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REMEDIAL INVESTIGATION WORK PLAN

473 President Street Off-Site - #C224220A
473 President Street
Brooklyn, NY 11215

Prepared For:

Contract# D009808, Work Assignment No. 73
New York State Department of Environmental Conservation
Division of Environmental Remediation
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General Information

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473 President Street Off-Site
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Brooklyn, New York 11215
DEC Site ID #C224220A

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Report Date: 7/24/2026

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QEP Certification:

I, Patrick Montuori, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Report 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 that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

Patrick Montuori, P.G. - Project Manager

1.0 INTRODUCTION

On June 16, 2026, HRP Associates, Inc. (HRP) was authorized to complete this New York State Department of Environmental Conservation (NYSDEC) Work Assignment (WA) No. 73 (D009808-73) to complete a Remedial Investigation (RI) and scope an Interim Remedial Measure (IRM) for 473 President Street Off-Site (#C224220A), located in Brooklyn, New York. The purpose of the RI portion of this WA is to characterize the nature and extent of off-site chlorinated volatile organic compound (CVOC) groundwater and soil vapor impacts related to contamination identified at three Brownfield Cleanup Program (BCP) sites referred to collectively herein as "the President Street Sites," which include 473 President Street Site (Site No. C224220), the President Street Portfolio Site (Site No. C224309), and the 514 Union Street Site (Site No. C224318). The RI will also collect information necessary to scope in-situ treatment of the off-site CVOC groundwater contamination as an IRM.

The scope of work for the RI discussed herein, was developed based on HRP's Site Characterization (SC) for 473 President Street Off-Site, HRP's review of previous investigations completed in the on-site and off-site study areas, and discussions and planning with NYSDEC staff.

1.1 Purpose and Objectives

This site-specific RI Work Plan describes the details of the scope of work, including all proposed field activities, laboratory analyses, and data QA/QC evaluation that will be associated with the 473 President Street Off-Site RI. This document is intended to supplement information provided in the NYSDEC-approved *Generic Field Activities Plan for Work Assignments*, completed by HRP on August 8, 2019.

The purpose of the RI is to determine the current nature and extent of CVOC contamination in soil, groundwater, and soil vapor to inform decision making by NYSDEC regarding off-site remediation. In accordance with DER-10 *Technical Guidance for Site Investigation and Remediation (May 2010),* the primary objectives of the RI scope of work are to:

- Delineate the areal and vertical extent of off-site CVOC contamination to soil, groundwater, and soil vapor emanating from the President Street Sites.
- Confirm the surface and subsurface characteristics of the off-site study area determined during the SC, including topography, geology, and hydrogeology, including depth to groundwater and groundwater flow gradients.
- Identify the sources of contamination, the migration pathways, and actual or potential receptors of contaminants on or through air, soil, bedrock, sediment, groundwater, surface water, utilities, and structures in the study area, without regard to property boundaries.
- Determine all actual and potential adverse impacts to fish and wildlife resources using the Fish and Wildlife Resource Impact Analysis (FWRIA) Decision Key included in DER-10 Appendix 3C.
- Collect and evaluate all data necessary to evaluate the actual and potential threats to public health and the environment.

- Collect the data necessary to evaluate any release to an environmental medium and develop remedial alternative(s) to address the release.
- Collect data for the purpose of scoping in-situ treatment of CVOC contamination in off-site groundwater as an IRM.

1.2 Study Area and Background Information

The 473 President Street Off-Site study area surrounds the President Street Sites which are located on adjoining parcels in the Gowanus neighborhood of Brooklyn, New York. The location of the President Street Sites are depicted on **Figure 1**. The President Street Sites are depicted on **Figure 2** and **Figure 3** and are described below.

- 473 President Street (Site No. C224220) located at 473 President Street, identified as Block 440, Lot 1. The site has recently been redeveloped into a nine-story high-rise apartment building referred to as 499 President Street.
- President Street Portfolio (Site No. C224309), which formerly included two non-contiguous parcels located at 469 President Street (E Waste Parcel) and 532 Union Street (Pontone Parcel), separated by 473 President Street. In 2020 the two parcels were merged with the 473 President Street Site parcel (Block 440, Lot 1), which as noted above is occupied by the nine-story apartment building referred to as 499 President Street.
- 514 Union Street (Site No. C224318) includes two contiguous parcels located at 514 Union Street, identified as Block 440, Lot 12, and 305 Nevins Street, identified as Block 440, Lot 9, and is occupied by a single-story building occupied by the Royal Palms Shuffleboard Club and a vacant commercial building.

The off-site study area surrounding the President Street Sites extends west to east from the Gowanus Canal to 3rd Avenue and north to south from Sackett Street to Carroll Street. The off-site study is depicted on **Figure 2** and **Figure 3**.

The area surrounding the President Street Sites is primarily residential, with some light industrial and commercial uses. Several NYSDEC remediation sites are located within the study area, including the following sites which are depicted on **Figure 3**:

- Former Chatham Cleaners site (Site No. 224431) located at 282 Nevins Street. An Inactive Hazardous Waste Program site, currently under investigation. The site was identified as a NYSDEC Class P-Site during SVI sampling completed as a part of the SC report for 473 President Street Off-Site.
- 318 Nevins Street Site (Site No. C224350) located at 318 Nevins Street. A BCP site currently under remediation and redevelopment.
- Former A&A Brake Service Site (Site No. C224372) located at 558 Sackett Street. A BCP site at which remediation was completed in 2025.
- 585 Union Street Site (Site No. C224329) located at 585 Union Street. A BCP site at which remediation was completed in 2023.

- K-Fulton Works Site (Site No. 224051) a multi-parcel site located north of the intersection of Nevins Street and Degraw Street. An Inactive Hazardous Waste Program site, currently under remediation.
- 563 Sackett Street Site (Site No. C224222) located at 563 Sackett Street. A BCP site currently under investigation.

In addition, the Gowanus Canal is located on the western boundary of the study area and is a United States Environmental Protection Agency (EPA) National Priority List (NPL) site currently under remediation.

1.3 Site Geology and Hydrogeology

Based on SC soil logging, soils generally consist of fill material overlying native soils primarily consisting of sand. Fill was found from 0.5 ft bg to approximately 6 ft bg and consisted of brown fine-medium sand with varying amounts of brick, coal, cinders, concrete, and wood. Native soils consisted of brown fine sand with varying amounts of silt, clay, and gravel.

The United States Geological Survey (USGS) "Bedrock and Engineering Geologic Maps of New York County and Parts of Kings and Queens Counties, New York, and Parts of Bergen and Hudson Counties, New Jersey" indicate the bedrock underlying the study area is part of the Hartland Formation, a mica-schist and quartz feldspar granulite (Bakersville, 1994). Depth to bedrock in the study area is estimated by the USGS to be 150-250 ft bg (DeMott, et al., 2023). Bedrock was not encountered during the off-site SC or in any of the on-site or off-site investigations reviewed by HRP. Bedrock is overlain by unconsolidated coastal plain deposits belonging to the Upper Cretaceous Monmouth Group, Matawan Group, and Magothy Formation which consist of silty clay, glauconitic sandy clay, sand, and gravel (Fisher et al., 1970).

HRP observed groundwater to be approximately 7.5 to 10 feet below sidewalk grade (ft bg) in monitoring wells installed within the study area. Groundwater elevation surveys performed on the President Street Sites indicate groundwater flows west-northwest towards the intersections of Union Street and Nevins Street and the Gowanus Canal. According to the NYSDEC Environmental Resource Mapper, the Gowanus Canal is labelled as a Regulatory Tidal Wetlands Area, and is located less than 500 feet west of the President Street Sites.

Groundwater elevation surveys performed in the off-site study area are generally consistent with the on-site surveys, indicating groundwater flow is to the north-northwest. Based on measurements recorded by pressure transducer data loggers in off-site monitoring wells, groundwater elevation fluctuates in a diurnal sinusoidal pattern indicating that groundwater elevation is tidally influenced. Based on SC groundwater elevation surveys, the direction of flow remains consistent during low tide and high tide.

1.4 Previous Investigations

President Street Sites Investigation and Remediation History

In preparation of this RI, HRP reviewed the following reports, work plans, and associated documents:

- Remedial Investigation Report for 473 President Street, prepared by Langan, dated August 2019.
- Remedial Action Work Plan for 473 President Street, prepared by Langan, dated October 2020.
- Remedial Investigation Report for President Street Portfolio, prepared by Langan, dated October 2020.
- Remedial Action Work Plan for President Street Portfolio, prepared by Langan, dated February 2021.
- DRAFT Remedial Investigation Report for 514 Union Street, Brooklyn, New York, Prepared by Langan, dated May 2024

Between 2015 and 2024, several subsurface investigations were conducted at the President Street Sites by Langan. Findings of the investigations are summarized below:

- CVOCs were detected in groundwater and sub-slab soil vapor at concentrations exceeding applicable NYSDEC SCGs at each of the President Street Sites (with the exception of groundwater at the Pontone Parcel) and in a limited number of soil samples at concentrations exceeding Unrestricted Use Soil Cleanup Objectives (UU SCOs). The presence of the CVOCs, which consisted primarily of trichloroethene (TCE), and its breakdown products cis-1,2-dichloroethylene (cis-1,2-DCE), and vinyl chloride, was attributed to historical releases associated with the former industrial uses of the President Street Sites including metal manufacturing, soda bottling, and/or die cutting.

- CVOCs (primarily TCE, cis-1,2-DCE, and vinyl chloride) were detected in groundwater at concentrations exceeding Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA criteria on each of the President Street Sites. The highest CVOC concentrations detected in on-site groundwater were found in MW08S located on the southeastern portion of the 514 Union Street Site. After the initial phases of the 473 President Street Off-Site SC identified off-site groundwater was impacted by TCE and other CVOCs, the BCP volunteer began collecting groundwater samples from HRP's off-site monitoring well network and installed and sampled additional off-site groundwater monitoring wells. The most recent available on-site and off-site groundwater data from February – March 2026 is presented **Appendix A** and is summarized on **Figure 4**.

- CVOCs were detected in sub-slab soil vapor and indoor air in each of the on-site buildings. CVOCs including tetrachloroethene (PCE), TCE, and cis-1,2-DCE were detected in sub-slab soil vapor at concentrations at which mitigation is recommended by the NYSDOH Soil Vapor/Indoor Air Matrices in each of the site buildings.

Based on the investigation findings, Langan prepared IRM Work Plans and Remedial Action Work Plans (RAWPs) for the President Street Sites which evaluated remedial alternatives and subsequently recommended Track 4 remedies at each site, to be implemented in conjunction with redevelopment of the sites. The IRMs and remedies completed at the President Street Sites consist of the following:

- Asbestos abatement and demolition of Site buildings at 473 President Street, 469 President Street (E Waste Parcel) and 532 Union Street (Pontone Parcel).

- Excavation and off-site disposal of soil/ historic fill material and removal and decommissioning of USTs in order to install site-wide composite cover systems at each of the President Street Sites, to consist of concrete building foundation and/or 2 ft of acceptable fill material.

- Installation of an air sparge/ soil vapor extraction system (AS/SVE) and/or implementation of in-situ chemical reduction (ISCR) to address CVOC and petroleum related VOC impacts to soil, groundwater, and soil vapor. AS/SVE or ISCR will be implemented pending results of pilot testing and other pre-design investigation.

- Installation of sub-membrane depressurization (SMD) systems to mitigate SVI in occupied areas of the lowest levels of the buildings.

- Establishment of institutional controls including restrictions on Site use and groundwater use through an environmental easement and Site Management Plan (SMP).

473 President Street Off-Site Site Characterization

From 2022 to 2025, HRP conducted an SC to investigate CVOC contamination emanating from the President Street Sites and potential impacts to off-site soil, groundwater, and soil vapor.

The off-site SC included the following investigation activities:

- Ground penetrating radar (GPR) surveys conducted to identify subsurface utilities and obstructions at drilling locations (five events conducted between 2022 and 2024).

- Collection of six shallow subsurface soil samples from one off-site soil boring located immediately downgradient of the President Street Sites (January 2024).

- Collection of five surface soil samples from the cellar of an off-site property located in the study area (March 2023).

- Installation and development of 10 off-site monitoring wells (October 2022, January 2023, April 2024).

- Collection of 43 groundwater samples from 13 off-site monitoring wells (October 2022, January 2023, May 2023, April 2024, December 2024, January 2025, and July 2025).

- Collection of 39 vertical profile grab groundwater samples from eight off-site soil boring locations (January 2024).

- Collection of 51 grab samples from surface water within the flooded cellar of a property located in the study area across 7 sampling events from March 2023 to February 2025.

- Collection of depth to water measurements from off-site monitoring wells (nine events conducted between 2023 and 2025).

- Installation and removal of pressure transducer data loggers for groundwater level monitoring in six off-site monitoring wells for a two week period (May 2023) and seven monitoring wells for a two week period (June 2024).

- Installation of 18 soil vapor points and collection of 18 soil vapor samples (October 2022 and January 2023).

- Completion of 32 SVI structure sampling events at 23 properties from November 2022 to March 2025.

- Surveys of investigation locations on January 24, 2023, and April 26, 2024.

The off-site SC concluded the following:

- Based on limited near-surface soil sampling completed at one location immediately downgradient of the President Street Sites, sampling of exposed soils from the cellar of an off-site property located in the study area, and soil screening observations during the installation of off-site monitoring wells, no evidence of an off-site surface release or source area of CVOC groundwater and soil vapor impacts were identified. CVOCs (primarily TCE, PCE, and cis-1,2-DCE) are present in off-site groundwater downgradient of the President Street Sites. The most recent available on-site and off-site groundwater data from February – March 2026 is presented **Appendix A** and is summarized on **Figure 4**.

- A TCE groundwater plume is emanating from the President Street Sites and extends laterally to the north, following groundwater flow through the intersection of Union Street and Nevins Street, and into an off-site property, where TCE was detected in groundwater "daylighting" in the flooded cellar.

- CVOCs are present in off-site groundwater at concentrations exceeding SCGs to a depth of at least 50 ft bg; however, the greatest concentrations of TCE and total CVOCs are present near the groundwater interface.

- TCE concentrations in the off-site groundwater plume have varied over time. The variations in TCE concentrations are interpreted to be "slugs" of contamination moving from the President Street Sites through the subsurface of the off-site study area. The contaminant slugs may be attributed to modification of the subsurface associated with remediation and redevelopment activities at the President Street Sites. Other construction projects also occurred in the study area during the off-site SC which included modifications to the

subsurface and dewatering activities which may have impacted groundwater flow and contaminant transport.

- PCE was also detected in off-site groundwater, but at lower concentrations than TCE. The widespread lateral and vertical extent of the PCE groundwater impacts (beyond the extent of the TCE plume) and the relatively uniform concentrations of the impacts throughout the study area, indicate that multiple sources may be contributing to the off-site PCE groundwater impacts, in addition to the President Street Sites.

- Petroleum related VOCs were also detected in groundwater in several isolated locations in the off-site study area. These impacts are attributed to multiple isolated off-site releases.

- CVOCs (primarily TCE) are present in off-site soil vapor. The NYSDOH Decision Matrices recommend "Mitigate" at 8 of 23 properties where SVI structure sampling was completed for the SC. IRMs to mitigate SVI are currently underway or complete at five of the eight "Mitigate" properties. The off-site SVI structure sampling was completed at private properties, and therefore the property locations cannot be included in this publicly available work plan. Off-site soil vapor analytical results from soil vapor points installed for the SC in the public right of way are presented in **Appendix A** and is summarized on **Figure 5**.

- SVI impacts at one off-site property have been attributed to TCE impacted groundwater emanating from the President Street Sites, "daylighting" in the flooded cellar of the property. SVI impacts at other "Mitigate" properties downgradient of the President Street Sites, may also be related to the TCE groundwater plume emanating from the President Street Sites. Based on the industrial history of the study area, other off-site sources of CVOC groundwater and soil vapor impacts may also exist.

1.5 Areas of Concern

According to previous environmental reports the following areas of concern (AOCs) were identified that require further characterization. Additional AOCs warranting further characterization may be identified during the course of implementing the RI.

- Nature and Extent of CVOC Impacts to Off-Site Groundwater: Based on the results of the SC, a TCE groundwater plume is emanating from the President Street Sites. Although the CVOC groundwater impacts have been laterally and vertically delineated, the SC indicated that TCE concentrations have varied over time, likely as a result of on-site remediation and redevelopment. The RI will investigate the current conditions of off-site groundwater and collect additional data to support the design of in-situ groundwater treatment as an IRM.

- Nature and Extent of CVOC Impacts to Off-Site Soil Vapor: The SC identified CVOC impacts to off-site soil vapor, including SVI exposure pathways. The RI will evaluate the current condition of CVOC contamination in off-site soil vapor, as on-site remediation and redevelopment activities continue.

2.0 REMEDIAL INVESTIGATION (RI) SCOPE OF WORK

This scope of work has been designed to gather data to evaluate each project objective listed in **Section 1.1**. The following sections provide specifics regarding the scope of work developed under this NYSDEC-approved Work Assignment (D009808-73) in support of a Remedial Investigation at the 473 President Street Off-Site (#C224220A).

2.1 Preliminary Activities

As part of the scope of work, the following documents have been prepared under this Work Assignment:

- Project-specific Work Plan (this document) to accompany the generic Field Activities Plan (FAP).
- Site-specific Health and Safety Plan (HASP, included as **Appendix B**).
- Community Air Monitoring Plan (CAMP, included as **Appendix C**).
- Generic Quality Assurance Project Plan (QAPP, included in **Section 3** of this document).

These NYSDEC-approved generic FAP, HASP, and QAPP are on file with the NYSDEC. The site-specific elements are provided below.

2.1.1 Work Plan

This RI Work Plan has been prepared for use in performing the RI, and will serve as the "site-specific FAP". This RI Work Plan identifies the components of the Remedial Investigation and a description of the tasks to be performed including the specific methods or procedures that will be used to conduct the field sampling. A proposed project schedule is included in **Section 4.1** of this RI Work Plan.

2.1.2 Health and Safety Plan

A site-specific Health and Safety Plan is provided in **Appendix B**. The site-specific HASP provides guidance to maximize health and safety of on-site workers during SC - specific tasks including media sampling, installation of soil borings, and other field related activities. The HASP has guidelines for health and safety supervision, air monitoring, medical monitoring, personal protective equipment, site controls, safe work practices and decontamination, etc.

2.1.3 Community Air Monitoring Plan

A CAMP that details procedures for air monitoring during intrusive activities is included in **Appendix C**.

2.1.4 Quality Assurance Project Plan

A site-specific Quality Assurance Project Plan (QAPP) has been prepared and is included in **Section 3** of this RI Work Plan. The site-specific QAPP was prepared as a supplement to the

Generic QAPP with necessary site-specific information. Deviations from the protocols specified in the QAPP will be subject to the NYSDEC approval.

The Generic QAPP provides general information related to QA/QC procedures associated with the collection and analysis of samples of environmental media and includes specific representative standard operating procedures (SOPs) applicable to sample handling and field instrumentation use. Information provided in the Generic QAPP includes definitions and generic goals for data quality and required types and quantities of QA/QC samples. The procedures address field documentation; sample handling, custody, and shipping; instrument calibration and maintenance; auditing; data reduction, validation, and reporting; corrective action requirements; and QA/QC reporting specific to the analyses performed by the laboratories that are used for analysis of environmental media collected under Standby Contract No. D009808.

All laboratory analytical work will be performed by a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) approved laboratory certified in all categories of Contract Laboratory Protocol (CLP) and Solid and Hazardous Waste analytical testing. A Data Usability Summary Report (DUSR) will be included in the Remedial Investigation Report (RIR) for each round of analytical work. Category B deliverables will be retained in the project files and available for full data validation by a qualified, independent third party.

2.2 Investigation, Environmental Sampling, and Implementation

The RI will include the components described below and will consist of subsurface/intrusive characterization. The RI will consist of characterizing and sampling of the subsurface soil, soil vapor, and groundwater to meet project objectives. The number and type of samples to be collected is discussed below and summarized on **Table 1**. The field investigation tasks for the 473 President Street Off-Site RI are listed below in the order that they will be completed:

1. Underground Utility Identification, Clearance and, Location using Ground-Penetrating Radar (GPR)
2. Subsurface Soil Investigation (installation and sampling of 10 soil borings)
3. Groundwater Investigation (sampling of 19 existing monitoring wells, slug testing of 11 monitoring wells)
4. Soil Vapor Investigation (sampling of 19 soil vapor points)
5. Site Surveys
6. Analytical Data Quality Evaluation
7. Base Map Development

2.2.1 Underground Utility Clearance and Ground Penetrating Radar (GPR)

Prior to implementing any intrusive activities, a utility clearance will be conducted. HRP will rely upon multiple lines of evidence to ensure to the maximum extent practicable that subsurface features are identified prior to commencement of intrusive work.

HRP will mark sampling locations prior to installation and contact public utility clearance services to mark out the utilities prior to the survey. The drilling contractor, or HRP, will request utility mark outs through NYS Code Rule 753/Dig Safe System. The dig safe system is limited to public right-of ways and will only identify utilities entering private property rather than utilities present on-site.

HRP will utilize a qualified subcontractor to conduct a survey to attempt to locate possible piping and utilities prior to drilling in any areas that are suspect. In order to identify the potential for buried piping a GPR survey will be completed in the study area. GPR will be performed in a 10-ft radius around each proposed soil boring (**Figure 2**) and each proposed soil vapor point (**Figure 3**).

GPR is a non-destructive and non-intrusive geophysical exploration technique that uses radar waves to detect subsurface objects, such as tanks, drums and piping. The GPR is also capable of detecting discontinuities in the subsurface materials indicative of excavated and backfilled areas, such as those associated with possible (underground storage tank) UST graves. The objective of performing this survey is not only to make subsurface investigation as safe as possible for the field staff while protecting utilities, but also to identify possible sources and migration pathways (utility corridors, etc.). All anomalies identified during the GPR survey will be marked out in the field.

The upper five feet at all boring locations will be cleared of any underground utilities by non-mechanical means, such as a hand-digging methods.

2.2.2 Subsurface Characterization

In an effort to assess the nature of subsurface soil in the off-site study area, and collect information to scope in-situ groundwater treatment, up to ten soil borings will be installed within and around the TCE groundwater contamination plume. These proposed soil boring locations are provided on **Figure 2**; exact locations may vary based on the results from the GPR survey.

2.2.2.1. Soil Boring Installation and Soil Sample Collection

Up to ten soil borings will be advanced using a drill rig to collect continuous soil samples, characterize subsurface conditions, and inform the design for in-situ groundwater treatment. Each of the borings will be installed from surface grade to approximately 30 feet below grade or refusal. The borings will be installed on the southeast, northeast, and northwest corners of the intersection between Union Street and Nevins Street, proposed in-situ groundwater treatment areas around the TCE groundwater plume. Proposed soil boring locations are depicted on **Figure 2**. All borings will be continuously logged for grain size, moisture, color, staining, and odor, and will be screened for organic vapors using a photoionization detector (PID).

Up to four soil samples will be collected from each soil boring for laboratory analysis of VOCs, SVOCs, Target Analyte List (TAL) metals, and total organic carbon (TOC). Samples will be collected at three depth intervals, which represent potential in-situ treatment zones: 7-9 ft bg (approximate depth of the water table), 17-19 ft bg and 27-29 ft bg. In addition to the three samples collected at prescribed depths, a fourth soil sample may be collected if any obvious signs or indications of contaminated soil are observed (i.e. PID detections over background, staining, odors). In addition, three composite soil samples will be collected for chemical oxygen demand (COD) laboratory

analysis. The composite samples will consist of grab samples from each of the sample depths and will be collected from three boring locations within the groundwater plume area. Duplicate, matrix/matrix spike duplicates, field blanks and trip blanks will be collected at a frequency of 1 per 20 samples for VOC analyses (the contaminants of concern) only. All samples will be submitted to Pace Analytical Laboratories (Pace), an NYSDOH ELAP and NYSDEC approved laboratory for analysis. Proposed soil boring locations are depicted on **Figure 2**. Analyses for soil sampling are included in **Table 1**. Information regarding containers and hold times are included in **Table 2**.

