 = | Inch water |
| | VMP-13 = | Inch water |
| | VMP-14 = | Inch water |
| | VMP-15 = | Inch water |

| EXISTING BUILDING SSDS COMPLIANCE INSPECTION FORM | |
|---|---|
| Alarms Condition | □ Function<br>□ Damage |
| Was the Subslab Depressurization System (SSDS) operating upon arrival?<br>If "No," explain below why the system was not running, efforts taken to restart the SSDS and if the system was operational when leaving. If successful in making the SSDS operational, complete the remainder of the checklist. | □ Yes<br>□ No |
| List below all pertinent observations and actions taken during this Inspection: | |
| **Cover System** | |
| Did you observe breaking of slab cover? | □ Yes<br>□ No |
| If yes describe the level of alteration needed for repairs and remedies? | |

# NEW BUILDING SSDS INSPECTION FORM

| NEW BUILDING SSDS COMPLIANCE INSPECTION FORM | | |
|---|---|---|
| **Name of Inspector:** | | **Inspection Date :** |
| **Construction Completion Date: 4/29/2025** | | **Date of Last Periodic Compliance Inspection:** |
| **Site Name:** | | |
| **Site Address: 350 Beach 79th Street Far Rockaway, NY** | | **County: Queens** |
| **Name and Address Current Property Owner(s):** | | |
| **Name of Site Contact: Uri Kaufman** | | **Telephone Number: 917.453.3384** |
| **Address:** | | |
| **Operators Name: (if applicable)** | | **Telephone Number:** |
| **Persons Present During Inspection include Affiliations:** | | |

| Date | Site Address | Inspector name and title |
|---|---|---|
| | | |
| **Remedy Description of Cover Systems** | | |
| **1. Review of the current remedy** | | |
| Identify the current remedy: | | |
| □ Vapor Barrier | □ Cover Slab | □ Active SSDS |
| How many SSDS Systems are used (if applicable)? | | |
| **2. Review of the current remedy goals** | | |
| What schedule has been established for monitoring each system in CCR? Annual Inspection and monitoring | | |
| **Blowers and Piping** | | |
| Since the last O&M review for this system, has evidence of excessive corrosion of system components been observed? If yes, what actions have been taken and/or are planned in response? | | □ Yes<br>□ No |
| Since the last O&M review, have blower operational characteristics, such as flow rate, pressure, and discharge temperatures, been consistently within equipment design parameters? | | □ Yes<br>□ No |
| Since the last O&M review, if water is manually removed from the extraction blower water separator, has water accumulation been observed that could adversely impact blower operation?<br>If yes, what actions have been taken and/or are planned in response? | | □ Yes<br>□ No<br>□ N/A |
| Since the last O&M review, have all blowers, water separators, valves, and piping components been consistently operational? | | □ Yes<br>□ No |
| **SSDS - Zone 1 (Southern-most blower B-1)** | | |
| Extraction Point Vacuum Guage Reading | | SSD-1 = Inch water<br>SSD-2 = Inch water |
| Vapor Monitoring Point Vacuum Reading | | VMP-1 = Inch water<br>VMP-2 = Inch water |
| Alarms Condition | | □ Function<br>□ Damage |
| Was the Subslab Depressurization System (SSDS) operating upon arrival?<br>If "No," explain below why the system was not running, efforts taken to restart the SSDS and if the system was operational when leaving. If successful in making the SSDS operational, complete the remainder of the checklist. | | □ Yes<br>□ No |
| List below all pertinent observations and actions taken during this Inspection: | | |
| Alarms Condition | | □ Function<br>□ Damage |
| Was the Subslab Depressurization System (SSDS) operating upon arrival?<br>If "No," explain below why the system was not running, efforts taken to restart the SSDS and if the system was operational when leaving. If successful in making the SSDS operational, complete the remainder of the checklist. | | □ Yes<br>□ No |
| List below all pertinent observations and actions taken during this inspection: | | |
| **Vapor Barrier** | | |
| Did you observe breaking of slab cover, what portion? Any of evidence of Vapor Barrier needs to be alter? | | □ Yes<br>□ No<br>□ N/A |
| If yes, does the Vapor Barrier appear to be punctured? | | □ Yes<br>□ No |
| If yes, describe action needed to repair the alter cover system. | | |
| **Cover System** | | |
| Did you observe breaking of slab cover? | | □ Yes<br>□ No |
| If yes describe the level of alteration needed for repairs and remedies? | | |