Nitrile gloves will be worn by personnel collecting and handling the samples. All non-disposable equipment and tooling used for sampling will be properly decontaminated between sampling locations and intervals. Decontamination procedures are described in **Section 2.2.4**. Soil samples will be collected using clean laboratory-supplied, appropriate containers (as listed in **Table 1**) and will be preserved on ice in coolers during field sampling activities.

2.2.3 Groundwater Characterization

To evaluate the nature and extent of groundwater quality, and to obtain further data to inform the design for in-situ injections, a total of 19 groundwater monitoring wells are to be sampled as part of the RI. In addition to sampling, 11 wells were chosen for instantaneous change in head testing ("slug testing"). The proposed locations were selected based on groundwater flow direction and plume delineation determined during the SC. The monitoring wells proposed for sampling and slug testing are presented in **Table 3** and are depicted on **Figure 2**.

2.2.3.1. Sampling of Monitoring Wells

Depth to water measurements will be collected from all monitoring wells to the nearest 0.01 foot from the surveyed points prior to sampling activities to confirm the direction of groundwater flow and the hydraulic gradient in the study area that was determined during the SC.

Groundwater samples will be collected from up to 19 existing study area monitoring wells to the current vertical and horizontal extent of contamination. Monitoring wells chosen for sampling are presented in **Table 3** and are depicted on **Figure 2**. All groundwater samples will be collected in accordance with low-flow groundwater sampling procedures and will be submitted to Pace. The samples collected from the off-site monitoring wells will be submitted for laboratory analysis of the following list of characterization parameters:

- VOCs
- SVOCs
- TOC
- Biological oxygen demand (BOD)
- COD
- TAL Metals
- Total and dissolved iron
- Total and dissolved manganese
- Chloride and sulfate
- Sulfide
- Nitrate

- Total alkalinity
- Methane, ethane, and ethene
- Carbon dioxide

Duplicate and matrix/matrix spike duplicates, field blanks, and trip blanks will be collected at a frequency of 1 per 20 samples for VOC analysis only. Monitoring well locations are depicted on **Figure 2**. Analyses for groundwater sampling are included in **Table 1**. Information regarding containers and hold times are included in **Table 2**.

2.2.3.2. Instantaneous Change in Head Testing

In order to determine hydraulic conductivity and other hydrogeologic characteristics to in-situ groundwater treatment design, instantaneous change in head testing, also known as "slug testing," will be performed at a total of 11 monitoring wells across the study area. The wells chosen for the testing are depicted on **Figure 2** and listed in **Table 3**.

At each monitoring well both a falling head (slug-in) test and a rising head (slug-out) test will be performed by submerging and withdrawing a mechanical slug, constructed of Schedule 40 PVC pipe. During each test, water level measurements will be recorded automatically using a pressure transducer data logger programmed to record water levels at intervals of less than one second. Manual water level measurements will also be recorded using an electronic water level tape. Water level readings will be recorded until water level has recovered to within a minimum of 60% of its original level. The mechanical slug, water level tape, and data logger will be appropriately decontaminated between sampling locations, as described in **Section 2.2.5**.

2.2.4 Decontamination Procedures

Non-dedicated sampling equipment (i.e., submersible pumps, water level indicators, etc.) will be subject to decontamination procedures prior to each sample collected to reduce the potential for cross-contamination, as described in the Generic Field Activities Plan. The decontamination procedures will include the use of a scrub wash with a solution consisting of Alconox® detergent and potable water followed by a rinse with DI water. The decontaminated equipment will be stored in clean environments (i.e., the manufacturer's storage case). Decontamination fluids will be properly labeled and securely stored in the designated waste-container staging area.

2.2.5 Disposal of Investigation Derived Waste

Investigation derived waste (IDW) that is generated from the subsurface characterization, monitoring wells installation and the development of monitoring wells shall be handled in accordance with NYSDEC DER-10.

Soil shall be handled and disposed of in accordance with DER-10. If off-site disposal of the derived waste is required, it will be disposed of or treated according to applicable local, state and federal regulations. Soil IDW from the RI will be drummed and disposed of in accordance with DER-10. Due to the location of RI soil borings on sidewalks, the boring holes will be temporarily patched with concrete and all sidewalk flags will be replaced after the investigation is completed.

Groundwater IDW generated during monitoring well sampling will be drummed and disposed of in accordance with DER-10.

2.2.6 Off-site Soil Vapor Investigation

To assess current CVOC impacts to off-site soil vapor, samples will be collected from 17 existing and two proposed (up to 19 total) permanent off-site soil vapor points.

Up to two proposed permanent soil vapor points will be installed on the sidewalk of Nevins Street, to investigate potential off-site soil vapor migration pathways to the west of the President Street Sites, as depicted on **Figure 3**. Prior to installation of each soil vapor point, soils will be sampled continuously, characterized by HRP's on-site geologist, and screened using a calibrated PID.

Permanent soil vapor points will be installed by advancing a 6-inch stainless steel screen and tubing (nylon, Teflon, or Teflon-lined) to a depth of 10 ft bg into the vadose zone, or no deeper than 1 foot above the groundwater table interface. The annular space around the tubing will be backfilled with a #0 filter sand pack. A minimum 6-inch-thick time releasing bentonite (TR-30) seal will be installed to ground surface above the sand pack. Bentonite will be hydrated with potable or distilled water during placement. Each soil vapor point will be finished with a locking road box.

Soil vapor sampling will occur a minimum of 24 hours after installation of the permanent points. All soil vapor sampling will be conducted in accordance with NYSDOH's *Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006* and HRP's Generic FAP, on file with the NYSDEC. Prior to sampling, a leak test will be performed using a tracer gas with a minimum of three tubing volumes of air purged from the vapor point. Following purging, soil vapor will be screened for VOCs using a calibrated PID. One soil vapor sample will be collected from each point using a 6-liter summa canister fitted with a 2-hour regulator and analyzed for VOCs via EPA Method TO-15.

Up to 21 air samples (19 soil vapor, 1 outdoor ambient air, 1 duplicate soil vapor), will be submitted to the ELAP accredited laboratory and analyzed for VOCs via EPA Method TO-15. Up to one outdoor air sample will be collected per day of sampling. Duplicate soil vapor samples will be collected at a frequency of one per 20 soil vapor samples. Sample locations and totals are summarized in **Table 1** and laboratory QA/QC details are summarized on **Table 2**.

2.2.7 Analytical Data Quality Evaluation

This Work Plan and the associated site-specific QAPP Section detail the data quality objectives and analytical requirements needed for this WA. All quality assurance protocols will be provided in the Generic QAPP.

During the final Work Plan review period, the site-specific QAPP Section and Work Plan will be reviewed and modified according to NYSDEC requirements and comments. Once the plans are finalized, deviations, if required, from protocols specified in the plans will be approved in advance by NYSDEC. As required, the selected analytical laboratory will maintain NYSDOH ELAP certification in all categories of CLP and Solid and Hazardous Waste analytical testing for the duration of the project.

The selected laboratory will supply all required data deliverables (USEPA CLP and NYSDEC ASP deliverable format) to enable the data to be validated. All environmental data will be submitted electronically in a specified format named 'NYSDEC' in accordance with the data submission procedures outlined on the NYSDEC's web site (http://www.dec.ny.gov/chemical/62440.html).

Upon receipt of the sample data, the validation contractor will quantitatively and qualitatively validate the laboratory data. The validation of the analytical data will be performed according to the protocols and QC requirements of the analytical methods, the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic and Inorganic Data Review (February 1994), the USEPA Region II CLP Data Review SOP, and the reviewer's professional judgment.

2.2.8 Survey of Investigation Locations

The newly installed soil boring and soil vapor point locations will be surveyed by a New York State licensed land surveyor. The sample locations will be placed on the base map by geo-referencing previous figures into the local CAD coordinate system. The elevations of all newly installed investigation locations will be established to within an accuracy of plus or minus 0.01 feet based on an arbitrary local vertical benchmark.

2.3 Remedial Investigation Report

2.3.1 Electronic Data Delivery

In addition to appropriate data summary tables and boring logs included in the report, all environmental data will be submitted electronically in a specified Electronic Data Deliverable (EDD) format named in accordance with the data submission procedures outlined on the NYSDEC's web site (http://www.dec.ny.gov/chemical/62440.html).

2.3.2 Remedial Investigation Report

The Remedial Investigation Report (RIR) will be prepared as part of this work assignment following completion of the field activities. The RIR will provide a description of the field activities, present data collected during field characterization, present a physical description of the Site including geology and hydrogeology, and provide an analysis and interpretation of the available data in the context of existing Site conditions. The report will include tabulated laboratory analytical results, Site maps and a discussion of contaminant concentrations, including a comparison to NYSDEC Standards, Criteria and Guidelines as described in Section 3.14 of DER-10 and in accordance with New York State Department of Health guidelines for human health exposure assessment as described in Appendix 3B of DER-10 to support each conclusion of the RI.

The RIR prepared as part of this assignment will also provide a data validation/usability evaluation, identification and location of contaminants, assessment of potential contaminant migration pathways, impact on human and environmental receptors, and conclusions regarding the significance of the findings.

The submitted report will include the report text, appropriate tables, figures, photographs, data summary tables, and boring logs in a PDF format on a compact disc. The electronic file will contain 'bookmarks'. In addition, one hard copy of the report will be sent.

3.0 SITE-SPECIFIC QUALITY ASSURANCE PROJECT PLAN

This site-specific Quality Assurance Project Plan (QAPP) has been prepared as a companion Section to accompany the Generic QAPP for the standby subcontract prepared by HRP for the New York State Department of Conservation (NYSDEC) under Standby Contract No. D009808. The purpose of the QAPP is to specify QA/QC procedures for the collection, analysis, and evaluation of data that will be legally and scientifically defensible.

3.1 Site Specific Sampling

3.1.1 Sample Handling

Soil, groundwater, and air samples will be collected during this RI. Detailed sampling procedures are detailed in Section 4.0 of the Generic QAPP. Matrix types, number of samples (including QA/QC) and analytical details are summarized in **Table 1** and **Table 2**. Proposed sample locations are depicted on **Figure 2** and **Figure 3**.

3.2 Data Quality Assessment and Usability

Data quality objectives for the RI are focused towards 1) determining the current nature and extent of CVOC impacts to off-site groundwater and soil vapor, and 2) collecting the data necessary to scope an in-situ groundwater treatment IRM.

To achieve these objectives, QA/QC measures will be implemented throughout the RI investigation to provide input as to the validity and usability of data generated through soil, groundwater, soil gas and indoor air sampling. The procedures for data QA/QC management includes field documentation; sample handling, custody, and shipping; instrument calibration and maintenance; auditing; data reduction, validation, and reporting; corrective action requirements; and QA reporting specific to the analyses performed by the laboratory under subcontract to HRP. **Table 2** lists the sample containers, preservation, and holding time requirements for the parameters specific to this RI. These tables will be referenced by field personnel.

For all data generated during the RI, a Category B Data package and DUSR will be prepared to provide a thorough evaluation of analytical data utilizing third-party data validation. Environmental Data Services will be the third-party data validator for this project.

4.0 PROJECT MANAGEMENT

HRP has the responsibility of the overall management of this project and will respond to any NYSDEC requests. A proposed project schedule, key milestones, key project personnel, and project-specific subcontractors follow.

4.1 Project Schedule and Key Milestones

The proposed project schedule for this work assignment is outlined below. Key milestones are identified to monitor work progress. The following milestones will be applicable for this project:

CATEGORY	TASK	START	END
Task 1 – Preliminary Activities	Work Plan, QAPP, HASP (Includes Department Review and Approval)	6/8/2026	7/23/2026
Task 2 – Investigation, Environmental Sampling, and Implementation	Site Investigation Activities	7/27/2026	8/14/2026
Task 3 – RI Report and IRM Work Plan	Report and Work Plan Preparation and Submittal	8/17/2026	10/31/2026

4.2 Key Project Personnel

A list of the project personnel of the prime consultant and subcontractors responsible for performance of the investigation has been submitted to the NYSDEC for approval. Primary project staffs are listed below:

Personnel	Company	Title for this Work Assignment	Responsibility
Patrick Montuori, PG (Project Manager)	HRP Associates, Inc.	Project Manager	Overall management of the WA
Bryan Sherman, CSP (Project Manager)	HRP Associates, Inc.	Office Health & Safety Manager	Approval of HASP and responsible for overall health and safety issues with the WA
Michael Varni (Associate Project Manager)	HRP Associates, Inc.	Corporate QA/QC Officer	Responsible for QA/QC on the WA
Zachary Zehr (Project Consultant)	HRP Associates, Inc.	Field Manager and Site Health & Safety Officer	Responsible for the on-site sampling and investigative tasks

Subcontractors for this project will include:

- Survey – Arek Surveying, PC
- GPR – American Geophysics, SDVOB
- Drilling – ADT/Cascade
- Laboratory – Pace
- Data Validation - Environmental Data Services, Inc.

FIGURES

Path: S:\Data\NNYDEC - NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION\NEW YORK\MULTIPLE SITE ADDRESS\DEC1035P2 - Region 2 P_Sites\GIS\President_Street\President_Stn

USGS Quadrangle Information
Quad ID: 40073-F8
Name: Brooklyn, New York
Date Rev: 1995
Date Pub: 1999

Figure 1
Site Location
473 President Street Off-Site
Site: C224220A
473 Presidents Street
Brooklyn, New York
HRP # DEC1073.RA
Scale 1" = 2,000'

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Drawn By: EY

Reviewed By: PWM

Issue Date: 07/22/2026

Project No: DEC1073.P2

Sheet Size: 11x17

Remedial Investigation Groundwater Investigation Locations

473 President Street Site Off-Site
Site #C224220A
473 President Street
Brooklyn, New York

Figure No.

2

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Remedial Investigation Soil Vapor Investigation Locations

473 President Street Off-Site
Site #C224220A
473 President Street
Brooklyn, new York

Figure No.
3

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Legend

- Groundwater Flow Direction
- Monitoring Well

Total Chlorinated Volatile Organic Compounds (CVOCs) Groundwater Concentration (µg/L) February-March 2026

- ND
- < 1
- 1 - 10
- 11 - 100
- 101 - 1,000
- 1,000 - 10,000
- > 10,000

Sackett St
Sackett St
Sackett St
Sackett St
Nevins St
Union St
Union St
Union St
Nevins St

Chatham Cleaners Site Site #224431
Former A&A Brake Service Site Site #C224372
585 Union Street Site Site # C224329
318 Nevins Street Site Site #C224350
514 Union Street Site Site #C224318
473 President Street Site Site #C224220
E Waste Parcel Site #C224309
Pontone Parcel Site #C224309

HRP-MW-1 (5.6)
HRP-MW-2 (140)
HRP-MW-3 (0.65)
HRP-MW-4 (100)
HRP-MW-4D (5.3)
HRP-MW-5 (ND)
HRP-MW-5B (31)
HRP-MW-6D (490)
HRP-MW-6S (2,200)
HRP-MW-7D (35)
HRP-MW-7S (35)
MW05D (11,000)
MW05S (0.78)
MW06D (11)
MW06S (0.79)
MW07D (1.4)
MW07S (0.62)
MW08D (ND)
MW08S (4.3)
MW12S (3.6)
MW13D (2,700)
MW14S (ND)
MW15D (8,500)
MW16D (1,300)
MW16DD (19)
MW16S (44)
MW17D (6.8)
MW17DD (3.9)
MW17S (4.8)
MW18D (28,000)
MW18DD (14)
MW18S (7,000)
MW19D (2,100)
MW19DD (100)
MW19S (2,100)
MW22D (48)
MW22DD (3.6)
MW22S (5)
MW24D (1.3)
MW24S (3.6)
MW25S (1.6)
RD-MW01D (1.5)
RD-MW01S (2.2)
RD-MW02D (5.5)
RD-MW02S (3,400)
RD-MW03 (0.34)
RD-MW04 (1.9)

Note:
Total CVOC groundwater concentrations from sampling completed by HRP Associates, Inc. and Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. in February and March 2026.

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Date						

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Drawn By: EY
Reviewed By: PWM

Issue Date: 07/17/2026
Project No: DEC1073.P2
Sheet Size: 11x17

Groundwater CVOC Impacts February - March 2026

473 President Street Off-Site
Site #C224220A
473 President Street
Brooklyn, new York

Figure No.
4

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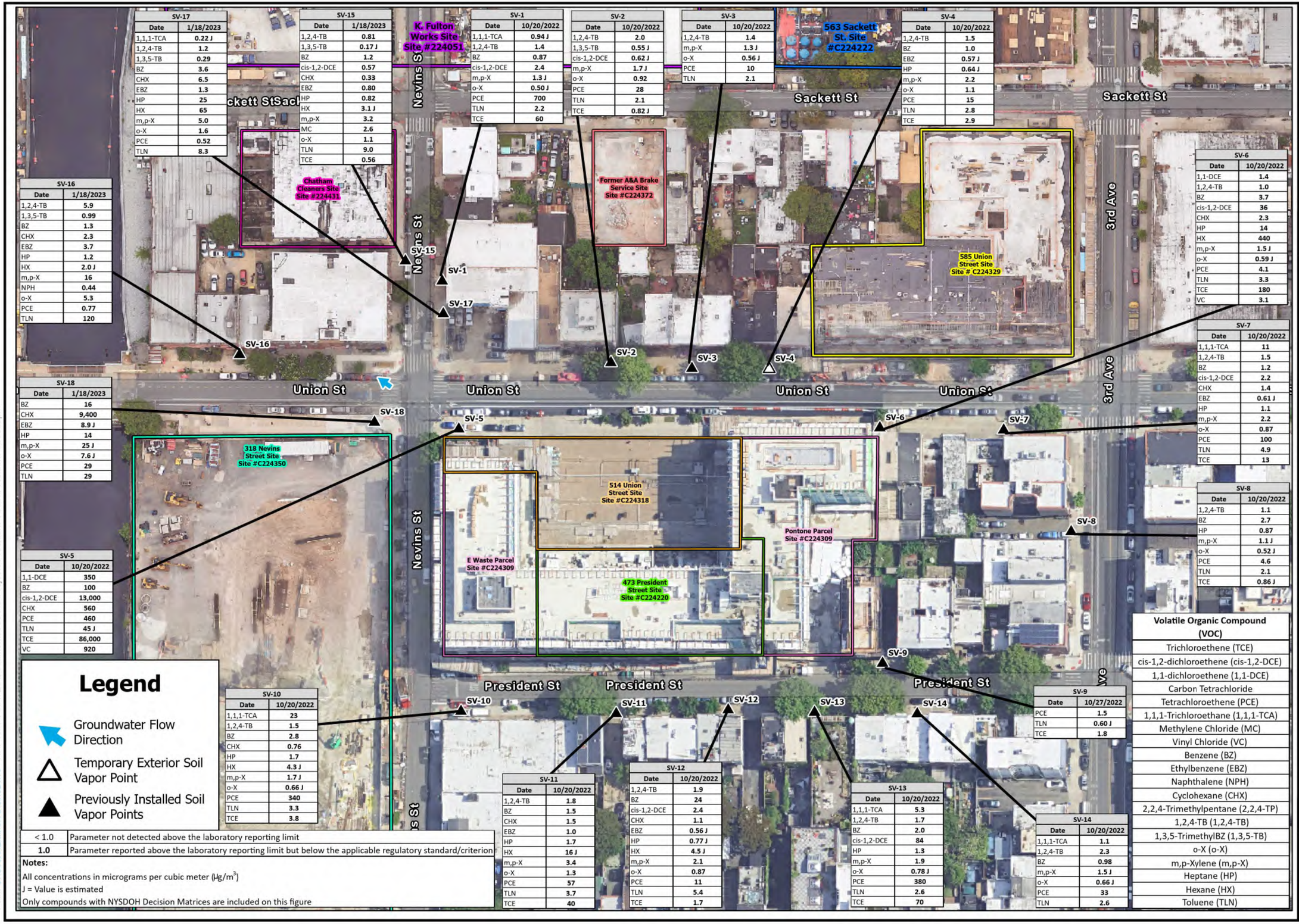

SV-17	
Date	1/18/2023
1,1,1-TCA	0.22 J
1,2,4-TB	1.2
1,3,5-TB	0.29
BZ	3.6
CHX	6.5
EBZ	1.3
HP	25
HX	65
m,p-X	5.0
o-X	1.6
PCE	0.52
TLN	8.3

SV-15	
Date	1/18/2023
1,2,4-TB	0.81
1,3,5-TB	0.17 J
BZ	1.2
cis-1,2-DCE	0.57
CHX	0.33
EBZ	0.80
HP	0.82
HX	3.1 J
m,p-X	3.2
MC	2.6
o-X	1.1
TLN	9.0
TCE	0.56

SV-1	
Date	10/20/2022
1,1,1-TCA	0.94 J
1,2,4-TB	1.4
BZ	0.87
cis-1,2-DCE	2.4
m,p-X	1.3 J
o-X	0.50 J
PCE	700
TLN	2.2
TCE	60

SV-2	
Date	10/20/2022
1,2,4-TB	2.0
1,3,5-TB	0.55 J
cis-1,2-DCE	0.62 J
m,p-X	1.7 J
o-X	0.92
PCE	28
TLN	2.1
TCE	0.82 J

SV-3	
Date	10/20/2022
1,2,4-TB	1.4
m,p-X	1.3 J
o-X	0.56 J
PCE	10
TLN	2.1

SV-4	
Date	10/20/2022
1,2,4-TB	1.5
BZ	1.0
EBZ	0.57 J
HP	0.64 J
m,p-X	2.2
o-X	1.1
PCE	15
TLN	2.8
TCE	2.9

SV-16	
Date	1/18/2023
1,2,4-TB	5.9
1,3,5-TB	0.99
BZ	1.3
CHX	2.3
EBZ	3.7
HP	1.2
HX	2.0 J
m,p-X	16
NPH	0.44
o-X	5.3
PCE	0.77
TLN	120

SV-6	
Date	10/20/2022
1,1-DCE	1.4
1,2,4-TB	1.0
BZ	3.7
cis-1,2-DCE	36
CHX	2.3
HP	14
HX	440
m,p-X	1.5 J
o-X	0.59 J
PCE	4.1
TLN	3.3
TCE	180
VC	3.1

SV-7	
Date	10/20/2022
1,1,1-TCA	11
1,2,4-TB	1.5
BZ	1.2
cis-1,2-DCE	2.2
CHX	1.4
EBZ	0.61 J
HP	1.1
m,p-X	2.2
o-X	0.87
PCE	100
TLN	4.9
TCE	13

SV-8	
Date	10/20/2022
1,2,4-TB	1.1
BZ	2.7
HP	0.87
m,p-X	1.1 J
o-X	0.52 J
PCE	4.6
TLN	2.1
TCE	0.86 J

SV-18	
Date	1/18/2023
BZ	16
CHX	9,400
EBZ	8.9 J
HP	14
m,p-X	25 J
o-X	7.6 J
PCE	29
TLN	29

SV-5	
Date	10/20/2022
1,1-DCE	350
BZ	100
cis-1,2-DCE	13,000
CHX	560
PCE	460
TLN	45 J
TCE	86,000
VC	920

SV-10	
Date	10/20/2022
1,1,1-TCA	23
1,2,4-TB	1.5
BZ	2.8
CHX	0.76
HP	1.7
HX	4.3 J
m,p-X	1.7 J
o-X	0.66 J
PCE	340
TLN	3.3
TCE	3.8

SV-11	
Date	10/20/2022
1,2,4-TB	1.8
BZ	1.5
CHX	1.5
EBZ	1.0
HP	1.7
HX	16 J
m,p-X	3.4
o-X	1.3
PCE	57
TLN	3.7
TCE	40

SV-12	
Date	10/20/2022
1,2,4-TB	1.9
BZ	24
cis-1,2-DCE	2.4
CHX	1.1
EBZ	0.56 J
HP	0.77 J
HX	4.5 J
m,p-X	2.1
o-X	0.87
PCE	11
TLN	5.4
TCE	1.7

SV-13	
Date	10/20/2022
1,1,1-TCA	5.3
1,2,4-TB	1.7
BZ	2.0
cis-1,2-DCE	84
HP	1.3
m,p-X	1.9
o-X	0.78 J
PCE	380
TLN	2.6
TCE	70

SV-9	
Date	10/27/2022
PCE	1.5
TLN	0.60 J
TCE	1.8

SV-14	
Date	10/20/2022
1,1,1-TCA	1.1
1,2,4-TB	2.3
BZ	0.98
m,p-X	1.5 J
o-X	0.66 J
PCE	33
TLN	2.6

Legend

- Groundwater Flow Direction
- Temporary Exterior Soil Vapor Point
- Previously Installed Soil Vapor Points

< 1.0	Parameter not detected above the laboratory reporting limit
1.0	Parameter reported above the laboratory reporting limit but below the applicable regulatory standard/criterion

Notes:

All concentrations in micrograms per cubic meter (µg/m^3)

J = Value is estimated

Only compounds with NYSDOH Decision Matrices are included on this figure

Volatile Organic Compound (VOC)
Trichloroethene (TCE)
cis-1,2-dichloroethene (cis-1,2-DCE)
1,1-dichloroethene (1,1-DCE)
Carbon Tetrachloride
Tetrachloroethene (PCE)
1,1,1-Trichloroethane (1,1,1-TCA)
Methylene Chloride (MC)
Vinyl Chloride (VC)
Benzene (BZ)
Ethylbenzene (EBZ)
Naphthalene (NPH)
Cyclohexane (CHX)
2,2,4-Trimethylpentane (2,2,4-TP)
1,2,4-TB (1,2,4-TB)
1,3,5-TrimethylBZ (1,3,5-TB)
o-X (o-X)
m,p-Xylene (m,p-X)
Heptane (HP)
Hexane (HX)
Toluene (TLN)

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Drawn By: AJN

Reviewed By: PWM

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Off-Site Site Characterization Exterior Soil Vapor Point Locations and Results

473 President Street Off-Site
Site #C224220A
473 President Street
Brooklyn, new York

Figure No.

5

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TABLES

Table 1
Sample Summary
473 President Street Off-Site #C224220A
473 President Street, Brooklyn, NY

Activity	Sample Locations	Matrix	Samples to be Collected	Analyses
Soil Borings	10 borings to 30 ft bg	Soil	43 (4 samples per boring, at 7-9, 17-19, 27-29 ft bg + 1 sample depth determined in field + 3 QA/QC total)	VOCs +10 by EPA Method 8260
			40 (3 samples per boring, at 7-9, 17-19, 27-29 ft bg + 1 sample depth determined in field)	SVOCs +20 by EPA Method 8270
				TAL Metals by EPA Method 6010B/7471
				TOC by EPA Method 9060A
			3 (Composites of each depth from 3 borings)	Chemical Oxygen Demand (COD) by SM5220 D
Monitoring Wells	19 (HRP-MW-1, HRP-MW-2, HRP-MW-3, HRP-MW-4, HRP-MW-4D, HRP-MW-5, HRP-MW-5B, HRP-MW-6S, HRP-MW-6D, HRP-MW-7S, HRP-MW-7D, HRP-MW-12S, HRP-MW-16S, HRP-MW-16D, HRP-MW-16DD, HRP-MW-20A, MW-20B MW-21A, MW-21B)	Groundwater	VOCs: 24 (19 wells + 5 QA/QC) All Other Parameters: 19	VOCs +10 by EPA Method 8260 SVOCs +20 by EPA Method 8270 TAL Metals by EPA Method 6010B/7471 TOC via EPA Method 5310C Biological oxygen demand (BOD) by SM5210B Chemical Oxygen Demand (COD) by SM5220 D Total and dissolved iron by EPA Method 6010C Total and dissolved manganese by EPA Method 6010C Chloride and sulfate by EPA Method 300.0 Sulfide by SM4500_S2_F Nitrate by EPA Method 353.2 Total alkalinity by EPA Method 310.2 Methane, ethane, and ethene by EPA Method RSK 175 Carbon dioxide by EPA Method RSK 175
Soil Vapor Points	19	Soil Vapor, Outdoor Air	21 (19 soil vapor points + 1 outdoor air + 1 duplicate soil vapor)	VOCs by EPA TO-15

Acronym List:

VOCs: Volatile Organic Compounds
SVOCs: Semi-Volatile Organic Compounds
TAL: Target Analyte List
PCBs: Polychlorinated Biphenyls
PFAS: Per- and polyfluoroalkyl substances
ft bg: feet below grade
TOC: Total Organic Carbon

Table 2
Analytical Methods/Quality Assurance Summary
473 President Street Off-Site #C224220A
473 President Street, Brooklyn, NY

					Containers per Sample			Preservation Requirements			
Parameter	**Matrix**	**Number of Samples (including Field QC)**	**Preparation Method**	**Analytical Method**	**No.**	**Size**	**Type**	**Temp.**	**Light Sensitive**	**Chemical**	**Maximum Holding Time**
SOIL											
VOCs +10 by GC/MS	Soil	43	5035A	SW-846 Method 8260B	3 vials 1 jar	40 ml vials, any size jar	glass vials clear glass jar	2-6º C	No	MeOH/ Sodium bisulfate/ freezing	14 days
SVOCs +20 by GC/MS	Soil	40	3546	SW-846 Method 8270C	1	8 oz	amber glass jar	2-6º C	Yes	NA	14 days
Target Analyte List Metals	Soil	40	3050B	SW-846 Method 6010B	1	2 oz	amber glass jar	2-6º C	No	NA	6 months
Total Organic Carbon by GC/MS	Soil	40	NA	SW-846 Method 9060	1	4 oz	clear glass jar	2-6º C	No	NA	28 days
Chemical Oxygen Demand (COD)	Soil	3	NA	SM5220 D	1	4 oz	clear glass jar	2-6º C	No	NA	28 days
GROUNDWATER											
VOCs +10 by EPA Method 8260	Groundwater	24	5035	SW-846 Method 8260B	2	40 ml	glass vial	2-6º C	No	HCL	14 days
SVOCs +20 by EPA Method 8270	Groundwater	19	3510C	SW-846 Method 8270C	2	1 liter	amber bottle	2-6º C	Yes	NA	7 days
Target Analyte List Metals	Groundwater	19	3050B	SW-846 Method 6010B	1	250 ml	plastic	2-6º C	No	HNO3	6 months
TOC via EPA Method 5310C	Groundwater	19	NA	SW-846 Method 5310C	2	40 ml	glass vial	2-6º C	No	HCl	28 days
Biological oxygen demand (BOD)	Groundwater	19	NA	SM5210B	1	liter	plastic	2-6 C	No	NA	48 hours
Chemical oxygen demand (COD)	Groundwater	19	NA	SM5220 D	1	250ml	plastic	2-6 C	No	H2SO4	28 days
Total and dissolved iron by EPA Method 6010C	Groundwater	19	3005A	SW-846 Method 6010C	1	250 ml	plastic	2-6º C	No	HNO3/NA	180 days
Total and dissolved manganese by EPA Method 6010C	Groundwater	19	3005A	SW-846 Method 6010C	1	250 ml	plastic	2-6º C	No	HNO3/NA	180 days
Chloride and sulfate by EPA Method 300.0	Groundwater	19	NA	SW-846 Method 300.0_28D	1	60 ml	plastic	2-6º C	No	NA	28 days
Sulfide by SM4500_S2_F	Groundwater	19	NA	SM4500_S2_F	1	250 ml	plastic	2-6º C	No	ZnA + NaOH	7 days
Nitrate by EPA Method 353.2	Groundwater	19	NA	SW-846 Method 353.2	2	125 ml	plastic	2-6º C	No	NA	48 hours
Total alkalinity by EPA Method 310.2	Groundwater	19	NA	SW-846 Method 310.2	1	125 ml	plastic	2-6º C	No	NA	14 days
Methane, ethane, and ethene by EPA Method RSK 175	Groundwater	19	NA	SW-846 Method RSK_175	3	40 ml	glass vial	2-6º C	No	HCl	14 days
Carbon dioxide by EPA Method RSK 175	Groundwater	19	NA	SW-846 Method RSK_175_CO2	3	40 ml	glass vial	2-6º C	No	NA	7 days
SOIL GAS, AIR											
VOCs	Soil Vapor, Air	21	NA	EPA TO-15	1	3-Liter, 6-Liter	Summa Canister, Tedlar Bag	NA	No	NA	30 Days (Summa Canister), 48 hours (Tedlar Bag)

Acronym List:

GC: Gas Chromatography
ICP: Inductively Coupled Plasma
HCL: Hydrochloric Acid
MeOH: Methanol
CV: Cold Vapor
VOCs: Volatile Organic Compounds
SVOCs: Semi-Volatile Organic Compounds

Table 3
Groundwater Investigation Summary
473 President Street Off-Site #C224220A
473 President Street, Brooklyn, NY

Monitoring Well ID	Well Screen/Casing Diameter (Inches)	Screen Setting (ft bg)	Slug Test	Low-Flow Sample
HRP-MW-1	2	6 - 16	**Yes**	**Yes**
HRP-MW-2	2	7 - 17	**Yes**	**Yes**
HRP-MW-3	2	7 - 17	No	**Yes**
HRP-MW-4	2	6 - 16	**Yes**	**Yes**
HRP-MW-4D	2	20 - 30	**Yes**	**Yes**
HRP-MW-5	2	6 - 16	No	**Yes**
HRP-MW-5B	2	15 - 25	No	**Yes**
HRP-MW-6S	2	6 - 16	**Yes**	**Yes**
HRP-MW-6D	2	20 - 30	**Yes**	**Yes**
HRP-MW-7S	2	6 - 16	**Yes**	**Yes**
HRP-MW-7D	2	15 - 25	**Yes**	**Yes**
HRP-MW-12S	2	7 - 17	**Yes**	**Yes**
MW-16S	2	7 - 17	No	**Yes**
MW-16D	2	18 - 28	**Yes**	**Yes**
MW-16DD	2	35 - 40	**Yes**	**Yes**
MW-20A	2	5-15	No	**Yes**
MW-20B	2	15-25	No	**Yes**
MW-21A	2	5 - 15	No	**Yes**
MW-21B	2	15 - 25	No	**Yes**

Notes:
ft bg = feet below grade
All wells constructed of Schedule 40 PVC solid casing and 10-slot screen

APPENDIX A

On-Site and Off-Site Groundwater and Soil Vapor Analytical Data

LEGEND:

- APPROXIMATE SITE BOUNDARY
- APPROXIMATE ADJOINING BCP SITE BOUNDARY
- MW14S — SAMPLED MONITORING WELL
- MW01 — DECOMMISSIONED MONITORING WELL

Analyte	NYSDEC SGVs
VOCs	
1,1-Dichloroethene	5
Cis-1,2-Dichloroethene	5
Tetrachloroethene (PCE)	5
Trans-1,2-Dichloroethene	5
Trichloroethene (TCE)	5
Vinyl Chloride	2

HRP-MW-6S/D
HRP-MW-4
HRP-MW-4D
HRP-MW-7S/D
HRP-MW-5
HRP-MW-5B
HRP-MW-1
MW16S/MW16D/MW16DD
MW12S
MW13D
MW14S
UNION STREET
305 NEVINS STREET
BCP SITE NO. C224318
LOT NO. 9
MW18S/MW18D/MW18DD
MW15D
MW05S/MW05D
MW17S/MW17D/MW17DD
MW01
MW19S/MW19D/MW19DD
MW06S/MW06D
514 UNION STREET
BCP SITE NO. C224318
LOT NO. 12
RD-MW02S
RD-MW02D
MW11S/MW11D
MW24S/MW24D
MW02
MW07DD
MW07S/MW07D
MW22S/MW22D/MW22DD
MW04
MW03
MW08S/MW08D
MW25S
MW10D
MW09D
MW08DD
RD-MW01S
RD-MW01D
RD-MW04
RD-MW03
PRESIDENT STREET
PORTFOLIO
BCP SITE NO. C224309
PRESIDENT STREET
PORTFOLIO
BCP SITE NO. C224309
473 PRESIDENT STREET
BCP SITE NO. C224220
LOT NO. 1
NEVINS STREET
ONE STORY BRICK BUILDING
No. 514 UNION STREET
"Royal Palms Shuffleboard Club"
No. 469
No. 543
No. 300 Nevins St.
"Apple Hills Creamery"
Bulkhead
Sloped Roof
Building-Mounted Standpipe
Concrete Sidewalk
Bike Lane
Parking Lane
Loading Zone
Fire Hydrant
Catch Basin
Manhole
Utility Pole
Overhead Wires
Gas Mark-out Found
Parcel with Vendor Street
Parcel with Metes
PARCEL A
BLOCK 440
LOT 1501
BLOCK 440
LOT 1
BLOCK 439
LOT 1501
BLOCK 439
LOT 1
BLOCK 439
LOT 1001
BLOCK 439
LOT 1101
BLOCK 439
LOT 1201
BLOCK 439
LOT 1301
BLOCK 439
LOT 1401
BLOCK 439
LOT 1501
BLOCK 439
LOT 1601
BLOCK 439
LOT 1701
BLOCK 439
LOT 1801
BLOCK 439
LOT 1901
BLOCK 439
LOT

Location	HRP-MW-6S	HRP-MW-6S	HRP-MW-6S
Sample Name	HRP-MW-6S_012725	GWDUP01_012725	HRP-MW-6S_021425
Sample Date	01/27/2025	01/27/2025	02/14/2025
Sample Depth	6-16	6-16	6-16
VOCs			
1,1-Dichloroethene	<1 U	<1.2 U	1.4 J
Cis-1,2-Dichloroethene	**29**	**34**	**120**
Tetrachloroethene (PCE)	**12**	**15**	**18**
Trans-1,2-Dichloroethene	<5 U	<6.2 U	<10 U
Trichloroethene (TCE)	**240**	**290**	**450**
Vinyl Chloride	0.76 J	0.72 J	**19**

Location	HRP-MW-6D	HRP-MW-6D
Sample Name	HRP-MW-6D_012725	HRP-MW-6D_021425
Sample Date	01/27/2025	02/14/2025
Sample Depth	20-30	20-30
VOCs		
1,1-Dichloroethene	0.19 J	<0.5 U
Cis-1,2-Dichloroethene	**10**	**13**
Tetrachloroethene (PCE)	**12**	**12**
Trans-1,2-Dichloroethene	<2.5 U	<2.5 U
Trichloroethene (TCE)	**51**	**36**
Vinyl Chloride	0.32 J	0.15 J

Location	HRP-MW-4	HRP-MW-4	HRP-MW-4	HRP-MW-4	HRP-MW-4	HRP-MW-4
Sample Name	HRP-MW-4_012725	HRP-MW-4_021425	HRP-MW-4_072425	HRP-MW-4_102525	HRP-MW-4_031326	
Sample Date	01/27/2025	02/14/2025	07/24/2025	10/29/2025	03/13/2026	
Sample Depth	6-16	6-16	6-16	6-16	6-16	
VOCs						
1,1-Dichloroethene	3	<20 U	<2.5 U	<1.2 U	<1 U	
Cis-1,2-Dichloroethene	**60**	**770**	**120**	**200**	**70**	
Tetrachloroethene (PCE)	0.18 J	**21**	**6**	2.5	1.1	
Trans-1,2-Dichloroethene	1.2	<100 U	<12 U	2.7 J	<5 U	
Trichloroethene (TCE)	**12**	**5,400**	**420**	**82**	**33**	
Vinyl Chloride	**8.2**	**5.1 J**	1.1 J	**5.6**	0.8 J	

Location	HRP-MW-4D	HRP-MW-4D	HRP-MW-4D	HRP-MW-4D	HRP-MW-4D	HRP-MW-4D
Sample Name	HRP-MW-4D_012425	HRP-MW-4D_021825	HRP-MW-4D_072325	HRP-MW-4D_102825	HRP-MW-4D_031326	
Sample Date	01/24/2025	02/18/2025	07/23/2025	10/28/2025	03/13/2026	
Sample Depth	20-30	20-30	20-30	20-30	20-30	
VOCs						
1,1-Dichloroethene	1.3	2.5	0.36 J	0.27 J	<0.5 U	
Cis-1,2-Dichloroethene	**40**	**69**	**110**	**52**	3.4	
Tetrachloroethene (PCE)	0.44 J	0.48 J	0.63	1.3	0.65	
Trans-1,2-Dichloroethene	<2.5 U	2.1 J	<2.5 U	<2.5 U	<2.5 U	
Trichloroethene (TCE)	**7.7**	**7.7**	1.1	1.4	0.76	
Vinyl Chloride	**6.9**	**45**	**130**	**65**	0.49 J	

Location	HRP-MW-7D	HRP-MW-7D
Sample Name	HRP-MW-7D_012725	HRP-MW-7D_021425
Sample Date	01/27/2025	02/14/2025
Sample Depth	6-16	6-16
VOCs		
1,1-Dichloroethene	0.39 J	0.26 J
Cis-1,2-Dichloroethene	2.4 J	1.9 J
Tetrachloroethene (PCE)	**33**	**33**
Trans-1,2-Dichloroethene	<2.5 U	<2.5 U
Trichloroethene (TCE)	3.5	2.8
Vinyl Chloride	0.14 J	0.09 J

Location	HRP-MW-7S	HRP-MW-7S
Sample Name	HRP-MW-7S_012725	HRP-MW-7S_021425
Sample Date	01/27/2025	02/14/2025
Sample Depth	15-25	15-25
VOCs		
1,1-Dichloroethene	<0.5 U	<0.5 U
Cis-1,2-Dichloroethene	2.2 J	1.6 J
Tetrachloroethene (PCE)	**30**	**32**
Trans-1,2-Dichloroethene	<2.5 U	<2.5 U
Trichloroethene (TCE)	3.1	2.8
Vinyl Chloride	<1 U	<1 U

Location	HRP-MW-1	HRP-MW-1	HRP-MW-1	HRP-MW-1	HRP-MW-1	HRP-MW-1	HRP-MW-1	HRP-MW-1	HRP-MW-1	HRP-MW-1	HRP-MW-1	HRP-MW-1
Sample Name	HRP-MW-1_020723	HRP-MW-1_041023	HRP-MW-1_062123	HRP-MW-1_092723	HRP-MW-1_122723	HRP-MW-1_030424	HRP-MW-1_080924	HRP-MW-1_091924	HRP-MW-1_120924	HRP-MW-1_012425	HRP-MW-1_072325	HRP-MW-1_102825	HRP-MW-1_031326
Sample Date	02/07/2023	04/10/2023	06/21/2023	09/27/2023	12/27/2023	03/06/2024	08/09/2024	09/19/2024	12/09/2024	01/24/2025	07/23/2025	10/28/2025	03/13/2026
Sample Depth	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27
VOCs													
1,1-Dichloroethene	**31.J**	**44.J**	<200 U	**19.J**	**22**	**16.J**	1.4	2.1	<0.5 U	<0.5 U	<10 U	<0.5 U	<1 U
Cis-1,2-Dichloroethene	**4,000**	**6,800**	**7,300**	**3,600**	**2,900**	**2,000**	**48**	**69**	**7.6**	**6.8**	**680**	**49**	2.8 J
Tetrachloroethene (PCE)	**35 J**	**140**	**160 J**	**45 J**	**52**	**31**	1	1.5	4.7	2.2	**6 J**	1.8	<1 U
Trans-1,2-Dichloroethene	<250 U	<500 U	<1,000 U	<250 U	<100 U	<120 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<50 U	<2.5 U	<5 U
Trichloroethene (TCE)	**13,000**	**41,000**	**40,000**	**9,900**	**5,200**	**6,400**	**120**	**140**	**35**	**52**	**70**	**1,800**	**67**
Vinyl Chloride	**140**	**220**	**190 J**	**64**	**36 J**	1.4	**7.7**	0.13 J	0.13 J	0.17 J	0.15 J	**45**	2.8 J

Location	MW12S	MW12S	MW12S	MW12S	MW12S	MW12S	MW12S	MW12S	MW12S	MW12S	MW12S
Sample Name	MW12S_091222	MW12S_030424	GWDUP01_030424	MW12S_080724	MW12S_091724	MW12S_120924	MW12S_012325	MW12S_021325	MW12S_072325	MW12S_102825	MW12S_031326
Sample Date	09/12/2022	03/04/2024	03/04/2024	08/07/2024	09/17/2024	12/09/2024	01/23/2025	02/13/2025	07/23/2025	10/28/2025	03/13/2026
Sample Depth	7-17	7-17	7-17	7-17	7-17	7-17	7-17	7-17	7-17	7-17	7-17
VOCs											
1,1-Dichloroethene	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U
Cis-1,2-Dichloroethene	2.3 J	1.2 J	1.2 J	2.2	2.7	2.9	1.8	3.8	3.9	**6.7**	<5 U
Tetrachloroethene (PCE)	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U
Trans-1,2-Dichloroethene	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U
Trichloroethene (TCE)	2.9	1.1	0.98	4	3.3	4.2	4	3.1	2.9	<5 U	4.1
Vinyl Chloride	<1 U	<1 U	<1 U	<1 U	<1 U	0.09 J	0.27 J	0.4 J	0.14 J	0.9 J	**3.6**

Location	MW13D	MW13D	MW13D	MW13D	MW13D	MW13D	MW13D	MW13D	MW13D	MW13D	MW13D	MW13D
Sample Name	MW13D_091222	MW13D_020723	MW13D_041123	MW13D_062123	MW13D_092823	MW13D_122823	MW13D_030424	MW13D_080924	MW13D_091724	MW13D_120824	MW13D_012325	MW13D_072325	MW13D_102825	MW13D_031326
Sample Date	09/12/2022	02/07/2023	04/11/2023	06/21/2023	09/28/2023	12/28/2023	03/04/2024	08/09/2024	09/17/2024	12/05/2024	01/23/2025	07/23/2025	10/28/2025	03/13/2026
Sample Depth	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27
VOCs														
1,1-Dichloroethene	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.37 J	<5 U	<120 U	<250 U	<50 U	**14 J**	2.8
Cis-1,2-Dichloroethene	2.2 J	2.7	4.5	**5.9**	3.9	2.4 J	2 J	2.3 J	3.6	**130**	**3,200**	**6,700**	**8,700**	**6,600**	**1,700**
Tetrachloroethene (PCE)	0.29 J	0.26 J	0.32 J	0.67	0.75	0.36 J	0.5	0.21 J	0.49 J	3.3 J	**59 J**	**140 J**	**30 J**	**26**	4.5
Trans-1,2-Dichloroethene	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<25 U	<620 U	<1,200 U	<250 U	<120 U	<12 U
Trichloroethene (TCE)	2.5	2.6	3.6	**5.9**	3.6	2.6	1.9	2.4	3.3	**510**	**25,000**	**52,000**	**11,000**	**8,200**	**860**
Vinyl Chloride	<1 U	0.17 J	0.18 J	0.2 J	0.13 J	<1 U	<1 U	0.15 J	0.26 J	<10 U	<250 U	<500 U	**110**	**130**	**10**