# SUMMARY OF GREEN REMEDIATION METRICS FOR SITE MANAGEMENT

**Summary of Green Remediation Metrics for Site Management**

Site Name: _____ Site Code: _____
Address: _____ City: _____
State: _____ Zip Code: _____ County: _____

**Initial Report Period (Start Date of period covered by the Initial Report submittal)**
Start Date: _____

**Current Reporting Period**
Reporting Period From: _____ To: _____

**Contact Information**
Preparer's Name: _____ Phone No.: _____
Preparer's Affiliation: _____

**I. Energy Usage:** Quantify the amount of energy used directly on-Site and the portion of that derived from renewable energy sources.

| | **Current Reporting Period** | **Total to Date** |
|---|---|---|
| Fuel Type 1 (e.g. natural gas (cf)) | | |
| Fuel Type 2 (e.g. fuel oil, propane (gals)) | | |
| Electricity (kWh) | | |
| **Of that Electric usage, provide quantity:** | | |
| Derived from renewable sources (e.g. solar, wind) | | |
| **Other energy sources** (e.g. geothermal, solar thermal (Btu)) | | |

*Provide a description of all energy usage reduction programs for the Site in the space provided on Page 3.*

**II. Solid Waste Generation:** Quantify the management of solid waste generated on-Site.

| | **Current Reporting Period (tons)** | **Total to Date (tons)** |
|---|---|---|
| **Total waste generated on-Site** | | |
| OM&M generated waste | | |
| **Of that total amount, provide quantity:** | | |
| Transported off-Site to landfills | | |
| Transported off-Site to other disposal facilities | | |
| Transported off-Site for recycling/reuse | | |
| Reused on-Site | | |

*Provide a description of any implemented waste reduction programs for the Site in the space provided on Page 3.*

**III. Transportation/Shipping:** Quantify the distances travelled for delivery of supplies and lab-supplied bottles, shipping of laboratory samples, and the removal of waste.

| | **Current Reporting Period (miles)** | **Total to Date (miles)** |
|---|---|---|
| Standby Engineer/Contractor | | |
| Laboratory Courier/Delivery Service (bottle and sample delivery) | | |
| Waste Removal/Hauling | | |

*Provide a description of all mileage reduction programs for the Site in the space provided on Page 3. Include specifically any local vendor/services utilized that are within 50 miles of the Site.*

**IV. Water Usage:** Quantify the volume of water used on-Site from various sources.

| | **Current Reporting Period (gallons)** | **Total to Date (gallons)** |
|---|---|---|
| Total quantity of water used on-Site (not including treated water) | | |
| **Of that total amount, provide quantity:** | | |
| Public potable water supply usage | | |
| Surface water usage | | |
| On-Site groundwater usage | | |
| Collected or diverted storm water usage | | |

*Provide a description of any implemented water consumption reduction programs for the Site in the space provided on Page 3.*

**V. Land Use and Ecosystems:** Quantify the amount of land and/or ecosystems disturbed and the area of land and/or ecosystems restored to a pre-development condition (i.e. Green Infrastructure).

| | **Current Reporting Period (acres)** | **Total to Date (acres)** |
|---|---|---|
| Land disturbed | | |
| Land restored | | |

*Provide a description of any implemented land restoration/green infrastructure programs for the Site in the space provided on Page 3.*

| **Description of green remediation programs reported above**<br>(Attach additional sheets if needed) |
|---|
| Energy Usage: |
| Waste Generation: |
| Transportation/Shipping: |
| Water usage: |
| Land Use and Ecosystems: |
| Recommendations/Other: |

| **CONTRACTOR CERTIFICATION** |
|---|
| I, _____ (**Name**) do hereby certify that I am _____ (**Title**) of _____ (**Contractor Name**), which is responsible for the work documented on this form. According to my knowledge and belief, all of the information provided in this form is accurate and the Site management program complies with the DER-10, DER-31, and CP-49 policies.<br><br>_____<br>**Date** **Contractor** |