Location	MW14S	MW14S	MW14S	MW14S	MW14S	MW14S	MW14S	MW14S	MW14S	MW14S	MW14S	MW14S
Sample Name	MW14S_020923	MW14S_041123	MW14S_062123	MW14S_092723	MW14S_122623	MW14S_030424	MW14S_080124	MW14S_091924	MW14S_120624	MW14S_012325	MW14S_021325	MW14S_072325	MW14S_102825	MW14S_031326
Sample Date	02/09/2023	04/11/2023	06/21/2023	09/27/2023	12/26/2023	03/04/2024	08/01/2024	09/19/2024	12/06/2024	01/23/2025	02/13/2025	07/23/2025	10/28/2025	03/13/2026
Sample Depth	7-17	7-17	7-17	7-17	7-17	7-17	7-17	7-17	7-17	7-17	7-17	7-17	7-17	7-17
VOCs														
1,1-Dichloroethene	0.27 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.2 U
Cis-1,2-Dichloroethene	**74**	1.5 J	0.88 J	0.81 J	<2.5 U	<2.5 U	1.6 J	<2.5 U	3.1	**8.8**	**9.5**	1.3 J	1.6 J	<6.2 U
Tetrachloroethene (PCE)	0.62	0.31 J	0.31 J	0.22 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.58	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.2 U
Trans-1,2-Dichloroethene	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<6.2 U
Trichloroethene (TCE)	**87**	1.7	1.3	0.81	0.45 J	0.35 J	0.65	0.34 J	0.9	4.5	**6.9**	2.5	2	<1.2 U
Vinyl Chloride	**2.6**	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<2.5 U

Location	MW15S	MW15S	MW15S	MW15S	MW15S	MW15S	MW15S	MW15S	MW15S	MW15S	MW15S	MW15S
Sample Name	MW15S_110623	MW15S_030424	MW15S_080724	MW15S_091824	MW15S_120924	MW15S_012325	MW15S_021425	MW15S_072325	MW15S_102825	MW15S_031326		
Sample Date	11/06/2023	03/04/2024	08/07/2024	09/18/2024	12/09/2024	01/23/2025	02/14/2025	07/23/2025	10/28/2025	03/13/2026		
Sample Depth	7-17	7-17	7-17	7-17	7-17	7-17	7-17	7-17	7-17	7-17		
VOCs												
1,1-Dichloroethene	**48 J**	**17 J**	<100 U	<50 U	<3.7 U	<130 U	<100 U	<50 U	<20 U	<5 U		
Cis-1,2-Dichloroethene	**9,000**	**3,800**	**3,900**	**2,300**	**480**	**5,900**	**2,800**	**3,200**	**760**	**24 J**		
Tetrachloroethene (PCE)	**97 J**	**44 J**	**68 J**	**36 J**	**5.4**	**48 J**	**49 J**	**25 J**	**14 J**	<5 U		
Trans-1,2-Dichloroethene	<500 U	<250 U	<500 U	<250 U	<25 U	<620 U	<500 U	<250 U	<100 U	<25 U		
Trichloroethene (TCE)	**39,000**	**17,000**	**26,000**	**9,700**	**1,100**	**20,000**	**17,000**	**9,100**	**4,800**	**20**		
Vinyl Chloride	**490**	**130**	**130 J**	**43 J**	**4.2 J**	**220**	**150 J**	**50 J**	**22 J**	**4.7 J**		

Location	MW16D	MW16D	MW16D	MW16D	MW16D	MW16D	MW16D	MW16D	MW16D	MW16D	MW16D	MW16D
Sample Name	MW16D_110623	MW16D_030424	MW16D_080724	MW16D_091824	MW16D_120924	MW16D_012325	MW16D_021425	MW16D_072325	MW16D_102825	MW16D_031326		
Sample Date	11/06/2023	03/04/2024	08/07/2024	09/18/2024	12/09/2024	01/23/2025	02/14/2025	07/23/2025	10/28/2025	03/13/2026		
Sample Depth	18-28	18-28	18-28	18-28	18-28	18-28	18-28	18-28	18-28	18-28		
VOCs												
1,1-Dichloroethene	<50 U	1.2 J	<50 U	<12 U	<0.5 U	<50 U	<50 U	<50 U	<29 U	<5 U		
Cis-1,2-Dichloroethene	**3,000**	**95**	**1,200**	**320**	**20**	**1,900**	**950**	**1,200**	**500**	**1,000**		
Tetrachloroethene (PCE)	**33 J**	**6.6**	**58**	**15**	1.2	**30 J**	**42 J**	**29 J**	**16 J**	**17**		
Trans-1,2-Dichloroethene	<250 U	<12 U	<250 U	<62 U	<2.5 U	<250 U	<250 U	<250 U	<120 U	<29 U		
Trichloroethene (TCE)	**11,000**	**580**	**19,000**	**3,800**	**100**	**11,000**	**12,000**	**8,700**	**5,700**	**320**		
Vinyl Chloride	**130**	1.1 J	**30 J**	**10 J**	0.13 J	**58 J**	**25 J**	**20 J**	<50 U	<10 U		

Location	MW16D	MW16D	MW16D	MW16D	MW16D	MW16D	MW16D	MW16D	MW16D	MW16D	MW16D	MW16D
Sample Name	MW16D_110623	MW16D_030424	MW16D_080724	MW16D_091824	MW16D_120924	MW16D_012325	MW16D_021425	MW16D_072325	MW16D_102825	MW16D_031326		
Sample Date	11/06/2023	03/04/2024	08/07/2024	09/18/2024	12/09/2024	01/24/2025	02/14/2025	07/23/2025	10/28/2025	03/13/2026		
Sample Depth	35-40	35-40	35-40	35-40	35-40	35-40	35-40	35-40	35-40	35-40		
VOCs												
1,1-Dichloroethene	0.19 J	0.45 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1.2 U		
Cis-1,2-Dichloroethene	**12**	**90**	1.1 J	3.2	0.89 J	**6.2**	2.3	3.7	4	4.9	2 J		
Tetrachloroethene (PCE)	**11**	**8.6**	4	3.3	2.7	2.3	3.7	**5.2**	**5.1**	3			
Trans-1,2-Dichloroethene	<2.5 U	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<6.2 U			
Trichloroethene (TCE)	**42**	**370**	4.6	**15**	4.1	**11**	4.4	**23**	**34**	**14**			
Vinyl Chloride	0.2 J	0.46 J	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<2.5 U			

Location	MW16S	MW16S	MW16S	MW16S	MW16S	MW16S	MW16S	MW16S	MW16S	MW16S	MW16S	MW16S
Sample Name	MW16S_110623	MW16S_030424	MW16S_080724	MW16S_091824	MW16S_120924	MW16S_012325	MW16S_021425	MW16S_072325	MW16S_102825	MW16S_031326		
Sample Date	11/06/2023	03/04/2024	08/07/2024	09/18/2024	12/09/2024	01/23/2025	02/14/2025	07/23/2025	10/28/2025	03/13/2026		
Sample Depth	7-17	7-17	7-17	7-17	7-17	7-17	7-17	7-17	7-17	7-17		
VOCs												
1,1-Dichloroethene	**48 J**	**17 J**	<100 U	<50 U	<3.7 U	<130 U	<100 U	<50 U	<20 U	<5 U		
Cis-1,2-Dichloroethene	**9,000**	**3,800**	**3,900**	**2,300**	**480**	**5,900**	**2,800**	**3,200**	**760**	**24 J**		
Tetrachloroethene (PCE)	**97 J**	**44 J**	**68 J**	**36 J**	**5.4**	**48 J**	**49 J**	**25 J**	**14 J**	<5 U		
Trans-1,2-Dichloroethene	<500 U	<250 U	<500 U	<250 U	<25 U	<620 U	<500 U	<250 U	<100 U	<25 U		
Trichloroethene (TCE)	**39,000**	**17,000**	**26,000**	**9,700**	**1,100**	**20,000**	**17,000**	**9,100**	**4,800**	**20**		
Vinyl Chloride	**490**	**130**	**130 J**	**43 J**	**4.2 J**	**220**	**150 J**	**50 J**	**22 J**	**4.7 J**		

Location	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D
Sample Name	MW17D_110323	MW17D_030524	MW17D_092024	MW17D_120324	MW17D_012325	MW17D_021425	MW17D_072325	MW17D_102825	MW17D_031326	
Sample Date	11/03/2023	03/05/2024	09/20/2024	12/03/2024	01/23/2025	02/14/2025	07/23/2025	10/28/2025	03/13/2026	
Sample Depth	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	
VOCs										
1,1-Dichloroethene	<0.5 U	<0.5 U	0.24 J	<0.5 U	<5 U	<10 U	<25 U	<0.5 U	<2.5 U	
Cis-1,2-Dichloroethene	2.4 J	1.6 J	**16**	**6.9**	**7.5 J**	<50 U	<120 U	**11**	4.7 J	
Tetrachloroethene (PCE)	2.3	1.7	0.22 J	2	1.8 J	<10 U	<25 U	<0.5 U	<2.5 U	
Trans-1,2-Dichloroethene	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<29 U	<50 U	<120 U	<2.5 U	<12 U	
Trichloroethene (TCE)	**15**	**29**	**23**	**8.3**	**9.7**	4.5 J	<25 U	3.2	2.1 J	
Vinyl Chloride	<1 U	<1 U	0.46 J	0.39 J	<10 U	<20 U	<50 U	0.3 J	<5 U	

Location	MW17S	MW17S	MW17S	MW17S	MW17S	MW17S	MW17S	MW17S	MW17S	MW17S	MW17S	MW17S
Sample Name	MW17S_062923	MW17S_102723	GWDUP01_102723	MW17S_030524	MW17S_092324	MW17S_120324	MW17S_012325	MW17S_021425	MW17S_072325	MW17S_102825	MW17S_031326	
Sample Date	06/29/2023	10/27/2023	10/27/2023	03/05/2024	09/23/2024	12/03/2024	01/23/2025	02/14/2025	07/23/2025	10/28/2025	03/13/2026	
Sample Depth	6-16	6-16	7-17	6-16	6-16	6-16	6-16	6-16	6-16	6-16	6-16	
VOCs												
1,1-Dichloroethene	**10 J**	**9.4**	**8.4**	1.7	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<5 U	
Cis-1,2-Dichloroethene	**1,100**	**440**	**400**	**80**	2.5	2.9	2.1 J	2.3 J	3.3	2.2 J	<25 U	
Tetrachloroethene (PCE)	**31**	2.4 J	2.5	1.6	0.24 J	**5.5**	2.2	2.1	0.61	0.96	<5 U	
Trans-1,2-Dichloroethene	<120 U	3.6 J	3.4 J	<6.2 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<25 U	
Trichloroethene (TCE)	**4,100**	**520**	**510**	**200**	**11**	**9.4**	**13**	**18**	**5.2**	**5.4**	4.8 J	
Vinyl Chloride	**7.2 J**	**5.7**	**5.1**	0.66 J	0.37 J	<1 U	<1 U	0.09 J	<1 U	<1 U	<10 U	

Location	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D
Sample Name	MW17D_062923	GWDUP02_062924	MW17D_121024	MW17D_012325	MW17D_021425	MW17D_072325	MW17D_102825	MW17D_031326		
Sample Date	06/29/2023	06/29/2023	09/20/2024	12/10/2024	01/23/2025	02/14/2025	07/23/2025	10/28/2025	03/13/2026	
Sample Depth	30-40	30-40	30-40	30-40	30-40	30-40	30-40	30-40	30-40	
VOCs										
1,1-Dichloroethene	<0.5 U	<0.5 U	<2.5 U	<10 U	<10 U	<0.5 U	<0.5 U	<0.5 U	<2.5 U	
Cis-1,2-Dichloroethene	4.8	4.8	<12 U	<50 U	<50 U	2.2	2.6	2.1 J	<12 U	
Tetrachloroethene (PCE)	1.3	1.3	**6.4**	<10 U	<10 U	4.6	5	0.64	<2.5 U	
Trans-1,2-Dichloroethene	<2.5 U	<2.5 U	<12 U	<50 U	<50 U	<2.5 U	<2.5 U	<2.5 U	<12 U	
Trichloroethene (TCE)	4.9	4.9	2.8	**5.2**	**5.4**	1.8	2.1	1.2	<2.5 U	
Vinyl Chloride	0.18 J	0.1 J	<5 U	<20 U	<20 U	<1 U	<1 U	<1 U	<5 U	

Location	MW18S	MW18S	MW18S	MW18S	MW18S	MW18S	MW18S	MW18S	MW18S	MW18S	MW18S	MW18S
Sample Name	MW18S_110323	MW18S_030524	MW18S_092024	MW18S_120324	GWDUP01_120324	MW18S_012425	MW18S_021425	MW18S_072325	MW18S_102925	MW18S_031326		
Sample Date	11/03/2023	03/05/2024	09/20/2024	12/03/2024	12/03/2024	01/24/2025	02/14/2025	07/23/2025	10/28/2025	03/13/2026		
Sample Depth	6-16	6-16	6-16	6-16	6-16	6-16	6-16	6-16	6-16	6-16		
VOCs												
1,1-Dichloroethene	3.9 J	0.23 J	**5.6**	**16 J**	**12 J**	**17**	**12**	<1.2 U	<2.5 U	<25 U		
Cis-1,2-Dichloroethene	**820**	**72**	**1,600**	**3,200**	**3,100**	**3,200**	**2,300**	**310**	**280**	**2,800**		
Tetrachloroethene (PCE)	**7.3 J**	0.37 J	4.5 J	**14 J**	**14 J**	**5.6 J**	5.7	0.57 J	<2.5 U	<25 U		
Trans-1,2-Dichloroethene	<50 U	<2.5 U	<25 U	<100 U	<100 U	<50 U	<25 U	<2.5 U	<5 U	<120 U		
Trichloroethene (TCE)	**2,200**	**110**	**1,300**	**4,000**	**3,900**	**1,200**	**630**	**330**	**390**	**4,200**		
Vinyl Chloride	**25**	0.39 J	**20**	**54**	**50**	**13 J**	**11 J**	<2.5 U	<5 U	**18 J**		

Location	MW18D	MW18D	MW18D	MW18D	MW18D	MW18D	MW18D	MW18D	MW18D	MW18D	MW18D	MW18D
Sample Name	MW18D_062923	MW18D_102723	MW18D_030524	MW18D_092024	MW18D_120324	MW18D_012425	MW18D_021425	MW18D_072425	MW18D_102925	MW18D_031726		
Sample Date	06/29/2023	10/27/2023	03/05/2024	09/20/2024	12/03/2024	01/24/2025	02/14/2025	07/24/2025	10/29/2025	03/17/2026		
Sample Depth	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27		
VOCs												
1,1-Dichloroethene	<50 U	**40 J**	**42 J**	<100 U	<120 U	<120 U	**43 J**	<50 U	<120 U	**20 J**		
Cis-1,2-Dichloroethene	**2,200**	**5,100**	**6,200**	**3,300**	**7,800**	**9,400**	**11,000**	**2,300**	**4,100**	**5,700**		
Tetrachloroethene (PCE)	**33 J**	**88 J**	**130**	**53 J**	<120 U	**73 J**	**120**	**30 J**	**59 J**	**37 J**		
Trans-1,2-Dichloroethene	<250 U	<500 U	<250 U	<500 U	<620 U	<620 U	<500 U	<250 U	<620 U	<250 U		
Trichloroethene (TCE)	**5,200**	**37,000**	**18,000**	**20,000**	**23,000**	**23,000**	**39,000**	**14,000**	**27,000**	**18,000**		
Vinyl Chloride	**47 J**	**180 J**	**230**	**130 J**	**580**	**540**	**1,300**	<100 U	<250 U	**20 J**		

Location	MW18D	MW18D	MW18D	MW18D	MW18D	MW18D	MW18D	MW18D	MW18D	MW18D
Sample Name	MW18D_092324	MW18D_121024	MW18D_013025	MW18D_021425	MW18D_072425	MW18D_102525	MW18D_031726			
Sample Date	09/23/2024	12/10/2024	01/30/2025	02/14/2025	07/24/2025	10/29/2025	03/17/2026			
Sample Depth	40-50	40-50	40-50	40-50	40-50	40-50	40-50			
VOCs										
1,1-Dichloroethene	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U			
Cis-1,2-Dichloroethene	0.8 J	<2.5 U	0.88 J	1.2 J	1.1 J	1.2 J	<5 U			
Tetrachloroethene (PCE)	3.1	3.8	4.6	4.8	**11**	**8.9**	**12**			
Trans-1,2-Dichloroethene	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U			
Trichloroethene (TCE)	**5.8**	1.6	2	2.6	2	1.6	1.6			
Vinyl Chloride	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<2 U			

Location	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D
Sample Name	MW17D_062923	MW17D_030524	MW17D_092024	MW17D_120324	MW17D_012325	MW17D_021425	MW17D_072325	MW17D_102825	MW17D_031326	
Sample Date	06/29/2023	03/05/2024	09/20/2024	12/03/2024	01/23/2025	02/14/2025	07/23/2025	10/28/2025	03/13/2026	
Sample Depth	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	
VOCs										
1,1-Dichloroethene	<0.5 U	<0.5 U	0.24 J	<0.5 U	<5 U	<10 U	<25 U	<0.5 U	<2.5 U	
Cis-1,2-Dichloroethene	2.4 J	1.6 J	**16**	**6.9**	**7.5 J**	<50 U	<120 U	**11**	4.7 J	
Tetrachloroethene (PCE)	2.3	1.7	0.22 J	2	1.8 J	<10 U	<25 U	<0.5 U	<2.5 U	
Trans-1,2-Dichloroethene	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<29 U	<50 U	<120 U	<2.5 U	<12 U	
Trichloroethene (TCE)	**15**	**29**	**23**	**8.3**	**9.7**	4.5 J	<25 U	3.2	2.1 J	
Vinyl Chloride	<1 U	<1 U	0.46 J	0.39 J	<10 U	<20 U	<50 U	0.3 J	<5 U	

Location	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D	MW17D
Sample Name	MW17D_110323	MW17D_030524	MW17D_092024	MW17D_120324	MW17D_012325	MW17D_021425	MW17D_072325	MW17D_102825	MW17D_031326	
Sample Date	11/03/2023	03/05/2024	09/20/2024	12/03/2024	01/23/2025	02/14/2025	07/23/2025	10/28/2025	03/13/2026	
Sample Depth	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	17-27	
VOCs										
1,1-Dichloroethene	<0.5 U	<0.5 U	0.24 J	<0.5 U	<5 U	<10 U	<25 U	<0.5 U	<2.5 U	
Cis-1,2-Dichloroethene	2.4 J	1.6 J	**16**	**6.9**	**7.5 J**	<50 U	<120 U	**11**	4.7 J	
Tetrachloroethene (PCE)	2.3	1.7	0.22 J	2	1.8 J	<10 U	<25 U	<0.5 U	<2.5 U	
Trans-1,2-Dichloroethene	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<29 U	<50 U	<120 U	<2.5 U	<12 U	
Trichloroethene

Table 5A
Remedial Investigation Report
Groundwater Sample Analytical Results

514 Union Street
Brooklyn, New York
NYSDEC BCP Site No.: C224318
Langan Project No.: 170361307

Analyte	CAS Number	NYSDEC SGVs	Location	MW05D	MW05D	MW05S	MW05S	MW05S	MW05S	MW06D	MW06D	MW06S	MW06S	MW07D	MW07D	MW07DD	MW07S	MW07S
			Sample Name	MW05D_090722	MW05D_031326	MW05S_090622	GWDUP01_090622	MW05S_031326	DUP01_031326	MW06D_090822	MW06D_031326	MW06S_090722	MW06S_031326	MW07D_090922	MW07D_031326	MW07DD_090922	MW07S_110323	MW07S_031326
			Sample Date	09/07/2022	03/13/2026	09/06/2022	09/06/2022	03/13/2026	03/13/2026	09/08/2022	03/13/2026	09/07/2022	03/13/2026	09/09/2022	03/13/2026	09/09/2022	11/03/2023	03/13/2026
			Sample Depth	17-22	17-22	7-17	7-17	7-17	7-17	17-27	17-27	7-17	7-17	15-20	15-20	26-36	5-15	5-15
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Volatile Organic Compounds																		
1,1,1,2-Tetrachloroethane	630-20-6	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1,1-Trichloroethane	71-55-6	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1,2,2-Tetrachloroethane	79-34-5	5	ug/l	<0.5 U	<50 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2-Trichloroethane	79-00-5	**1**	ug/l	<1.5 U	<150 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<3 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U
1,1-Dichloroethane	75-34-3	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1-Dichloroethene	75-35-4	**5**	ug/l	0.88	<50 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	0.18 J	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-Dichloropropene	563-58-6	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,3-Trichlorobenzene	87-61-6	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U
1,2,3-Trichloropropane	96-18-4	0.04	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,4,5-Tetramethylbenzene	95-93-2	**5**	ug/l	2.7	<200 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<4 U	<2 U	<2 U	<2 U	<2 U
1,2,4-Trichlorobenzene	120-82-1	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,4-Trimethylbenzene	95-63-6	**5**	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 UJ	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.0006	ug/l	<2 U	<200 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<4 U	<2 U	<2 U	<2 U	<2 U
1,2-Dichlorobenzene	95-50-1	3	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2-Dichloroethane	107-06-2	0.6	ug/l	<0.5 U	<50 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-Dichloropropane	78-87-5	1	ug/l	<1 U	<100 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	**5**	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,3-Dichlorobenzene	541-73-1	3	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,3-Dichloropropane	142-28-9	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,4-Dichlorobenzene	106-46-7	3	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,4-Diethyl Benzene	105-05-5	NS	ug/l	1.6 J	<200 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	1.6 J	<2 U	<2 U	<2 U	<2 U
1,4-Dioxane (P-Dioxane)	123-91-1	0.35	ug/l	<250 UJ	<25,000 U	<250 UJ	<250 UJ	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	<500 UJ	<250 U	<250 U	<250 UJ	<250 U
2,2-Dichloropropane	594-20-7	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
2-Chlorotoluene	95-49-8	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
2-Hexanone (MBK)	591-78-6	50	ug/l	<5 U	<500 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 UJ	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U
4-Chlorotoluene	106-43-4	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
4-Ethyltoluene	622-96-8	NS	ug/l	<2 U	<200 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<4 U	<2 U	<2 U	<2 U	<2 U
Acetone	67-64-1	**50**	ug/l	6.6	<500 U	<5 U	<5 U	<37 U	**100 J**	<5 U	<26 U	<5 UJ	<18 U	20	<26 U	<5 U	<5 U	<26 U
Acrylonitrile	107-13-1	5	ug/l	<5 U	<500 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U
Benzene	71-43-2	**1**	ug/l	<0.5 U	<50 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**16**	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Bromobenzene	108-86-1	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Bromochloromethane	74-97-5	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Bromodichloromethane	75-27-4	50	ug/l	<0.5 U	<50 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Bromoform	75-25-2	50	ug/l	<2 U	<200 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<4 U	<2 U	<2 U	<2 U	<2 U
Bromomethane	74-83-9	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Carbon Disulfide	75-15-0	60	ug/l	<5 U	<500 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U
Carbon Tetrachloride	56-23-5	5	ug/l	<0.5 U	<50 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Chlorobenzene	108-90-7	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloroethane	75-00-3	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloroform	67-66-3	**7**	ug/l	<2.5 U	<250 U	1.3 J	1.2 J	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloromethane	74-87-3	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Cis-1,2-Dichloroethene	156-59-2	**5**	ug/l	**14**	**10,000**	4.2	3.9	<2.5 U	<2.5 U	**24**	3.1	**5.3**	<2.5 U	**61**	<2.5 U	0.97 J	<2.5 U	<2.5 U
Cis-1,3-Dichloropropene	10061-01-5	0.4	ug/l	<0.5 U	<50 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Cymene	99-87-6	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Dibromochloromethane	124-48-1	50	ug/l	<0.5 U	<50 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Dibromomethane	74-95-3	5	ug/l	<5 U	<500 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U
Dichlorodifluoromethane	75-71-8	5	ug/l	<5 U	<500 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U
Diethyl Ether (Ethyl Ether)	60-29-7	NS	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Ethylbenzene	100-41-4	**5**	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Hexachlorobutadiene	87-68-3	0.5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Isopropylbenzene (Cumene)	98-82-8	**5**	ug/l	4.1	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	4.9 J	<2.5 U	<2.5 U	<2.5 U	<2.5 U
M,P-Xylene	179601-23-1	**5**	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	50	ug/l	<5 UJ	<500 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	NS	ug/l	<5 UJ	<500 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<10 U	<5 U	<5 UJ	<5 U	<5 U
Methylene Chloride	75-09-2	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Naphthalene	91-20-3	**10**	ug/l	1.1 J	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 UJ	<2.5 U
n-Butylbenzene	104-51-8	**5**	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
n-Propylbenzene	103-65-1	**5**	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
o-Xylene (1,2-Dimethylbenzene)	95-47-6	**5**	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Sec-Butylbenzene	135-98-8	**5**	ug/l	3	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	2.2 J	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Styrene	100-42-5	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
T-Butylbenzene	98-06-6	5	ug/l	1 J	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Tert-Butyl Methyl Ether (MTBE)	1634-04-4	10	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Tetrachloroethene (PCE)	127-18-4	**5**	ug/l	0.37 J	<50 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**12**	4.4	2.8	<0.5 U	0.91 J	<0.5 U	1.2	<0.5 U	<0.5 U
Toluene	108-88-3	**5**	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	2.4 J	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Total 1,2-Dichloroethene (Cis and Trans)	540-59-0	NS	ug/l	14	10,000	4.2	3.9	<2.5 U	<2.5 U	26 J	3.1	5.3	<2.5 U	61	<2.5 U	0.97 J	<2.5 U	<2.5 U
Total Xylenes	1330-20-7	**5**	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Total, 1,3-Dichloropropene (Cis And Trans)	542-75-6	0.4	ug/l	<0.5 U	<50 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Trans-1,2-Dichloroethene	156-60-5	**5**	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	1.6 J	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Trans-1,3-Dichloropropene	10061-02-6	0.4	ug/l	<0.5 U	<50 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Trans-1,4-Dichloro-2-Butene	110-57-6	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Trichloroethene (TCE)	79-01-6	**5**	ug/l	**73**	<50 U	4	3.7	0.78	0.94	**11**	3.3	2.9	0.79	**340**	1.4	4.4	0.3 J	0.62
Trichlorofluoromethane	75-69-4	5	ug/l	<2.5 U	<250 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Vinyl Acetate	108-05-4	NS	ug/l	<5 U	<500 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<10 U	<5 U	<5 U	<5 U	<5 U
Vinyl Chloride	75-01-4	**2**	ug/l	1.4	**1,000**	<1 U	<1 U	<1 U	<1 U	0.26 J	<1 U	0.14 J	<1 U	**3.8**	<1 U	<1 U	<1 U	<1 U
Total CVOCs	TOTALCVOCS	NS	ug/l	89.65	11000	8.2	7.6	0.78	0.94	49.04	10.8	11.14	0.79	405.71	1.4	6.57	0.3	0.62

Table 5A
Remedial Investigation Report
Groundwater Sample Analytical Results

514 Union Street
Brooklyn, New York
NYSDEC BCP Site No.: C224318
Langan Project No.: 170361307

Analyte	CAS Number	NYSDEC SGVs	Location	MW05D	MW05D	MW05S	MW05S	MW05S	MW05S	MW06D	MW06D	MW06S	MW06S	MW07D	MW07D	MW07DD	MW07S	MW07S
			Sample Name	MW05D_090722	MW05D_031326	MW05S_090622	GWDUP01_090622	MW05S_031326	DUP01_031326	MW06D_090822	MW06D_031326	MW06S_090722	MW06S_031326	MW07D_090922	MW07D_031326	MW07DD_090922	MW07S_110323	MW07S_031326
			Sample Date	09/07/2022	03/13/2026	09/06/2022	09/06/2022	03/13/2026	03/13/2026	09/08/2022	03/13/2026	09/07/2022	03/13/2026	09/09/2022	03/13/2026	09/09/2022	11/03/2023	03/13/2026
			Sample Depth	17-22	17-22	7-17	7-17	7-17	7-17	17-27	17-27	7-17	7-17	15-20	15-20	26-36	5-15	5-15
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Semi-Volatile Organic Compounds																		
1,2,4,5-Tetrachlorobenzene	95-94-3	5	ug/l	NA	NA	<10 U	<10 U	NA	NA	NA	NA	<10 U	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	5	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	3	ug/l	NA	NA	<2 U	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	3	ug/l	NA	NA	<2 U	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	3	ug/l	NA	NA	<2 U	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA	NA
1,4-Dioxane (P-Dioxane)	123-91-1	**0.35**	ug/l	NA	NA	<0.147 U	<0.15 U	NA	NA	NA	NA	0.0895 J	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	95-95-4	NS	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	88-06-2	NS	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	120-83-2	1	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	105-67-9	1	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	51-28-5	1	ug/l	NA	NA	<20 U	<20 U	NA	NA	NA	NA	<20 U	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	121-14-2	5	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	606-20-2	5	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	91-58-7	10	ug/l	NA	NA	<0.2 U	<0.2 U	NA	NA	NA	NA	<0.2 U	NA	NA	NA	NA	NA	NA
2-Chlorophenol	95-57-8	NS	ug/l	NA	NA	<2 U	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	91-57-6	NS	ug/l	NA	NA	0.02 J	<0.1 U	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA	NA
2-Methylphenol (o-Cresol)	95-48-7	NS	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
2-Nitroaniline	88-74-4	5	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 UJ	NA	NA	NA	NA	NA	NA
2-Nitrophenol	88-75-5	NS	ug/l	NA	NA	<10 U	<10 U	NA	NA	NA	NA	<10 U	NA	NA	NA	NA	NA	NA
3 & 4 Methylphenol (m&p Cresol)	65794-96-9	NS	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	91-94-1	5	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
3-Nitroaniline	99-09-2	5	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-Methylphenol	534-52-1	NS	ug/l	NA	NA	<10 U	<10 U	NA	NA	NA	NA	<10 U	NA	NA	NA	NA	NA	NA
4-Bromophenyl Phenyl Ether	101-55-3	NS	ug/l	NA	NA	<2 U	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA	NA
4-Chloro-3-Methylphenol	59-50-7	NS	ug/l	NA	NA	<2 U	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA	NA
4-Chloroaniline	106-47-8	5	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
4-Chlorophenyl Phenyl Ether	7005-72-3	NS	ug/l	NA	NA	<2 U	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA	NA
4-Nitroaniline	100-01-6	5	ug/l	NA	NA	<5 UJ	<5 UJ	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
4-Nitrophenol	100-02-7	NS	ug/l	NA	NA	<10 U	<10 U	NA	NA	NA	NA	<10 U	NA	NA	NA	NA	NA	NA
Acenaphthene	83-32-9	20	ug/l	NA	NA	<0.1 U	<0.1 U	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA	NA
Acenaphthylene	208-96-8	NS	ug/l	NA	NA	<0.1 U	<0.1 U	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA	NA
Acetophenone	98-86-2	NS	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
Anthracene	120-12-7	50	ug/l	NA	NA	<0.1 U	0.02 J	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	56-55-3	**0.002**	ug/l	NA	NA	<0.1 U	<0.1 U	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	**0**	ug/l	NA	NA	<0.1 U	<0.1 U	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	**0.002**	ug/l	NA	NA	<0.1 U	<0.1 U	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)Perylene	191-24-2	NS	ug/l	NA	NA	<0.1 U	<0.1 U	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	207-08-9	**0.002**	ug/l	NA	NA	<0.1 U	<0.1 U	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA	NA
Benzoic Acid	65-85-0	NS	ug/l	NA	NA	<50 U	<50 U	NA	NA	NA	NA	<50 UJ	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	100-51-6	NS	ug/l	NA	NA	<2 U	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA	NA
Benzyl Butyl Phthalate	85-68-7	50	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
Biphenyl (Diphenyl)	92-52-4	5	ug/l	NA	NA	<2 U	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy) methane	111-91-1	5	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
Bis(2-chloroethyl) ether (2-chloroethyl ether)	111-44-4	1	ug/l	NA	NA	<2 U	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA	NA
Bis(2-chloroisopropyl) ether	108-60-1	5	ug/l	NA	NA	<2 U	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl) phthalate	117-81-7	5	ug/l	NA	NA	<3 U	<3 U	NA	NA	NA	NA	<3 U	NA	NA	NA	NA	NA	NA
Carbazole	86-74-8	NS	ug/l	NA	NA	<2 U	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA	NA
Chrysene	218-01-9	**0.002**	ug/l	NA	NA	<0.1 U	<0.1 U	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	53-70-3	NS	ug/l	NA	NA	<0.1 U	<0.1 U	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	NS	ug/l	NA	NA	<2 U	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA	NA
Dibutyl phthalate	84-74-2	50	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
Diethyl phthalate	84-66-2	50	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	131-11-3	50	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
Dioctyl phthalate	117-84-0	50	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
Fluoranthene	206-44-0	50	ug/l	NA	NA	<0.1 U	<0.1 U	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA	NA
Fluorene	86-73-7	50	ug/l	NA	NA	0.02 J	<0.1 U	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	**0.04**	ug/l	NA	NA	<0.8 U	<0.8 U	NA	NA	NA	NA	<0.8 U	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	87-68-3	0.5	ug/l	NA	NA	<0.5 U	<0.5 U	NA	NA	NA	NA	<0.5 U	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	77-47-4	5	ug/l	NA	NA	<20 U	<20 U	NA	NA	NA	NA	<20 U	NA	NA	NA	NA	NA	NA
Hexachloroethane	67-72-1	5	ug/l	NA	NA	<0.8 U	<0.8 U	NA	NA	NA	NA	<0.8 U	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	193-39-5	**0.002**	ug/l	NA	NA	<0.1 U	<0.1 U	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA	NA
Isophorone	78-59-1	50	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	**10**	ug/l	NA	NA	<0.1 U	<0.1 U	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA	NA
Nitrobenzene	98-95-3	0.4	ug/l	NA	NA	<2 U	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA	NA
n-Nitrosodi-N-Propylamine	621-64-7	NS	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	86-30-6	50	ug/l	NA	NA	<2 U	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA	NA
Pentachlorophenol	87-86-5	1	ug/l	NA	NA	<0.8 U	<0.8 U	NA	NA	NA	NA	<0.8 U	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	50	ug/l	NA	NA	0.03 J	<0.1 U	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	1	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
Pyrene	129-00-0	50	ug/l	NA	NA	<0.1 U	<0.1 U	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA	NA

Table 5A
Remedial Investigation Report
Groundwater Sample Analytical Results

514 Union Street
Brooklyn, New York
NYSDEC BCP Site No.: C224318
Langan Project No.: 170361307

Analyte	CAS Number	NYSDEC SGVs	Location	MW05D	MW05D	MW05S	MW05S	MW05S	MW05S	MW06D	MW06D	MW06S	MW06S	MW07D	MW07D	MW07DD	MW07S	MW07S
			Sample Name	MW05D_090722	MW05D_031326	MW05S_090622	GWDUP01_090622	MW05S_031326	DUP01_031326	MW06D_090822	MW06D_031326	MW06S_090722	MW06S_031326	MW07D_090922	MW07D_031326	MW07DD_090922	MW07S_110323	MW07S_031326
			Sample Date	09/07/2022	03/13/2026	09/06/2022	09/06/2022	03/13/2026	03/13/2026	09/08/2022	03/13/2026	09/07/2022	03/13/2026	09/09/2022	03/13/2026	09/09/2022	11/03/2023	03/13/2026
			Sample Depth	17-22	17-22	7-17	7-17	7-17	7-17	17-27	17-27	7-17	7-17	15-20	15-20	26-36	5-15	5-15
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Pesticides																		
4,4'-DDD	72-54-8	0.3	ug/l	NA	NA	<0.029 UJ	<0.029 UJ	NA	NA	NA	NA	<0.029 U	NA	NA	NA	NA	NA	NA
4,4'-DDE	72-55-9	0.2	ug/l	NA	NA	<0.029 UJ	<0.029 UJ	NA	NA	NA	NA	<0.029 U	NA	NA	NA	NA	NA	NA
4,4'-DDT	50-29-3	0.2	ug/l	NA	NA	<0.029 UJ	<0.029 UJ	NA	NA	NA	NA	<0.029 U	NA	NA	NA	NA	NA	NA
Aldrin	309-00-2	0	ug/l	NA	NA	<0.014 UJ	<0.014 UJ	NA	NA	NA	NA	<0.014 U	NA	NA	NA	NA	NA	NA
Alpha BHC (Alpha Hexachlorocyclohexane)	319-84-6	0.01	ug/l	NA	NA	<0.014 UJ	<0.014 UJ	NA	NA	NA	NA	<0.014 U	NA	NA	NA	NA	NA	NA
Alpha Chlordane	5103-71-9	NS	ug/l	NA	NA	<0.014 UJ	<0.014 UJ	NA	NA	NA	NA	<0.014 U	NA	NA	NA	NA	NA	NA
Alpha Endosulfan	959-98-8	NS	ug/l	NA	NA	<0.014 UJ	<0.014 UJ	NA	NA	NA	NA	<0.014 U	NA	NA	NA	NA	NA	NA
Beta Bhc (Beta Hexachlorocyclohexane)	319-85-7	0.04	ug/l	NA	NA	<0.014 UJ	<0.014 UJ	NA	NA	NA	NA	<0.014 U	NA	NA	NA	NA	NA	NA
Beta Endosulfan	33213-65-9	NS	ug/l	NA	NA	<0.029 UJ	<0.029 UJ	NA	NA	NA	NA	<0.029 U	NA	NA	NA	NA	NA	NA
Chlordane (alpha and gamma)	57-74-9	0.05	ug/l	NA	NA	<0.143 UJ	<0.143 UJ	NA	NA	NA	NA	<0.143 U	NA	NA	NA	NA	NA	NA
Delta Bhc (Delta Hexachlorocyclohexane)	319-86-8	0.04	ug/l	NA	NA	<0.014 UJ	<0.014 UJ	NA	NA	NA	NA	<0.014 U	NA	NA	NA	NA	NA	NA
Dieldrin	60-57-1	0.004	ug/l	NA	NA	<0.029 UJ	<0.029 UJ	NA	NA	NA	NA	<0.029 U	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	1031-07-8	NS	ug/l	NA	NA	<0.029 UJ	<0.029 UJ	NA	NA	NA	NA	<0.029 U	NA	NA	NA	NA	NA	NA
Endrin	72-20-8	0	ug/l	NA	NA	<0.029 UJ	<0.029 UJ	NA	NA	NA	NA	<0.029 U	NA	NA	NA	NA	NA	NA
Endrin Aldehyde	7421-93-4	5	ug/l	NA	NA	<0.029 UJ	<0.029 UJ	NA	NA	NA	NA	<0.029 U	NA	NA	NA	NA	NA	NA
Endrin Ketone	53494-70-5	5	ug/l	NA	NA	<0.029 UJ	<0.029 UJ	NA	NA	NA	NA	<0.029 U	NA	NA	NA	NA	NA	NA
Gamma Bhc (Lindane)	58-89-9	0.05	ug/l	NA	NA	<0.014 UJ	<0.014 UJ	NA	NA	NA	NA	<0.014 U	NA	NA	NA	NA	NA	NA
Gamma Chlordane (Trans)	5103-74-2	NS	ug/l	NA	NA	<0.014 UJ	<0.014 UJ	NA	NA	NA	NA	<0.014 U	NA	NA	NA	NA	NA	NA
Heptachlor	76-44-8	0.04	ug/l	NA	NA	<0.014 UJ	<0.014 UJ	NA	NA	NA	NA	<0.014 U	NA	NA	NA	NA	NA	NA
Heptachlor Epoxide	1024-57-3	0.03	ug/l	NA	NA	<0.014 UJ	<0.014 UJ	NA	NA	NA	NA	<0.014 U	NA	NA	NA	NA	NA	NA
Methoxychlor	72-43-5	35	ug/l	NA	NA	<0.143 UJ	<0.143 UJ	NA	NA	NA	NA	<0.143 U	NA	NA	NA	NA	NA	NA
Toxaphene	8001-35-2	0.06	ug/l	NA	NA	<0.143 UJ	<0.143 UJ	NA	NA	NA	NA	<0.143 U	NA	NA	NA	NA	NA	NA
Herbicides																		
2,4,5-T (Trichlorophenoxyacetic Acid)	93-76-5	35	ug/l	NA	NA	<2 U	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA	NA
2,4-D (Dichlorophenoxyacetic Acid)	94-75-7	50	ug/l	NA	NA	<10 UJ	<10 UJ	NA	NA	NA	NA	<10 U	NA	NA	NA	NA	NA	NA
Silvex (2,4,5-Tp)	93-72-1	0.26	ug/l	NA	NA	<2 U	<2 U	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyl																		
PCB-1016 (Aroclor 1016)	12674-11-2	NS	ug/l	NA	NA	<0.071 U	<0.071 U	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA	NA
PCB-1221 (Aroclor 1221)	11104-28-2	NS	ug/l	NA	NA	<0.071 U	<0.071 U	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA	NA
PCB-1232 (Aroclor 1232)	11141-16-5	NS	ug/l	NA	NA	<0.071 U	<0.071 U	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA	NA
PCB-1242 (Aroclor 1242)	53469-21-9	NS	ug/l	NA	NA	<0.071 U	<0.071 U	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA	NA
PCB-1248 (Aroclor 1248)	12672-29-6	NS	ug/l	NA	NA	<0.071 U	<0.071 U	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA	NA
PCB-1254 (Aroclor 1254)	11097-69-1	NS	ug/l	NA	NA	<0.071 U	<0.071 U	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA	NA
PCB-1260 (Aroclor 1260)	11096-82-5	NS	ug/l	NA	NA	<0.071 U	<0.071 U	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA	NA
PCB-1262 (Aroclor 1262)	37324-23-5	NS	ug/l	NA	NA	<0.071 U	<0.071 U	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA	NA
PCB-1268 (Aroclor 1268)	11100-14-4	NS	ug/l	NA	NA	<0.071 U	<0.071 U	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA	NA
Total PCBs	1336-36-3	0.09	ug/l	NA	NA	<0.071 U	<0.071 U	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA	NA
Metals - Dissolved																		
Aluminum	7429-90-5	NS	ug/l	NA	NA	<10 U	<10 U	NA	NA	NA	NA	<10 U	NA	NA	NA	NA	NA	NA
Antimony	7440-36-0	**3**	ug/l	NA	NA	**72.62**	**71.54**	NA	NA	NA	NA	<4 U	NA	NA	NA	NA	NA	NA
Arsenic	7440-38-2	25	ug/l	NA	NA	1.6	1.57	NA	NA	NA	NA	<0.5 U	NA	NA	NA	NA	NA	NA
Barium	7440-39-3	1000	ug/l	NA	NA	83.56	84.5	NA	NA	NA	NA	174.7	NA	NA	NA	NA	NA	NA
Beryllium	7440-41-7	3	ug/l	NA	NA	<0.5 U	<0.5 U	NA	NA	NA	NA	<0.5 U	NA	NA	NA	NA	NA	NA
Cadmium	7440-43-9	5	ug/l	NA	NA	<0.2 U	<0.2 U	NA	NA	NA	NA	<0.2 U	NA	NA	NA	NA	NA	NA
Calcium	7440-70-2	NS	ug/l	NA	NA	122,000	123,000	NA	NA	NA	NA	153,000	NA	NA	NA	NA	NA	NA
Chromium, Total	7440-47-3	50	ug/l	NA	NA	0.26 J	0.21 J	NA	NA	NA	NA	<1 U	NA	NA	NA	NA	NA	NA
Cobalt	7440-48-4	NS	ug/l	NA	NA	<0.5 U	<0.5 U	NA	NA	NA	NA	3.32	NA	NA	NA	NA	NA	NA
Copper	7440-50-8	200	ug/l	NA	NA	2.2	2.22	NA	NA	NA	NA	6.94	NA	NA	NA	NA	NA	NA
Iron	7439-89-6	300	ug/l	NA	NA	<50 U	<50 U	NA	NA	NA	NA	37.8 J	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	25	ug/l	NA	NA	10.37	10.22	NA	NA	NA	NA	<1 U	NA	NA	NA	NA	NA	NA
Magnesium	7439-95-4	**35000**	ug/l	NA	NA	**78,900**	**78,300**	NA	NA	NA	NA	19,600	NA	NA	NA	NA	NA	NA
Manganese	7439-96-5	**300**	ug/l	NA	NA	11.94	11.92	NA	NA	NA	NA	270.4	NA	NA	NA	NA	NA	NA
Mercury	7439-97-6	0.7	ug/l	NA	NA	<0.2 U	<0.2 U	NA	NA	NA	NA	<0.2 U	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	100	ug/l	NA	NA	2.1	1.98 J	NA	NA	NA	NA	4.53	NA	NA	NA	NA	NA	NA
Potassium	7440-09-7	NS	ug/l	NA	NA	30,100	30,200	NA	NA	NA	NA	18,400	NA	NA	NA	NA	NA	NA
Selenium	7782-49-2	**10**	ug/l	NA	NA	**13.6**	**13.2**	NA	NA	NA	NA	**27.6**	NA	NA	NA	NA	NA	NA
Silver	7440-22-4	50	ug/l	NA	NA	<0.4 U	<0.4 U	NA	NA	NA	NA	<0.4 U	NA	NA	NA	NA	NA	NA
Sodium	7440-23-5	**20000**	ug/l	NA	NA	**107,000**	**106,000**	NA	NA	NA	NA	**37,500**	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	0.5	ug/l	NA	NA	0.29 J	<1 U	NA	NA	NA	NA	0.16 J	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	NS	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
Zinc	7440-66-6	2000	ug/l	NA	NA	8.43 J	8.56 J	NA	NA	NA	NA	<10 U	NA	NA	NA	NA	NA	NA