# APPENDIX N – RESPONSIBILITIES OF OWNER AND REMEDIAL PARTY

## M-1 Responsibilities

The responsibilities for implementing the Site Management Plan ("SMP") for the Far Rockaway Site (the "Site"), number C241207-04-18, are divided between the Site owner(s) and a Remedial Party, as defined below. The owner(s) is currently listed as:

Uri Kaufman
79 Arverne Development LLC
220-46 73rd Ave
Bayside, NY 11364
917-453-3384
urikaufman50@gmail.com

**Solely for the purposes of this document and based upon the facts related to a particular Site and the remedial program being carried out,** the term Remedial Party ("RP") refers to any of the following: certificate of completion holder, volunteer, applicant, responsible party, and, in the event the New York State Department of Environmental Conservation ("NYSDEC") is carrying out remediation or Site management, the NYSDEC and/or an agent acting on its behalf. The RP is:

Uri Kaufman
79 Arverne Development LLC
220-46 73rd Ave
Bayside, NY 11364
917-453-3384
urikaufman50@gmail.com

Nothing on this page shall supersede the provisions of an Environmental Easement, Consent Order, Consent Decree, agreement, or other legally binding document that affects rights and obligations relating to the Site.

**Site Owner's Responsibilities:**

1) The owner shall follow the provisions of the SMP as they relate to future construction and excavation at the Site.
2) In accordance with a periodic time frame determined by the NYSDEC, the owner shall periodically certify, in writing, that all Institutional Controls set forth in an Environmental Easement remain in place and continue to be complied with. The owner shall provide a written certification to the RP, upon the RP's request, in order to allow the RP to include the certification in the Site's Periodic Review Report (PRR) certification to the NYSDEC.
3) In the event the Site is delisted, the owner remains bound by the Environmental Easement and shall submit, upon request by the NYSDEC, a written certification that the Environmental Easement is still in place and has been complied with.
4) The owner shall grant access to the Site to the RP and the NYSDEC and its agents for the purposes of performing activities required under the SMP and assuring compliance with the SMP.
5) The owner is responsible for assuring the security of the remedial components located on its property to the best of its ability. If damage to the remedial components or vandalism is evident, the owner shall notify the Site's RP and the NYSDEC in accordance with the timeframes indicated in Section 1.3 - Notifications.
6) If some action or inaction by the owner adversely impacts the Site, the owner must notify the Site's RP and the NYSDEC in accordance with the time frame indicated in **SMP Section 1.3** - Notifications and coordinate the performance of necessary corrective actions with the RP.

7) The owner must notify the RP and the NYSDEC of any change in ownership of the Site property (identifying the tax map numbers in any correspondence) and provide contact information for the new owner of the Site property. 6 NYCRR Part contains notification requirements applicable to any construction or activity changes and changes in ownership. Among the notification requirements is the

following: Sixty days prior written notification must be made to the NYSDEC. Notification is to be submitted to the NYSDEC Division of Environmental Remediation's Site Control Section. Notification requirements for a change in use are detailed in **Section 1.3** of the SMP. A change of use includes, but is not limited to, any activity that may increase direct human or environmental exposure (e.g., day care, school or park). A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html.

8) Until such time as the NYSDEC deems the vapor mitigation system unnecessary, the owner shall operate the system, pay for the utilities for the system's operation, and report any maintenance issues to the RP and the NYSDEC.

9) In accordance with the tenant notification law, within 15 days of receipt, the owner must supply a copy of any vapor intrusion data, that is produced with respect to structures and that exceeds NYSDOH or OSHA guidelines on the Site, whether produced by the NYSDEC, RP, or owner, to the tenants on the property. The owner must otherwise comply with the tenant and occupant notification provisions of Environmental Conservation Law Article 27, Title 24.

**Remedial Party Responsibilities**

1) The RP must follow the SMP provisions regarding any construction and/or excavation it undertakes at the Site.

2) The RP shall report to the NYSDEC all activities required for remediation, operation, maintenance, monitoring, and reporting. Such reporting includes, but is not limited to, periodic review reports and certifications, electronic data deliverables, corrective action work plans and reports, and updated SMPs.

3) Before accessing the Site property to undertake a specific activity, the RP shall provide the owner advance notification that shall include an explanation of the work expected to be completed. The RP shall provide to (i) the owner, upon the owner's request, (ii) the NYSDEC, and (iii) other entities, if required by the SMP, a copy of any data generated during the Site visit and/or any final report produced.