Table 5A
Remedial Investigation Report
Groundwater Sample Analytical Results

514 Union Street
Brooklyn, New York
NYSDEC BCP Site No.: C224318
Langan Project No.: 170361307

Analyte	CAS Number	NYSDEC SGVs	Location	MW05D	MW05D	MW05S	MW05S	MW05S	MW05S	MW06D	MW06D	MW06S	MW06S	MW07D	MW07D	MW07DD	MW07S	MW07S
			Sample Name	MW05D_090722	MW05D_031326	MW05S_090622	GWDUP01_090622	MW05S_031326	DUP01_031326	MW06D_090822	MW06D_031326	MW06S_090722	MW06S_031326	MW07D_090922	MW07D_031326	MW07DD_090922	MW07S_110323	MW07S_031326
			Sample Date	09/07/2022	03/13/2026	09/06/2022	09/06/2022	03/13/2026	03/13/2026	09/08/2022	03/13/2026	09/07/2022	03/13/2026	09/09/2022	03/13/2026	09/09/2022	11/03/2023	03/13/2026
			Sample Depth	17-22	17-22	7-17	7-17	7-17	7-17	17-27	17-27	7-17	7-17	15-20	15-20	26-36	5-15	5-15
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Metals - Total																		
Aluminum	7429-90-5	NS	ug/l	NA	NA	108 J	90.4	NA	NA	NA	NA	86.4	NA	NA	NA	NA	NA	NA
Antimony	7440-36-0	**3**	ug/l	NA	NA	**72.78**	**72.7**	NA	NA	NA	NA	0.52 J	NA	NA	NA	NA	NA	NA
Arsenic	7440-38-2	25	ug/l	NA	NA	2.12	1.91	NA	NA	NA	NA	0.24 J	NA	NA	NA	NA	NA	NA
Barium	7440-39-3	1000	ug/l	NA	NA	84.79	85.83	NA	NA	NA	NA	176.2	NA	NA	NA	NA	NA	NA
Beryllium	7440-41-7	3	ug/l	NA	NA	<0.5 U	<0.5 U	NA	NA	NA	NA	<0.5 U	NA	NA	NA	NA	NA	NA
Cadmium	7440-43-9	5	ug/l	NA	NA	<0.2 U	<0.2 U	NA	NA	NA	NA	<0.2 U	NA	NA	NA	NA	NA	NA
Calcium	7440-70-2	NS	ug/l	NA	NA	122,000	123,000	NA	NA	NA	NA	146,000	NA	NA	NA	NA	NA	NA
Chromium, Hexavalent	18540-29-9	50	ug/l	NA	NA	<10 U	<10 U	NA	NA	NA	NA	<10 U	NA	NA	NA	NA	NA	NA
Chromium, Total	7440-47-3	50	ug/l	NA	NA	0.33 J	0.36 J	NA	NA	NA	NA	0.34 J	NA	NA	NA	NA	NA	NA
Chromium, Trivalent	16065-83-1	NS	ug/l	NA	NA	<10 U	<10 U	NA	NA	NA	NA	<10 U	NA	NA	NA	NA	NA	NA
Cobalt	7440-48-4	NS	ug/l	NA	NA	0.27 J	0.22 J	NA	NA	NA	NA	3.81	NA	NA	NA	NA	NA	NA
Copper	7440-50-8	200	ug/l	NA	NA	2.55	2.5	NA	NA	NA	NA	1.04	NA	NA	NA	NA	NA	NA
Cyanide	57-12-5	200	ug/l	NA	NA	8	4 J	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
Iron	7439-89-6	300	ug/l	NA	NA	144 J	111	NA	NA	NA	NA	204	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	25	ug/l	NA	NA	14.12	14.36	NA	NA	NA	NA	<1 U	NA	NA	NA	NA	NA	NA
Magnesium	7439-95-4	**35000**	ug/l	NA	NA	**78,500**	**79,200**	NA	NA	NA	NA	20,000	NA	NA	NA	NA	NA	NA
Manganese	7439-96-5	**300**	ug/l	NA	NA	17.12	16.73	NA	NA	NA	NA	**410.8**	NA	NA	NA	NA	NA	NA
Mercury	7439-97-6	0.7	ug/l	NA	NA	<0.2 U	0.09 J	NA	NA	NA	NA	<0.2 U	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	100	ug/l	NA	NA	2.25	2.54	NA	NA	NA	NA	5.39	NA	NA	NA	NA	NA	NA
Potassium	7440-09-7	NS	ug/l	NA	NA	30,100 J	30,200	NA	NA	NA	NA	17,600	NA	NA	NA	NA	NA	NA
Selenium	7782-49-2	**10**	ug/l	NA	NA	**14.5**	**14**	NA	NA	NA	NA	**24**	NA	NA	NA	NA	NA	NA
Silver	7440-22-4	50	ug/l	NA	NA	<0.4 U	<0.4 U	NA	NA	NA	NA	<0.4 U	NA	NA	NA	NA	NA	NA
Sodium	7440-23-5	**20000**	ug/l	NA	NA	**105,000**	**105,000**	NA	NA	NA	NA	**40,400**	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	0.5	ug/l	NA	NA	<1 U	<1 U	NA	NA	NA	NA	<1 U	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	NS	ug/l	NA	NA	<5 U	<5 U	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA	NA
Zinc	7440-66-6	2000	ug/l	NA	NA	9.7 J	9.4 J	NA	NA	NA	NA	<10 U	NA	NA	NA	NA	NA	NA
Per- and Polyfluoroalkyl Substances																		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	763051-92-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1H,1H,2H,2H-Perfluorodecane Sulfonic Acid (8:2 FTS)	39108-34-4	NS	ug/l	NA	NA	<0.00192 U	<0.00183 U	NA	NA	NA	NA	<0.00195 U	NA	NA	NA	NA	NA	NA
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	6HPFHXSA	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1H,1H,2H,2H-Perfluorooctane Sulfonic Acid (6:2 FTS)	27619-97-2	NS	ug/l	NA	NA	<0.00192 UJ	<0.00191 U	NA	NA	NA	NA	<0.00195 U	NA	NA	NA	NA	NA	NA
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3 FTCA)	914637-49-3	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Perfluoroheptyl Propanoic Acid (7:3 FTCA)	812-70-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Perfluoropropyl Propanoic Acid (3:3 FTCA)	356-02-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,8-Dioxa-3H-perfluorononanoic Acid (ADONA)	919005-14-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid (9Cl-PF3ONS)	756426-58-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	13252-13-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-ethyl Perfluorooctanesulfonamide (NEtFOSA)	4151-50-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	2991-50-6	NS	ug/l	NA	NA	<0.00192 U	<0.00183 U	NA	NA	NA	NA	<0.00195 U	NA	NA	NA	NA	NA	NA
N-ethyl Perfluorooctanesulfonamidoethanol (NEtFOSE)	1691-99-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-methyl Perfluorooctanesulfonamide (NMeFOSA)	31506-32-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	2355-31-9	NS	ug/l	NA	NA	<0.00192 U	<0.00183 U	NA	NA	NA	NA	<0.00195 U	NA	NA	NA	NA	NA	NA
N-methyl Perfluorooctanesulfonamidoethanol (NMeFOSE)	24448-09-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nonafluoro-3,6-dioxaheptanoic Acid (NFDHA)	151772-58-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoro(2-ethoxyethane)sulfonic Acid (PFEESA)	113507-82-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoro-3-methoxypropanoic Acid (PFMPA)	377-73-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoro-4-methoxybutanoic Acid (PFMBA)	863090-89-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorobutanesulfonic Acid (PFBS)	375-73-5	NS	ug/l	NA	NA	0.00365	0.0034	NA	NA	NA	NA	0.021	NA	NA	NA	NA	NA	NA
Perfluorobutanoic Acid (PFBA)	375-22-4	NS	ug/l	NA	NA	0.00698	0.00713	NA	NA	NA	NA	0.0123	NA	NA	NA	NA	NA	NA
Perfluorodecanesulfonic Acid (PFDS)	335-77-3	NS	ug/l	NA	NA	<0.00192 U	<0.00183 U	NA	NA	NA	NA	<0.00195 U	NA	NA	NA	NA	NA	NA
Perfluorodecanoic Acid (PFDA)	335-76-2	NS	ug/l	NA	NA	<0.00192 U	<0.00183 U	NA	NA	NA	NA	<0.00195 U	NA	NA	NA	NA	NA	NA
Perfluorododecanesulfonic Acid (PFDoS)	79780-39-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorododecanoic Acid (PFDoA)	307-55-1	NS	ug/l	NA	NA	<0.00192 U	<0.00183 U	NA	NA	NA	NA	<0.00195 U	NA	NA	NA	NA	NA	NA
Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	NS	ug/l	NA	NA	<0.00192 U	<0.00183 U	NA	NA	NA	NA	<0.00195 U	NA	NA	NA	NA	NA	NA
Perfluoroheptanoic Acid (PFHpA)	375-85-9	NS	ug/l	NA	NA	0.00591	0.00596	NA	NA	NA	NA	0.00863	NA	NA	NA	NA	NA	NA
Perfluorohexanesulfonic Acid (PFHxS)	355-46-4	NS	ug/l	NA	NA	0.00124 J	0.00112 J	NA	NA	NA	NA	0.00216	NA	NA	NA	NA	NA	NA
Perfluorohexanoic Acid (PFHxA)	307-24-4	NS	ug/l	NA	NA	0.00825	0.00848	NA	NA	NA	NA	0.00906	NA	NA	NA	NA	NA	NA
Perfluorononanesulfonic Acid (PFNS)	68259-12-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorononanoic Acid (PFNA)	375-95-1	NS	ug/l	NA	NA	0.000934 J	0.00118 J	NA	NA	NA	NA	0.00194 J	NA	NA	NA	NA	NA	NA
Perfluorooctanesulfonamide (PFOSA)	754-91-6	NS	ug/l	NA	NA	<0.00192 U	<0.00183 U	NA	NA	NA	NA	<0.00195 U	NA	NA	NA	NA	NA	NA
Perfluorooctanesulfonic Acid (PFOS)	1763-23-1	**0.0027**	ug/l	NA	NA	**0.00378**	**0.00416**	NA	NA	NA	NA	**0.00412 J**	NA	NA	NA	NA	NA	NA
Perfluorooctanoic Acid (PFOA)	335-67-1	**0.0067**	ug/l	NA	NA	**0.027**	**0.0274 J**	NA	NA	NA	NA	**0.0375**	NA	NA	NA	NA	NA	NA
Perfluoropentanesulfonic Acid (PFPeS)	2706-91-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoropentanoic Acid (PFPeA)	2706-90-3	NS	ug/l	NA	NA	0.0107	0.0109	NA	NA	NA	NA	0.00869	NA	NA	NA	NA	NA	NA
Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	NS	ug/l	NA	NA	<0.00192 U	<0.00183 U	NA	NA	NA	NA	<0.00195 UJ	NA	NA	NA	NA	NA	NA
Perfluorotridecanoic Acid (PFTrDA)	72629-94-8	NS	ug/l	NA	NA	<0.00192 U	<0.00183 U	NA	NA	NA	NA	<0.00195 U	NA	NA	NA	NA	NA	NA
Perfluoroundecanoic Acid (PFUnA)	2058-94-8	NS	ug/l	NA	NA	<0.00192 U	<0.00183 U	NA	NA	NA	NA	<0.00195 U	NA	NA	NA	NA	NA	NA
Total PFOA and PFOS	TOTPFOAPFOS	NS	ug/l	NA	NA	0.0308	0.0316	NA	NA	NA	NA	0.0416	NA	NA	NA	NA	NA	NA
General Chemistry																		
Chloride (As Cl)	16887-00-6	250000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	52,000	NA	NA	NA	NA
Ethane	74-84-0	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14	NA	NA	NA	NA
Ethene	74-85-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.801	NA	NA	NA	NA
Methane	74-82-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	609	NA	NA	NA	NA
Nitrogen, Ammonia (As N)	7664-41-7	**2000**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2,620**	NA	NA	NA	NA
Nitrogen, Nitrate (As N)	14797-55-8	**10000**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	698	NA	NA	NA	NA
Nitrogen, Nitrite	14797-65-0	1000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28 J	NA	NA	NA	NA
Phosphorus	7723-14-0	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,450	NA	NA	NA	NA
Sulfate (As SO4)	14808-79-8	250000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	53,000	NA	NA	NA	NA

Table 5A
Remedial Investigation Report
Groundwater Sample Analytical Results

514 Union Street
Brooklyn, New York
NYSDEC BCP Site No.: C224318
Langan Project No.: 170361307

Analyte	CAS Number	NYSDEC SGVs	Location	MW08D	MW08D	MW08DD	MW08S	MW08S	MW09D	MW10D	MW11D	MW11S	MW12S	MW12S	MW13D	MW13D	MW14S	MW15D
			Sample Name	MW08D_090922	MW08D_031326	MW08DD_091222	MW08S_110323	MW08S_031726	MW09D_091222	MW10D_090922	MW11D_090922	MW11S_090922	MW12S_091222	MW12S_031326	MW13D_091222	MW13D_031326	MW14S_031326	MW15D_032326
			Sample Date	09/09/2022	03/13/2026	09/12/2022	11/09/2023	03/17/2026	09/12/2022	09/09/2022	09/09/2022	09/09/2022	09/12/2022	03/13/2026	09/12/2022	03/13/2026	03/13/2026	03/23/2026
			Sample Depth	17-27	17-27	27-37	6-16	6-16	17-27	17-27	15-25	5-15	7-17	7-17	17-27	17-27	7-17	17-27
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Volatile Organic Compounds																		
1,1,1,2-Tetrachloroethane	630-20-6	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
1,1,1-Trichloroethane	71-55-6	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	3.7 J	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
1,1,2,2-Tetrachloroethane	79-34-5	5	ug/l	<2 U	<0.5 U	<0.5 U	<2.5 U	<0.5 U	<2.5 U	<1 U	<25 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<2.5 U	<1.2 U	<0.5 U
1,1,2-Trichloroethane	79-00-5	**1**	ug/l	<8 U	<1.5 U	<1.5 U	<7.5 U	<1.5 U	<7.5 U	<3 U	<75 U	<1.5 U	<1.5 U	<3 U	<1.5 U	<7.5 U	<3.8 U	<1.5 U
1,1-Dichloroethane	75-34-3	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
1,1-Dichloroethene	75-35-4	**5**	ug/l	<2 U	<0.5 U	<0.5 U	0.84 J	<0.5 U	4.7	<1 U	**17 J**	0.86	<0.5 U	<1 U	<0.5 U	2.8	<1.2 U	**13**
1,1-Dichloropropene	563-58-6	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
1,2,3-Trichlorobenzene	87-61-6	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 UJ	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
1,2,3-Trichloropropane	96-18-4	0.04	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
1,2,4,5-Tetramethylbenzene	95-93-2	**5**	ug/l	<8 U	<2 U	<2 U	<10 U	<2 U	**26 J**	<4 U	<100 U	<2 U	<2 U	<4 U	<2 U	<10 U	<5 U	0.93 J
1,2,4-Trichlorobenzene	120-82-1	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
1,2,4-Trimethylbenzene	95-63-6	**5**	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	**330**	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	3.1
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	ug/l	<10 U	<2.5 U	<2.5 U	<12 UJ	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.0006	ug/l	<8 U	<2 U	<2 U	<10 U	<2 U	<10 U	<4 U	<100 U	<2 U	<2 U	<4 U	<2 U	<10 U	<5 U	<2 U
1,2-Dichlorobenzene	95-50-1	3	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
1,2-Dichloroethane	107-06-2	0.6	ug/l	<2 U	<0.5 U	<0.5 U	<2.5 U	<0.5 U	<2.5 U	<1 U	<25 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<2.5 U	<1.2 U	<0.5 U
1,2-Dichloropropane	78-87-5	1	ug/l	<4 U	<1 U	<1 U	<5 U	<1 U	<5 U	<2 U	<50 U	<1 U	<1 U	<2 U	<1 U	<5 U	<2.5 U	<1 U
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	**5**	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	**100**	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	**5.3**
1,3-Dichlorobenzene	541-73-1	3	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
1,3-Dichloropropane	142-28-9	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
1,4-Dichlorobenzene	106-46-7	3	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
1,4-Diethyl Benzene	105-05-5	NS	ug/l	<8 U	<2 U	<2 U	<10 U	<2 U	61	<4 U	<100 U	<2 U	<2 U	<4 U	<2 U	<10 U	<5 U	2
1,4-Dioxane (P-Dioxane)	123-91-1	0.35	ug/l	<1,000 U	<250 U	<250 U	<1,200 UJ	<250 U	<1,200 U	<500 U	<12,000 U	<250 U	<250 U	<500 U	<250 U	<1,200 U	<620 U	<250 U
2,2-Dichloropropane	594-20-7	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
2-Chlorotoluene	95-49-8	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
2-Hexanone (MBK)	591-78-6	50	ug/l	<20 U	<5 U	<5 U	<25 U	<5 U	<25 U	<10 U	<250 U	<5 U	<5 U	<10 U	<5 U	<25 U	<12 U	<5 U
4-Chlorotoluene	106-43-4	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
4-Ethyltoluene	622-96-8	NS	ug/l	<8 U	<2 U	<2 U	<10 U	<2 U	190	<4 U	<100 U	<2 U	<2 U	<4 U	<2 U	<10 U	<5 U	2.5
Acetone	67-64-1	**50**	ug/l	<20 U	<5 U	<5 U	<25 U	<5 U	48	<10 U	<250 U	<5 U	<5 U	**860**	<5 U	<29 U	**300**	<5 U
Acrylonitrile	107-13-1	5	ug/l	<20 U	<5 U	<5 U	<25 U	<5 U	<25 U	<10 U	<250 U	<5 U	<5 U	<10 U	<5 U	<25 U	<12 U	<5 U
Benzene	71-43-2	**1**	ug/l	<2 U	<0.5 U	<0.5 U	<2.5 U	<0.5 U	**17**	**3.8**	**25**	0.44 J	<0.5 U	<1 U	<0.5 U	<2.5 U	<1.2 U	**190**
Bromobenzene	108-86-1	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
Bromochloromethane	74-97-5	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
Bromodichloromethane	75-27-4	50	ug/l	<2 U	<0.5 U	<0.5 U	<2.5 U	<0.5 U	<2.5 U	<1 U	<25 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<2.5 U	<1.2 U	<0.5 U
Bromoform	75-25-2	50	ug/l	<8 U	<2 U	<2 U	<10 U	<2 U	<10 U	<4 U	<100 U	<2 U	<2 U	<4 U	<2 U	<10 U	<5 U	<2 U
Bromomethane	74-83-9	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
Carbon Disulfide	75-15-0	60	ug/l	<20 U	<5 U	<5 U	<25 U	<5 U	<25 U	<10 U	<250 U	<5 U	<5 U	<10 U	<5 U	<25 U	<12 U	<5 U
Carbon Tetrachloride	56-23-5	5	ug/l	<2 U	<0.5 U	<0.5 U	<2.5 U	<0.5 U	<2.5 U	<1 U	<25 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<2.5 U	<1.2 U	<0.5 U
Chlorobenzene	108-90-7	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
Chloroethane	75-00-3	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	4.7
Chloroform	67-66-3	**7**	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
Chloromethane	74-87-3	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
Cis-1,2-Dichloroethene	156-59-2	**5**	ug/l	**440**	<2.5 U	2.1 J	**600**	2.4 J	**3,000**	1.9 J	**2,800**	**140**	2.3 J	<5 U	2.2 J	**1,700**	<6.2 U	**6,300 J**
Cis-1,3-Dichloropropene	10061-01-5	0.4	ug/l	<2 U	<0.5 U	<0.5 U	<2.5 U	<0.5 U	<2.5 U	<1 U	<25 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<2.5 U	<1.2 U	<0.5 U
Cymene	99-87-6	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	4 J	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
Dibromochloromethane	124-48-1	50	ug/l	<2 U	<0.5 U	<0.5 U	<2.5 U	<0.5 U	<2.5 U	<1 U	<25 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<2.5 U	<1.2 U	<0.5 U
Dibromomethane	74-95-3	5	ug/l	<20 U	<5 U	<5 U	<25 U	<5 U	<25 U	<10 U	<250 U	<5 U	<5 U	<10 U	<5 U	<25 U	<12 U	<5 U
Dichlorodifluoromethane	75-71-8	5	ug/l	<20 U	<5 U	<5 U	<25 U	<5 U	<25 U	<10 U	<250 U	<5 U	<5 U	<10 U	<5 U	<25 U	<12 U	<5 U
Diethyl Ether (Ethyl Ether)	60-29-7	NS	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
Ethylbenzene	100-41-4	**5**	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	**250**	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	1.5 J
Hexachlorobutadiene	87-68-3	0.5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
Isopropylbenzene (Cumene)	98-82-8	**5**	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	**28**	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	**22**
M,P-Xylene	179601-23-1	**5**	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	**910**	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	**6.6**
Methyl Ethyl Ketone (2-Butanone)	78-93-3	50	ug/l	<20 U	<5 U	<5 U	<25 U	<5 U	<25 U	<10 U	<250 U	<5 U	<5 U	<10 U	<5 U	<25 U	<12 U	<5 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	NS	ug/l	<20 UJ	<5 U	<5 U	<25 U	<5 U	<25 U	<10 UJ	<250 UJ	<5 UJ	<5 U	<10 U	<5 U	<25 U	<12 U	1.1 J
Methylene Chloride	75-09-2	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	3
Naphthalene	91-20-3	**10**	ug/l	<10 U	<2.5 U	<2.5 U	<12 UJ	<2.5 U	**110**	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	**15**
n-Butylbenzene	104-51-8	**5**	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	**7.1 J**	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	2 J
n-Propylbenzene	103-65-1	**5**	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	**41**	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	4.5
o-Xylene (1,2-Dimethylbenzene)	95-47-6	**5**	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	**120**	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	1.9 J
Sec-Butylbenzene	135-98-8	**5**	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	**5.3 J**	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	2.9
Styrene	100-42-5	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
T-Butylbenzene	98-06-6	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	1 J
Tert-Butyl Methyl Ether (MTBE)	1634-04-4	10	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
Tetrachloroethene (PCE)	127-18-4	**5**	ug/l	<2 U	<0.5 U	0.18 J	<2.5 U	<0.5 U	**40**	0.92 J	**36**	0.2 J	<0.5 U	<1 U	0.29 J	4.5	<1.2 U	1.2
Toluene	108-88-3	**5**	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	**76**	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	**37**
Total 1,2-Dichloroethene (Cis and Trans)	540-59-0	NS	ug/l	440	<2.5 U	2.1 J	600	2.4 J	3,000 J	1.9 J	2,800	140	2.3 J	<5 U	2.2 J	1,700	<6.2 U	6,300
Total Xylenes	1330-20-7	**5**	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	**1,000**	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	**8.5 J**
Total, 1,3-Dichloropropene (Cis And Trans)	542-75-6	0.4	ug/l	<2 U	<0.5 U	<0.5 U	<2.5 U	<0.5 U	<2.5 U	<1 U	<25 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<2.5 U	<1.2 U	<0.5 U
Trans-1,2-Dichloroethene	156-60-5	**5**	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	**8.9 J**	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	**23**
Trans-1,3-Dichloropropene	10061-02-6	0.4	ug/l	<2 U	<0.5 U	<0.5 U	<2.5 U	<0.5 U	<2.5 U	<1 U	<25 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<2.5 U	<1.2 U	<0.5 U
Trans-1,4-Dichloro-2-Butene	110-57-6	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
Trichloroethene (TCE)	79-01-6	**5**	ug/l	**65**	<0.5 U	0.92	3.8	1.8	**8,300**	**250**	**6,900**	**13**	2.9	<1 U	2.5	**960**	<1.2 U	**1,000 J**
Trichlorofluoromethane	75-69-4	5	ug/l	<10 U	<2.5 U	<2.5 U	<12 U	<2.5 U	<12 U	<5 U	<120 U	<2.5 U	<2.5 U	<5 U	<2.5 U	<12 U	<6.2 U	<2.5 U
Vinyl Acetate	108-05-4	NS	ug/l	<20 U	<5 U	<5 U	<25 U	<5 U	<25 U	<10 U	<250 U	<5 U	<5 U	<10 U	<5 U	<25 U	<12 U	<5 UJ
Vinyl Chloride	75-01-4	**2**	ug/l	0.53 J	<1 U	<1 U	<5 U	0.13 J	**82**	0.14 J	**390**	**2.9**	<1 U	**3.6**	<1 U	**10**	<2.5 U	**1,200 J**
Total CVOCs	TOTALCVOCS	NS	ug/l	505.53	ND	3.2	604.64	4.33	11439.3	252.96	10143	156.96	5.2	3.6	4.99	2677.3	ND	8541.9

Table 5A
Remedial Investigation Report
Groundwater Sample Analytical Results

514 Union Street
Brooklyn, New York
NYSDEC BCP Site No.: C224318
Langan Project No.: 170361307

Analyte	CAS Number	NYSDEC SGVs	Location	MW08D	MW08D	MW08DD	MW08S	MW08S	MW09D	MW10D	MW11D	MW11S	MW12S	MW12S	MW13D	MW13D	MW14S	MW15D
			Sample Name	MW08D_090922	MW08D_031326	MW08DD_091222	MW08S_110323	MW08S_031726	MW09D_091222	MW10D_090922	MW11D_090922	MW11S_090922	MW12S_091222	MW12S_031326	MW13D_091222	MW13D_031326	MW14S_031326	MW15D_032326
			Sample Date	09/09/2022	03/13/2026	09/12/2022	11/03/2023	03/17/2026	09/12/2022	09/09/2022	09/09/2022	09/09/2022	09/12/2022	03/13/2026	09/12/2022	03/13/2026	03/13/2026	03/23/2026
			Sample Depth	17-27	17-27	27-37	6-16	6-16	17-27	17-27	15-25	5-15	7-17	7-17	17-27	17-27	7-17	17-27
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Semi-Volatile Organic Compounds																		
1,2,4,5-Tetrachlorobenzene	95-94-3	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	3	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	3	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	3	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dioxane (P-Dioxane)	123-91-1	**0.35**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	95-95-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	88-06-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	120-83-2	1	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	105-67-9	1	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	51-28-5	1	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	121-14-2	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	606-20-2	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	91-58-7	10	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	95-57-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	91-57-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol (o-Cresol)	95-48-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	88-74-4	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	88-75-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 & 4 Methylphenol (m&p Cresol)	65794-96-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	91-94-1	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	99-09-2	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-Methylphenol	534-52-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl Phenyl Ether	101-55-3	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-Methylphenol	59-50-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	106-47-8	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl Phenyl Ether	7005-72-3	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	100-01-6	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	100-02-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	83-32-9	20	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	208-96-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	98-86-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	120-12-7	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	56-55-3	**0.002**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	**0**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	**0.002**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)Perylene	191-24-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	207-08-9	**0.002**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzoic Acid	65-85-0	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	100-51-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzyl Butyl Phthalate	85-68-7	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl (Diphenyl)	92-52-4	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy) methane	111-91-1	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethyl) ether (2-chloroethyl ether)	111-44-4	1	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroisopropyl) ether	108-60-1	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl) phthalate	117-81-7	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	86-74-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	218-01-9	**0.002**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	53-70-3	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibutyl phthalate	84-74-2	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	84-66-2	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	131-11-3	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dioctyl phthalate	117-84-0	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	206-44-0	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	86-73-7	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	**0.04**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	87-68-3	0.5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	77-47-4	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	67-72-1	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	193-39-5	**0.002**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	78-59-1	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	**10**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	98-95-3	0.4	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodi-N-Propylamine	621-64-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	86-30-6	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	87-86-5	1	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	1	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	129-00-0	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5A
Remedial Investigation Report
Groundwater Sample Analytical Results

514 Union Street
Brooklyn, New York
NYSDEC BCP Site No.: C224318
Langan Project No.: 170361307

Analyte	CAS Number	NYSDEC SGVs	Location	MW08D	MW08D	MW08DD	MW08S	MW08S	MW09D	MW10D	MW11D	MW11S	MW12S	MW12S	MW13D	MW13D	MW14S	MW15D
			Sample Name	MW08D_090922	MW08D_031326	MW08DD_091222	MW08S_110323	MW08S_031726	MW09D_091222	MW10D_090922	MW11D_090922	MW11S_090922	MW12S_091222	MW12S_031326	MW13D_091222	MW13D_031326	MW14S_031326	MW15D_032326
			Sample Date	09/09/2022	03/13/2026	09/12/2022	11/08/2023	03/17/2026	09/12/2022	09/09/2022	09/09/2022	09/09/2022	09/12/2022	03/13/2026	09/12/2022	03/13/2026	03/13/2026	03/23/2026
			Sample Depth	17-27	17-27	27-37	6-16	6-16	17-27	17-27	15-25	5-15	7-17	7-17	17-27	17-27	7-17	17-27
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Pesticides																		
4,4'-DDD	72-54-8	0.3	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	72-55-9	0.2	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	50-29-3	0.2	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	309-00-2	0	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha BHC (Alpha Hexachlorocyclohexane)	319-84-6	0.01	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha Chlordane	5103-71-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha Endosulfan	959-98-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beta Bhc (Beta Hexachlorocyclohexane)	319-85-7	0.04	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beta Endosulfan	33213-65-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane (alpha and gamma)	57-74-9	0.05	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta Bhc (Delta Hexachlorocyclohexane)	319-86-8	0.04	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	60-57-1	0.004	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	1031-07-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	72-20-8	0	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Aldehyde	7421-93-4	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	53494-70-5	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma Bhc (Lindane)	58-89-9	0.05	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma Chlordane (Trans)	5103-74-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	76-44-8	0.04	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor Epoxide	1024-57-3	0.03	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	72-43-5	35	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toxaphene	8001-35-2	0.06	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides																		
2,4,5-T (Trichlorophenoxyacetic Acid)	93-76-5	35	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-D (Dichlorophenoxyacetic Acid)	94-75-7	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silvex (2,4,5-Tp)	93-72-1	0.26	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyl																		
PCB-1016 (Aroclor 1016)	12674-11-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1221 (Aroclor 1221)	11104-28-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1232 (Aroclor 1232)	11141-16-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1242 (Aroclor 1242)	53469-21-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1248 (Aroclor 1248)	12672-29-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1254 (Aroclor 1254)	11097-69-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1260 (Aroclor 1260)	11096-82-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1262 (Aroclor 1262)	37324-23-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1268 (Aroclor 1268)	11100-14-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	1336-36-3	0.09	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals - Dissolved																		
Aluminum	7429-90-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	7440-36-0	**3**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	7440-38-2	25	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	7440-39-3	1000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7440-41-7	3	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	7440-43-9	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	7440-70-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Total	7440-47-3	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	7440-48-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	7440-50-8	200	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	7439-89-6	300	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	25	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	7439-95-4	**35000**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	7439-96-5	**300**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	7439-97-6	0.7	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	100	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	7440-09-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	7782-49-2	**10**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	7440-22-4	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	7440-23-5	**20000**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	0.5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	7440-66-6	2000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5A
Remedial Investigation Report
Groundwater Sample Analytical Results

514 Union Street
Brooklyn, New York
NYSDEC BCP Site No.: C224318
Langan Project No.: 170361307

Analyte	CAS Number	NYSDEC SGVs	Location	MW08D	MW08D	MW08DD	MW08S	MW08S	MW09D	MW10D	MW11D	MW11S	MW12S	MW12S	MW13D	MW13D	MW14S	MW15D
			Sample Name	MW08D_090922	MW08D_031326	MW08DD_091222	MW08S_110323	MW08S_031726	MW09D_091222	MW10D_090922	MW11D_090922	MW11S_090922	MW12S_091222	MW12S_031326	MW13D_091222	MW13D_031326	MW14S_031326	MW15D_032326
			Sample Date	09/09/2022	03/13/2026	09/12/2022	11/03/2023	03/17/2026	09/12/2022	09/09/2022	09/09/2022	09/09/2022	09/12/2022	03/13/2026	09/12/2022	03/13/2026	03/13/2026	03/23/2026
			Sample Depth	17-27	17-27	27-37	6-16	6-16	17-27	17-27	15-25	5-15	7-17	7-17	17-27	17-27	7-17	17-27
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Metals - Total																		
Aluminum	7429-90-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	7440-36-0	**3**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	7440-38-2	25	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	7440-39-3	1000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7440-41-7	3	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	7440-43-9	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	7440-70-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Hexavalent	18540-29-9	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Total	7440-47-3	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Trivalent	16065-83-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	7440-48-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	7440-50-8	200	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	57-12-5	200	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	7439-89-6	300	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	25	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	7439-95-4	**35000**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	7439-96-5	**300**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	7439-97-6	0.7	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	100	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	7440-09-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	7782-49-2	**10**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	7440-22-4	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	7440-23-5	**20000**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	0.5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	7440-66-6	2000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Per- and Polyfluoroalkyl Substances																		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	763051-92-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1H,1H,2H,2H-Perfluorodecane Sulfonic Acid (8:2 FTS)	39108-34-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	6HPFHXSA	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1H,1H,2H,2H-Perfluorooctane Sulfonic Acid (6:2 FTS)	27619-97-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3 FTCA)	914637-49-3	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Perfluoroheptyl Propanoic Acid (7:3 FTCA)	812-70-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Perfluoropropyl Propanoic Acid (3:3 FTCA)	356-02-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,8-Dioxa-3H-perfluorononanoic Acid (ADONA)	919005-14-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid (9Cl-PF3ONS)	756426-58-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	13252-13-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-ethyl Perfluorooctanesulfonamide (NEtFOSA)	4151-50-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	2991-50-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-ethyl Perfluorooctanesulfonamidoethanol (NEtFOSE)	1691-99-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-methyl Perfluorooctanesulfonamide (NMeFOSA)	31506-32-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	2355-31-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-methyl Perfluorooctanesulfonamidoethanol (NMeFOSE)	24448-09-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nonafluoro-3,6-dioxaheptanoic Acid (NFDHA)	151772-58-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoro(2-ethoxyethane)sulfonic Acid (PFEESA)	113507-82-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoro-3-methoxypropanoic Acid (PFMPA)	377-73-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoro-4-methoxybutanoic Acid (PFMBA)	863090-89-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorobutanesulfonic Acid (PFBS)	375-73-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorobutanoic Acid (PFBA)	375-22-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorodecanesulfonic Acid (PFDS)	335-77-3	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorodecanoic Acid (PFDA)	335-76-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorododecanesulfonic Acid (PFDoS)	79780-39-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorododecanoic Acid (PFDoA)	307-55-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoroheptanoic Acid (PFHpA)	375-85-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorohexanesulfonic Acid (PFHxS)	355-46-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorohexanoic Acid (PFHxA)	307-24-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorononanesulfonic Acid (PFNS)	68259-12-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorononanoic Acid (PFNA)	375-95-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanesulfonamide (PFOSA)	754-91-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanesulfonic Acid (PFOS)	1763-23-1	**0.0027**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanoic Acid (PFOA)	335-67-1	**0.0067**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoropentanesulfonic Acid (PFPeS)	2706-91-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoropentanoic Acid (PFPeA)	2706-90-3	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorotridecanoic Acid (PFTrDA)	72629-94-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoroundecanoic Acid (PFUnA)	2058-94-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PFOA and PFOS	TOTPFOAPFOS	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry																		
Chloride (As Cl)	16887-00-6	250000	ug/l	34,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethane	74-84-0	NS	ug/l	0.64	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	74-85-1	NS	ug/l	<0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	74-82-8	NS	ug/l	2.97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Ammonia (As N)	7664-41-7	**2000**	ug/l	326 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Nitrate (As N)	14797-55-8	**10000**	ug/l	**18,600**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Nitrite	14797-65-0	1000	ug/l	30 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphorus	7723-14-0	NS	ug/l	92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate (As SO4)	14808-79-8	250000	ug/l	120,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5A
Remedial Investigation Report
Groundwater Sample Analytical Results

514 Union Street
Brooklyn, New York
NYSDEC BCP Site No.: C224318
Langan Project No.: 170361307

Analyte	CAS Number	NYSDEC SGVs	Location	MW16D	MW16D	MW16DD	MW16DD	MW16S	MW16S	MW17D	MW17D	MW17DD	MW17S	MW17S	MW17S	MW17S	MW18D	MW18D
			Sample Name	MW16D_110623	MW16D_031326	MW16DD_110623	MW16DD_031326	MW16S_110623	MW16S_031326	MW17D_110323	MW17D_031326	MW17DD_031326	MW17S_062923	MW17S_102723	GWDUP01_102723	MW17S_031326	MW18D_062923	MW18D_102723
			Sample Date	11/06/2023	03/13/2026	11/06/2023	03/13/2026	11/06/2023	03/13/2026	11/03/2023	03/13/2026	03/13/2026	06/29/2023	10/27/2023	10/27/2023	03/13/2026	06/29/2023	10/27/2023
			Sample Depth	18-28	18-28	35-40	35-40	7-17	7-17	17-27	17-27	30-40	7-17	7-17	7-17	6-16	17-27	17-27
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Volatile Organic Compounds																		
1,1,1,2-Tetrachloroethane	630-20-6	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
1,1,1-Trichloroethane	71-55-6	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
1,1,2,2-Tetrachloroethane	79-34-5	5	ug/l	<50 U	<5 U	<0.5 U	<1.2 U	<100 U	<5 U	<0.5 U	<2.5 U	<0.5 U	<25 U	<2.5 U	<2 U	<5 U	<50 U	<100 U
1,1,2-Trichloroethane	79-00-5	**1**	ug/l	<150 U	**5.9 J**	<1.5 U	<3.8 U	<300 U	<15 U	<1.5 U	<7.5 U	<1.5 U	<75 U	<7.5 U	<6 U	<15 U	<150 U	<300 U
1,1-Dichloroethane	75-34-3	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
1,1-Dichloroethene	75-35-4	**5**	ug/l	<50 U	<5 U	0.19 J	<1.2 U	**48 J**	<5 U	<0.5 U	<2.5 U	<0.5 U	**10 J**	**9.4**	**8.4**	<5 U	<50 U	**40 J**
1,1-Dichloropropene	563-58-6	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
1,2,3-Trichlorobenzene	87-61-6	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 UJ	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
1,2,3-Trichloropropane	96-18-4	0.04	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
1,2,4,5-Tetramethylbenzene	95-93-2	**5**	ug/l	<200 U	<20 U	<2 U	<5 U	<400 U	<20 U	<2 U	<10 U	<2 U	<100 U	<10 U	<8 U	<20 U	<200 U	<400 U
1,2,4-Trichlorobenzene	120-82-1	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
1,2,4-Trimethylbenzene	95-63-6	**5**	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 UJ	<12 U	<2.5 U	<120 UJ	<12 U	<10 U	<25 U	<250 UJ	<500 U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.0006	ug/l	<200 U	<20 U	<2 U	<5 U	<400 U	<20 U	<2 U	<10 U	<2 U	<100 U	<10 U	<8 U	<20 U	<200 U	<400 U
1,2-Dichlorobenzene	95-50-1	3	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
1,2-Dichloroethane	107-06-2	0.6	ug/l	<50 U	<5 U	<0.5 U	<1.2 U	<100 U	<5 U	<0.5 U	<2.5 U	<0.5 U	<25 U	<2.5 U	<2 U	<5 U	<50 U	<100 U
1,2-Dichloropropane	78-87-5	1	ug/l	<100 U	<10 U	<1 U	<2.5 U	<200 U	<10 U	<1 U	<5 U	<1 U	<50 U	<5 U	<4 U	<10 U	<100 U	<200 U
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	**5**	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
1,3-Dichlorobenzene	541-73-1	3	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
1,3-Dichloropropane	142-28-9	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
1,4-Dichlorobenzene	106-46-7	3	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
1,4-Diethyl Benzene	105-05-5	NS	ug/l	<200 U	<20 U	<2 U	<5 U	<400 U	<20 U	<2 U	<10 U	<2 U	<100 U	<10 U	<8 U	<20 U	<200 U	<400 U
1,4-Dioxane (P-Dioxane)	123-91-1	0.35	ug/l	<25,000 U	<2,500 U	<250 U	<620 U	<50,000 U	<2,500 U	<250 UJ	<1,200 U	<250 U	<12,000 U	<1,200 U	<1,000 U	<2,500 U	<25,000 U	<50,000 U
2,2-Dichloropropane	594-20-7	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
2-Chlorotoluene	95-49-8	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
2-Hexanone (MBK)	591-78-6	50	ug/l	<500 U	<50 U	<5 U	<12 U	<1,000 U	<50 U	<5 U	<25 U	<5 U	<250 UJ	<25 U	<20 U	<50 U	<500 UJ	<1,000 U
4-Chlorotoluene	106-43-4	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
4-Ethyltoluene	622-96-8	NS	ug/l	<200 U	<20 U	<2 U	<5 U	<400 U	<20 U	<2 U	<10 U	<2 U	<100 U	<10 U	<8 U	<20 U	<200 U	<400 U
Acetone	67-64-1	**50**	ug/l	<500 U	**520**	<5 U	**260**	<1,000 U	**1,200**	<5 U	**830**	**89**	<250 UJ	<25 U	<20 U	**1,400**	<500 UJ	<1,000 U
Acrylonitrile	107-13-1	5	ug/l	<500 U	<50 U	<5 U	<12 U	<1,000 U	<50 U	<5 U	<25 U	<5 U	<250 U	<25 U	<20 U	<50 U	<500 U	<1,000 U
Benzene	71-43-2	**1**	ug/l	**21 J**	<5 U	<0.5 U	<1.2 U	**66 J**	<5 U	<0.5 U	<2.5 U	0.63	<25 U	<2.5 U	<2 U	<5 U	<50 U	<100 U
Bromobenzene	108-86-1	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Bromochloromethane	74-97-5	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Bromodichloromethane	75-27-4	50	ug/l	<50 U	<5 U	<0.5 U	<1.2 U	<100 U	<5 U	<0.5 U	<2.5 U	<0.5 U	<25 U	<2.5 U	<2 U	<5 U	<50 U	<100 U
Bromoform	75-25-2	50	ug/l	<200 U	<20 U	<2 U	<5 U	<400 U	<20 U	<2 U	<10 U	<2 U	<100 U	<10 U	<8 U	<20 U	<200 U	<400 U
Bromomethane	74-83-9	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Carbon Disulfide	75-15-0	60	ug/l	<500 U	<50 U	<5 U	<12 U	<1,000 U	<50 U	<5 U	<25 U	<5 U	<250 U	<25 U	<20 U	<50 U	<500 U	<1,000 U
Carbon Tetrachloride	56-23-5	5	ug/l	<50 U	<5 U	<0.5 U	<1.2 U	<100 U	<5 U	<0.5 U	<2.5 U	<0.5 U	<25 U	<2.5 U	<2 U	<5 U	<50 U	<100 U
Chlorobenzene	108-90-7	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Chloroethane	75-00-3	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Chloroform	67-66-3	**7**	ug/l	<250 U	**8.7 J**	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Chloromethane	74-87-3	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Cis-1,2-Dichloroethene	156-59-2	**5**	ug/l	**3,000**	**1,000**	**12**	2 J	**9,000**	**24 J**	2.4 J	4.7 J	2.1 J	**1,100**	**440**	**400**	<25 U	**2,200**	**5,100**
Cis-1,3-Dichloropropene	10061-01-5	0.4	ug/l	<50 U	<5 U	<0.5 U	<1.2 U	<100 U	<5 U	<0.5 U	<2.5 U	<0.5 U	<25 U	<2.5 U	<2 U	<5 U	<50 U	<100 U
Cymene	99-87-6	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Dibromochloromethane	124-48-1	50	ug/l	<50 U	<5 U	<0.5 U	<1.2 U	<100 U	<5 U	<0.5 U	<2.5 U	<0.5 U	<25 U	<2.5 U	<2 U	<5 U	<50 U	<100 U
Dibromomethane	74-95-3	5	ug/l	<500 U	<50 U	<5 U	<12 U	<1,000 U	<50 U	<5 U	<25 U	<5 U	<250 U	<25 U	<20 U	<50 U	<500 U	<1,000 U
Dichlorodifluoromethane	75-71-8	5	ug/l	<500 U	<50 U	<5 U	<12 U	<1,000 U	<50 U	<5 U	<25 U	<5 U	<250 U	<25 U	<20 U	<50 U	<500 U	<1,000 U
Diethyl Ether (Ethyl Ether)	60-29-7	NS	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Ethylbenzene	100-41-4	**5**	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Hexachlorobutadiene	87-68-3	0.5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Isopropylbenzene (Cumene)	98-82-8	**5**	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
M,P-Xylene	179601-23-1	**5**	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	50	ug/l	<500 U	<50 U	<5 U	<12 U	<1,000 U	<50 U	<5 U	<25 U	6.8	<250 U	<25 U	<20 U	<50 U	<500 U	<1,000 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	NS	ug/l	<500 U	<50 U	<5 U	<12 U	<1,000 U	<50 U	<5 U	<25 U	<5 U	<250 U	<25 U	<20 U	<50 U	<500 U	<1,000 U
Methylene Chloride	75-09-2	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Naphthalene	91-20-3	**10**	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 UJ	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
n-Butylbenzene	104-51-8	**5**	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
n-Propylbenzene	103-65-1	**5**	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
o-Xylene (1,2-Dimethylbenzene)	95-47-6	**5**	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Sec-Butylbenzene	135-98-8	**5**	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Styrene	100-42-5	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
T-Butylbenzene	98-06-6	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Tert-Butyl Methyl Ether (MTBE)	1634-04-4	10	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Tetrachloroethene (PCE)	127-18-4	**5**	ug/l	**33 J**	**17**	**11**	3	**97 J**	<5 U	2.3	<2.5 U	0.64	**31**	2.4 J	2.5	<5 U	**33 J**	**88 J**
Toluene	108-88-3	**5**	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Total 1,2-Dichloroethene (Cis and Trans)	540-59-0	NS	ug/l	3,000	1,000	12	2 J	9,000	24 J	2.4 J	4.7 J	2.1 J	1,100	440 J	400 J	<25 U	2,200	5,100
Total Xylenes	1330-20-7	**5**	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Total, 1,3-Dichloropropene (Cis And Trans)	542-75-6	0.4	ug/l	<50 U	<5 U	<0.5 U	<1.2 U	<100 U	<5 U	<0.5 U	<2.5 U	<0.5 U	<25 U	<2.5 U	<2 U	<5 U	<50 U	<100 U
Trans-1,2-Dichloroethene	156-60-5	**5**	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	3.6 J	3.4 J	<25 U	<250 U	<500 U
Trans-1,3-Dichloropropene	10061-02-6	0.4	ug/l	<50 U	<5 U	<0.5 U	<1.2 U	<100 U	<5 U	<0.5 U	<2.5 U	<0.5 U	<25 U	<2.5 U	<2 U	<5 U	<50 U	<100 U
Trans-1,4-Dichloro-2-Butene	110-57-6	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Trichloroethene (TCE)	79-01-6	**5**	ug/l	**11,000**	**320**	**42**	**14**	**39,000**	**20**	**15**	2.1 J	1.2	**4,100**	**520**	**510**	4.8 J	**9,300**	**37,000**
Trichlorofluoromethane	75-69-4	5	ug/l	<250 U	<25 U	<2.5 U	<6.2 U	<500 U	<25 U	<2.5 U	<12 U	<2.5 U	<120 U	<12 U	<10 U	<25 U	<250 U	<500 U
Vinyl Acetate	108-05-4	NS	ug/l	<500 U	<50 U	<5 U	<12 U	<1,000 U	<50 U	<5 U	<25 U	<5 U	<250 U	<25 U	<20 U	<50 U	<500 U	<1,000 U
Vinyl Chloride	75-01-4	**2**	ug/l	**130**	<10 U	0.2 J	<2.5 U	**490**	<10 U	<1 U	<5 U	<1 U	**7.2 J**	**5.7**	**5.1**	<10 U	**47 J**	**180 J**
Total CVOCs	TOTALCVOCS	NS	ug/l	14163	1337	65.39	19	48635	44	19.7	6.8	3.94	5248.2	981.1	929.4	4.8	11580	42408