4) If the NYSDEC determines that an update of the SMP is necessary, the RP shall update the SMP and obtain final approval from the NYSDEC. Within 5 business days after NYSDEC approval, the RP shall submit a copy of the approved SMP to the owner(s).

5) The RP shall notify the NYSDEC and the owner of any changes in RP ownership and/or control and of any changes in the party/entity responsible for the operation, maintenance, and monitoring of and reporting with respect to any remedial system (Engineering Controls). The RP shall provide contact information for the new party/entity. Such activity constitutes a Change of Use pursuant to 375-1.11(d) and requires 60-days prior notice to the NYSDEC. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html .

6) The RP shall notify the NYSDEC of any damage to or modification of the systems as required under **Section 1.3** - Notifications of the SMP.

7) The RP is responsible for the proper maintenance of any installed vapor intrusion mitigation systems associated with the Site, as required in **Section 5** or **Appendix K** (Operation, Monitoring, and Maintenance Manual) of the SMP.

8) Prior to a change in use that impacts the remedial system or requirements and/or responsibilities for implementing the SMP, the RP shall submit to the NYSDEC for approval an amended SMP.

9) Any change in use, change in ownership, change in Site classification (*e.g.*, delisting), reduction or expansion of remediation, and other significant changes related to the Site may result in a change in responsibilities and, therefore, necessitate an update to the SMP and/or updated legal documents. The RP shall contact the NYSDEC project manager to discuss the need to update such documents.

Change in RP ownership and/or control and/or Site ownership does not affect the RP's obligations with respect to the Site unless a legally binding document executed by the NYSDEC releases the RP of its obligations.

Future Site owners and RPs and their successors and assigns are required to carry out the activities set forth above.

# APPENDIX O - REMEDIAL SYSTEM OPTIMIZATION TABLE OF CONTENTS

REMEDIAL SYSTEM OPTIMIZATION FOR 350 BEACH 79TH STREET FAR ROCKAWAY, NEW YORK

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# APPENDIX P – REQUEST TO IMPORT/REUSE FILL OR SOIL

**NEW YORK STATE**
**DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

***Request to Import/Reuse Fill or Soil***

*This form is based on the information required by DER-10, Section 5.4(e) and 6NYCRR Part 360.13. Use of this form is not a substitute for reading the applicable regulations and Technical Guidance document.*

## SECTION 1 – SITE BACKGROUND

The allowable site use is: Choose an item

Have Ecological Resources been identified? Choose an item

Is this soil originating from the site? Choose an item

How many cubic yards of soil will be imported/reused? Choose an item

If greater than 1000 cubic yards will be imported, enter volume to be imported:

## SECTION 2 – MATERIAL OTHER THAN SOIL

Is the material to be imported gravel, rock or stone? Choose an item

Does it contain less than 10%, by weight, material that passes a size 100 sieve? Choose an item

Is this virgin material from a permitted mine or quarry? Choose an item

Is this material recycled concrete or brick from a DEC registered processing facility? Choose an item

## SECTION 3 - SAMPLING

Provide a brief description of the number and type of samples collected in the space below:

*Example Text: 5 discrete samples were collected and analyzed for VOCs. 2 composite samples were collected and analyzed for SVOCs, Inorganics & PCBs/Pesticides.*

*If the material meets requirements of DER-10 section 5.4(e)5 (other material), no chemical testing needed.*

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**SECTION 3 CONT'D - SAMPLING**

Provide a brief written summary of the sampling results or attach evaluation tables (compare to DER-10, Appendix 5):

*Example Text: Arsenic was detected up to 17 ppm in 1 (of 5) samples; the allowable level is 16 ppm.*

*If Ecological Resources have been identified use the "If Ecological Resources are Present" column in Appendix 5.*

**SECTION 4 – SOURCE OF FILL**

Name of person providing fill and relationship to the source:

Location where fill was obtained:

Identification of any state or local approvals as a fill source:

If no approvals are available, provide a brief history of the use of the property that is the fill source:

Provide a list of supporting documentation included with this request:

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The information provided on this form is accurate and complete.

| | |
|---|---|
| Signature | Date |
| Print Name | |
| Firm | |

Revised April 2023