Table 5A
Remedial Investigation Report
Groundwater Sample Analytical Results

514 Union Street
Brooklyn, New York
NYSDEC BCP Site No.: C224318
Langan Project No.: 170361307

Analyte	CAS Number	NYSDEC SGVs	Location	MW16D	MW16D	MW16DD	MW16DD	MW16S	MW16S	MW17D	MW17D	MW17DD	MW17S	MW17S	MW17S	MW17S	MW18D	MW18D
			Sample Name	MW16D_110623	MW16D_031326	MW16DD_110623	MW16DD_031326	MW16S_110623	MW16S_031326	MW17D_110323	MW17D_031326	MW17DD_031326	MW17S_062923	MW17S_102723	GWDUP01_102723	MW17S_031326	MW18D_062923	MW18D_102723
			Sample Date	11/06/2023	03/13/2026	11/06/2023	03/13/2026	11/06/2023	03/13/2026	11/03/2023	03/13/2026	03/13/2026	06/29/2023	10/27/2023	10/27/2023	03/13/2026	06/29/2023	10/27/2023
			Sample Depth	18-28	18-28	35-40	35-40	7-17	7-17	17-27	17-27	30-40	7-17	7-17	7-17	6-16	17-27	17-27
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Semi-Volatile Organic Compounds																		
1,2,4,5-Tetrachlorobenzene	95-94-3	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10 U	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120-82-1	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	3	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	541-73-1	3	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	3	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA
1,4-Dioxane (P-Dioxane)	123-91-1	**0.35**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.758**	**0.688**	NA	NA	NA
2,4,5-Trichlorophenol	95-95-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	88-06-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
2,4-Dichlorophenol	120-83-2	1	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
2,4-Dimethylphenol	105-67-9	1	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
2,4-Dinitrophenol	51-28-5	1	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20 U	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	121-14-2	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	606-20-2	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
2-Chloronaphthalene	91-58-7	10	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.2 U	NA	NA	NA	NA	NA
2-Chlorophenol	95-57-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA
2-Methylnaphthalene	91-57-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA
2-Methylphenol (o-Cresol)	95-48-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
2-Nitroaniline	88-74-4	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
2-Nitrophenol	88-75-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10 U	NA	NA	NA	NA	NA
3 & 4 Methylphenol (m&p Cresol)	65794-96-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	91-94-1	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
3-Nitroaniline	99-09-2	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
4,6-Dinitro-2-Methylphenol	534-52-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10 U	NA	NA	NA	NA	NA
4-Bromophenyl Phenyl Ether	101-55-3	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA
4-Chloro-3-Methylphenol	59-50-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA
4-Chloroaniline	106-47-8	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
4-Chlorophenyl Phenyl Ether	7005-72-3	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA
4-Nitroaniline	100-01-6	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
4-Nitrophenol	100-02-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10 U	NA	NA	NA	NA	NA
Acenaphthene	83-32-9	20	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.02 J	NA	NA	NA	NA	NA
Acenaphthylene	208-96-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA
Acetophenone	98-86-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
Anthracene	120-12-7	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.02 J	NA	NA	NA	NA	NA
Benzo(a)anthracene	56-55-3	**0.002**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	**0**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	**0.002**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.02 J**	NA	NA	NA	NA	NA
Benzo(g,h,i)Perylene	191-24-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.02 J	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	207-08-9	**0.002**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.01 J**	NA	NA	NA	NA	NA
Benzoic Acid	65-85-0	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	13 J	NA	NA	NA	NA	NA
Benzyl Alcohol	100-51-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.6	NA	NA	NA	NA	NA
Benzyl Butyl Phthalate	85-68-7	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
Biphenyl (Diphenyl)	92-52-4	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA
Bis(2-chloroethoxy) methane	111-91-1	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
Bis(2-chloroethyl) ether (2-chloroethyl ether)	111-44-4	1	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA
Bis(2-chloroisopropyl) ether	108-60-1	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2 UJ	NA	NA	NA	NA	NA
Bis(2-ethylhexyl) phthalate	117-81-7	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3 U	NA	NA	NA	NA	NA
Carbazole	86-74-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA
Chrysene	218-01-9	**0.002**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	53-70-3	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1 U	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA
Dibutyl phthalate	84-74-2	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
Diethyl phthalate	84-66-2	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
Dimethyl phthalate	131-11-3	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
Dioctyl phthalate	117-84-0	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
Fluoranthene	206-44-0	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.04 J	NA	NA	NA	NA	NA
Fluorene	86-73-7	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.02 J	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	**0.04**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.8 U	NA	NA	NA	NA	NA
Hexachlorobutadiene	87-68-3	0.5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5 U	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	77-47-4	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<20 U	NA	NA	NA	NA	NA
Hexachloroethane	67-72-1	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.8 U	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	193-39-5	**0.002**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.02 J**	NA	NA	NA	NA	NA
Isophorone	78-59-1	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
Naphthalene	91-20-3	**10**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.06 J	NA	NA	NA	NA	NA
Nitrobenzene	98-95-3	0.4	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA
n-Nitrosodi-N-Propylamine	621-64-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	86-30-6	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2 U	NA	NA	NA	NA	NA
Pentachlorophenol	87-86-5	1	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.8 U	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.07 J	NA	NA	NA	NA	NA
Phenol	108-95-2	1	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
Pyrene	129-00-0	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.03 J	NA	NA	NA	NA	NA

Table 5A
Remedial Investigation Report
Groundwater Sample Analytical Results

514 Union Street
Brooklyn, New York
NYSDEC BCP Site No.: C224318
Langan Project No.: 170361307

Analyte	CAS Number	NYSDEC SGVs	Location	MW16D	MW16D	MW16DD	MW16DD	MW16S	MW16S	MW17D	MW17D	MW17DD	MW17S	MW17S	MW17S	MW17S	MW18D	MW18D
			Sample Name	MW16D_110623	MW16D_031326	MW16DD_110623	MW16DD_031326	MW16S_110623	MW16S_031326	MW17D_110323	MW17D_031326	MW17DD_031326	MW17S_062923	MW17S_102723	GWDUP01_102723	MW17S_031326	MW18D_062923	MW18D_102723
			Sample Date	11/06/2023	03/13/2026	11/06/2023	03/13/2026	11/06/2023	03/13/2026	11/03/2023	03/13/2026	03/13/2026	06/29/2023	10/27/2023	10/27/2023	03/13/2026	06/29/2023	10/27/2023
			Sample Depth	18-28	18-28	35-40	35-40	7-17	7-17	17-27	17-27	30-40	7-17	7-17	7-17	6-16	17-27	17-27
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Pesticides																		
4,4'-DDD	72-54-8	0.3	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.029 U	<0.029 U	NA	NA	NA
4,4'-DDE	72-55-9	0.2	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.029 U	<0.029 U	NA	NA	NA
4,4'-DDT	50-29-3	0.2	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.029 U	<0.029 U	NA	NA	NA
Aldrin	309-00-2	0	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.014 U	<0.014 U	NA	NA	NA
Alpha BHC (Alpha Hexachlorocyclohexane)	319-84-6	0.01	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.014 U	<0.014 U	NA	NA	NA
Alpha Chlordane	5103-71-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.014 U	<0.014 U	NA	NA	NA
Alpha Endosulfan	959-98-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.014 U	<0.014 U	NA	NA	NA
Beta Bhc (Beta Hexachlorocyclohexane)	319-85-7	0.04	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.014 U	<0.014 U	NA	NA	NA
Beta Endosulfan	33213-65-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.029 U	<0.029 U	NA	NA	NA
Chlordane (alpha and gamma)	57-74-9	0.05	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.143 U	<0.143 U	NA	NA	NA
Delta Bhc (Delta Hexachlorocyclohexane)	319-86-8	0.04	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.014 U	<0.014 U	NA	NA	NA
Dieldrin	60-57-1	0.004	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.029 U	<0.029 U	NA	NA	NA
Endosulfan Sulfate	1031-07-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.029 U	<0.029 U	NA	NA	NA
Endrin	72-20-8	0	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.029 U	<0.029 U	NA	NA	NA
Endrin Aldehyde	7421-93-4	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.029 U	<0.029 U	NA	NA	NA
Endrin Ketone	53494-70-5	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.029 U	<0.029 U	NA	NA	NA
Gamma Bhc (Lindane)	58-89-9	0.05	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.014 U	<0.014 U	NA	NA	NA
Gamma Chlordane (Trans)	5103-74-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.014 U	<0.014 U	NA	NA	NA
Heptachlor	76-44-8	0.04	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.014 U	<0.014 U	NA	NA	NA
Heptachlor Epoxide	1024-57-3	0.03	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.014 U	<0.014 U	NA	NA	NA
Methoxychlor	72-43-5	35	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.143 U	<0.143 U	NA	NA	NA
Toxaphene	8001-35-2	0.06	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.143 U	<0.143 U	NA	NA	NA
Herbicides																		
2,4,5-T (Trichlorophenoxyacetic Acid)	93-76-5	35	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2 U	<2 U	NA	NA	NA
2,4-D (Dichlorophenoxyacetic Acid)	94-75-7	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10 U	<10 U	NA	NA	NA
Silvex (2,4,5-Tp)	93-72-1	0.26	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2 U	<2 U	NA	NA	NA
Polychlorinated Biphenyl																		
PCB-1016 (Aroclor 1016)	12674-11-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA
PCB-1221 (Aroclor 1221)	11104-28-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA
PCB-1232 (Aroclor 1232)	11141-16-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA
PCB-1242 (Aroclor 1242)	53469-21-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA
PCB-1248 (Aroclor 1248)	12672-29-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA
PCB-1254 (Aroclor 1254)	11097-69-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA
PCB-1260 (Aroclor 1260)	11096-82-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA
PCB-1262 (Aroclor 1262)	37324-23-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA
PCB-1268 (Aroclor 1268)	11100-14-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA
Total PCBs	1336-36-3	0.09	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.071 U	NA	NA	NA	NA	NA
Metals - Dissolved																		
Aluminum	7429-90-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.08 J	NA	NA	NA	NA	NA
Antimony	7440-36-0	**3**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.44 J	NA	NA	NA	NA	NA
Arsenic	7440-38-2	25	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.61	NA	NA	NA	NA	NA
Barium	7440-39-3	1000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	81.75	NA	NA	NA	NA	NA
Beryllium	7440-41-7	3	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5 U	NA	NA	NA	NA	NA
Cadmium	7440-43-9	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.07 J	NA	NA	NA	NA	NA
Calcium	7440-70-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	78,600	NA	NA	NA	NA	NA
Chromium, Total	7440-47-3	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.27 J	NA	NA	NA	NA	NA
Cobalt	7440-48-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.58	NA	NA	NA	NA	NA
Copper	7440-50-8	200	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.63	NA	NA	NA	NA	NA
Iron	7439-89-6	300	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<50 U	NA	NA	NA	NA	NA
Lead	7439-92-1	25	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1 U	NA	NA	NA	NA	NA
Magnesium	7439-95-4	**35000**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	32,100	NA	NA	NA	NA	NA
Manganese	7439-96-5	**300**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1,305**	NA	NA	NA	NA	NA
Mercury	7439-97-6	0.7	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.2 U	NA	NA	NA	NA	NA
Nickel	7440-02-0	100	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.94	NA	NA	NA	NA	NA
Potassium	7440-09-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	15,500	NA	NA	NA	NA	NA
Selenium	7782-49-2	**10**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.3 J	NA	NA	NA	NA	NA
Silver	7440-22-4	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.4 U	NA	NA	NA	NA	NA
Sodium	7440-23-5	**20000**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	**83,800**	NA	NA	NA	NA	NA
Thallium	7440-28-0	0.5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1 U	NA	NA	NA	NA	NA
Vanadium	7440-62-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5 U	NA	NA	NA	NA	NA
Zinc	7440-66-6	2000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10 U	NA	NA	NA	NA	NA

Table 5A
Remedial Investigation Report
Groundwater Sample Analytical Results

514 Union Street
Brooklyn, New York
NYSDEC BCP Site No.: C224318
Langan Project No.: 170361307

Analyte	CAS Number	NYSDEC SGVs	Location	MW16D	MW16D	MW16DD	MW16DD	MW16S	MW16S	MW17D	MW17D	MW17DD	MW17S	MW17S	MW17S	MW17S	MW18D	MW18D
			Sample Name	MW16D_110623	MW16D_031326	MW16DD_110623	MW16DD_031326	MW16S_110623	MW16S_031326	MW17D_110323	MW17D_031326	MW17DD_031326	MW17S_062923	MW17S_102723	GWDUP01_102723	MW17S_031326	MW18D_062923	MW18D_102723
			Sample Date	11/06/2023	03/13/2026	11/06/2023	03/13/2026	11/06/2023	03/13/2026	11/03/2023	03/13/2026	03/13/2026	06/29/2023	10/27/2023	10/27/2023	03/13/2026	06/29/2023	10/27/2023
			Sample Depth	18-28	18-28	35-40	35-40	7-17	7-17	17-27	17-27	30-40	7-17	7-17	7-17	6-16	17-27	17-27
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Metals - Total																		
Aluminum	7429-90-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	7440-36-0	**3**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	7440-38-2	25	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	7440-39-3	1000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7440-41-7	3	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	7440-43-9	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	7440-70-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Hexavalent	18540-29-9	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10 U	NA	NA	NA	NA	NA
Chromium, Total	7440-47-3	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Trivalent	16065-83-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10 U	NA	NA	NA	NA	NA
Cobalt	7440-48-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	7440-50-8	200	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	57-12-5	200	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	7439-89-6	300	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	25	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	7439-95-4	**35000**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	7439-96-5	**300**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	7439-97-6	0.7	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	100	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	7440-09-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	7782-49-2	**10**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	7440-22-4	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	7440-23-5	**20000**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	0.5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	7440-66-6	2000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Per- and Polyfluoroalkyl Substances																		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	763051-92-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00585 U	<0.00587 U	NA	NA	NA
1H,1H,2H,2H-Perfluorodecane Sulfonic Acid (8:2 FTS)	39108-34-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00585 U	<0.00587 U	NA	NA	NA
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	6HPFHXSA	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00585 UJ	<0.00587 U	NA	NA	NA
1H,1H,2H,2H-Perfluorooctane Sulfonic Acid (6:2 FTS)	27619-97-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00585 U	<0.00587 U	NA	NA	NA
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3 FTCA)	914637-49-3	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0366 U	<0.0367 U	NA	NA	NA
3-Perfluoroheptyl Propanoic Acid (7:3 FTCA)	812-70-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0366 U	<0.0367 U	NA	NA	NA
3-Perfluoropropyl Propanoic Acid (3:3 FTCA)	356-02-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00731 U	<0.00734 U	NA	NA	NA
4,8-Dioxa-3H-perfluorononanoic Acid (ADONA)	919005-14-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00585 U	<0.00587 U	NA	NA	NA
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid (9Cl-PF3ONS)	756426-58-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00585 U	<0.00587 U	NA	NA	NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	13252-13-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00585 U	0.000991 J	NA	NA	NA
N-ethyl Perfluorooctanesulfonamide (NEtFOSA)	4151-50-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00146 U	<0.00147 U	NA	NA	NA
N-ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	2991-50-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00146 U	<0.00147 U	NA	NA	NA
N-ethyl Perfluorooctanesulfonamidoethanol (NEtFOSE)	1691-99-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0146 U	<0.0147 U	NA	NA	NA
N-methyl Perfluorooctanesulfonamide (NMeFOSA)	31506-32-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00146 U	<0.00147 U	NA	NA	NA
N-methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	2355-31-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00146 U	<0.00147 U	NA	NA	NA
N-methyl Perfluorooctanesulfonamidoethanol (NMeFOSE)	24448-09-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0146 U	<0.0147 U	NA	NA	NA
Nonafluoro-3,6-dioxaheptanoic Acid (NFDHA)	151772-58-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00704	0.00689	NA	NA	NA
Perfluoro(2-ethoxyethane)sulfonic Acid (PFEESA)	113507-82-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00292 U	<0.00294 U	NA	NA	NA
Perfluoro-3-methoxypropanoic Acid (PFMPA)	377-73-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0012 J	0.00115 J	NA	NA	NA
Perfluoro-4-methoxybutanoic Acid (PFMBA)	863090-89-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.000914 J	0.001 J	NA	NA	NA
Perfluorobutanesulfonic Acid (PFBS)	375-73-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00333	0.00389	NA	NA	NA
Perfluorobutanoic Acid (PFBA)	375-22-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0226	0.0223	NA	NA	NA
Perfluorodecanesulfonic Acid (PFDS)	335-77-3	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00146 U	<0.00147 U	NA	NA	NA
Perfluorodecanoic Acid (PFDA)	335-76-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.000848 J	0.000756 J	NA	NA	NA
Perfluorododecanesulfonic Acid (PFDoS)	79780-39-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00146 U	<0.00147 U	NA	NA	NA
Perfluorododecanoic Acid (PFDoA)	307-55-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00146 U	<0.00147 U	NA	NA	NA
Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.000607 J	0.000631 J	NA	NA	NA
Perfluoroheptanoic Acid (PFHpA)	375-85-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0285	0.0303	NA	NA	NA
Perfluorohexanesulfonic Acid (PFHxS)	355-46-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00478	0.00477	NA	NA	NA
Perfluorohexanoic Acid (PFHxA)	307-24-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0472	0.0478	NA	NA	NA
Perfluorononanesulfonic Acid (PFNS)	68259-12-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00146 U	<0.00147 U	NA	NA	NA
Perfluorononanoic Acid (PFNA)	375-95-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00546	0.00578	NA	NA	NA
Perfluorooctanesulfonamide (PFOSA)	754-91-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00146 U	<0.00147 U	NA	NA	NA
Perfluorooctanesulfonic Acid (PFOS)	1763-23-1	**0.0027**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.032**	**0.031**	NA	NA	NA
Perfluorooctanoic Acid (PFOA)	335-67-1	**0.0067**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0971**	**0.101**	NA	NA	NA
Perfluoropentanesulfonic Acid (PFPeS)	2706-91-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.000929 J	0.00109 J	NA	NA	NA
Perfluoropentanoic Acid (PFPeA)	2706-90-3	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0489	0.0476	NA	NA	NA
Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00146 U	<0.00147 U	NA	NA	NA
Perfluorotridecanoic Acid (PFTrDA)	72629-94-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00146 U	<0.00147 U	NA	NA	NA
Perfluoroundecanoic Acid (PFUnA)	2058-94-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00146 U	<0.00147 U	NA	NA	NA
Total PFOA and PFOS	TOTPFOAPFOS	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry																		
Chloride (As Cl)	16887-00-6	250000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethane	74-84-0	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	74-85-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	74-82-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Ammonia (As N)	7664-41-7	**2000**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Nitrate (As N)	14797-55-8	**10000**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Nitrite	14797-65-0	1000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphorus	7723-14-0	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate (As SO4)	14808-79-8	250000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5A
Remedial Investigation Report
Groundwater Sample Analytical Results

514 Union Street
Brooklyn, New York
NYSDEC BCP Site No.: C224318
Langan Project No.: 170361307

Analyte	CAS Number	NYSDEC SGVs	Location	MW18D	MW18DD	MW18S	MW18S	MW19D	MW19DD	MW19S	MW22D	MW22DD	MW22S	MW24D	MW24S	MW25S	MW25S
			Sample Name	MW18D_031726	MW18DD_031726	MW18S_110323	MW18S_031326	MW19D_021826	MW19DD_021926	MW19S_021926	MW22D_021826	MW22DD_021826	MW22S_021826	MW24D_021726	MW24S_021726	MW25S_021726	GWDUP01_021726
			Sample Date	03/17/2026	03/17/2026	11/03/2023	03/13/2026	02/18/2026	02/19/2026	02/19/2026	02/18/2026	02/18/2026	02/18/2026	02/17/2026	02/17/2026	02/17/2026	02/17/2026
			Sample Depth	17-27	40-50	7-17	6-16	17-27	30-35	7-17	17-27	30-35	7-17	17-27	7-17	7-17	7-17
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Volatile Organic Compounds																	
1,1,1,2-Tetrachloroethane	630-20-6	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1,1-Trichloroethane	71-55-6	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1,2,2-Tetrachloroethane	79-34-5	5	ug/l	<50 U	<1 U	<10 U	<25 U	<5 U	<0.5 U	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1,2-Trichloroethane	79-00-5	**1**	ug/l	<150 U	<3 U	<30 U	<75 U	<15 U	<1.5 U	<15 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U	<1.5 U
1,1-Dichloroethane	75-34-3	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,1-Dichloroethene	75-35-4	**5**	ug/l	**20 J**	<1 U	3.9 J	<25 U	<5 U	<0.5 U	2 J	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,1-Dichloropropene	563-58-6	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,3-Trichlorobenzene	87-61-6	5	ug/l	<250 U	<5 U	<50 UJ	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,3-Trichloropropane	96-18-4	0.04	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,4,5-Tetramethylbenzene	95-93-2	**5**	ug/l	<200 U	<4 U	<40 U	<100 U	<20 UJ	2.8	**63**	<2 UJ	<2 UJ	**18**	<2 UJ	<2 UJ	<2 UJ	<2 UJ
1,2,4-Trichlorobenzene	120-82-1	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2,4-Trimethylbenzene	95-63-6	**5**	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	**51**	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	ug/l	<250 U	<5 U	<50 UJ	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.0006	ug/l	<200 U	<4 U	<40 U	<100 U	<20 U	<2 U	<20 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
1,2-Dichlorobenzene	95-50-1	3	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,2-Dichloroethane	107-06-2	0.6	ug/l	<50 U	<1 U	<10 U	<25 U	<5 U	<0.5 U	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
1,2-Dichloropropane	78-87-5	1	ug/l	<100 U	<2 U	<20 U	<50 U	<10 U	<1 U	<10 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	**5**	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,3-Dichlorobenzene	541-73-1	3	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,3-Dichloropropane	142-28-9	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,4-Dichlorobenzene	106-46-7	3	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
1,4-Diethyl Benzene	105-05-5	NS	ug/l	<200 U	<4 U	<40 U	<100 U	<20 U	<2 U	13 J	<2 U	<2 U	4.6	<2 U	<2 U	<2 U	<2 U
1,4-Dioxane (P-Dioxane)	123-91-1	0.35	ug/l	<25,000 U	<500 U	<5,000 UJ	<12,000 U	<2,500 U	<250 U	<2,500 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U	<250 U
2,2-Dichloropropane	594-20-7	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
2-Chlorotoluene	95-49-8	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
2-Hexanone (MBK)	591-78-6	50	ug/l	<500 U	<10 U	<100 U	<250 U	<50 U	<5 U	<50 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
4-Chlorotoluene	106-43-4	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
4-Ethyltoluene	622-96-8	NS	ug/l	<200 U	<4 U	<40 U	<100 U	<20 U	<2 U	19 J	<2 U	<2 U	4.2	<2 U	<2 U	<2 U	<2 U
Acetone	67-64-1	**50**	ug/l	**1,500**	**200 J**	<100 U	**210 J**	<50 U	4.5 J	48 J	<5 U	<5 U	12	<5 U	<5 U	<5 U	<5 U
Acrylonitrile	107-13-1	5	ug/l	<500 U	<10 U	<100 U	<250 U	<50 U	<5 U	<50 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Benzene	71-43-2	**1**	ug/l	**69**	<1 U	**4.9 J**	**22 J**	<5 U	<0.5 U	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Bromobenzene	108-86-1	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Bromochloromethane	74-97-5	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Bromodichloromethane	75-27-4	50	ug/l	<50 U	<1 U	<10 U	<25 U	<5 U	<0.5 U	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Bromoform	75-25-2	50	ug/l	<200 U	<4 U	<40 U	<100 U	<20 U	<2 U	<20 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
Bromomethane	74-83-9	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Carbon Disulfide	75-15-0	60	ug/l	<500 U	<10 U	<100 U	<250 U	<50 U	<5 U	<50 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Carbon Tetrachloride	56-23-5	5	ug/l	<50 U	<1 U	<10 U	<25 U	<5 U	<0.5 U	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Chlorobenzene	108-90-7	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloroethane	75-00-3	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloroform	67-66-3	**7**	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Chloromethane	74-87-3	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Cis-1,2-Dichloroethene	156-59-2	**5**	ug/l	**9,700**	<5 U	**820**	**2,800**	**780**	**20**	**1,100**	**13**	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Cis-1,3-Dichloropropene	10061-01-5	0.4	ug/l	<50 U	<1 U	<10 U	<25 U	<5 U	<0.5 U	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Cymene	99-87-6	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	3.4	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Dibromochloromethane	124-48-1	50	ug/l	<50 U	<1 U	<10 U	<25 U	<5 U	<0.5 U	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Dibromomethane	74-95-3	5	ug/l	<500 U	<10 U	<100 U	<250 U	<50 U	<5 U	<50 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Dichlorodifluoromethane	75-71-8	5	ug/l	<500 U	<10 U	<100 U	<250 U	<50 U	<5 U	<50 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Diethyl Ether (Ethyl Ether)	60-29-7	NS	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Ethylbenzene	100-41-4	**5**	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	**45**	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Hexachlorobutadiene	87-68-3	0.5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Isopropylbenzene (Cumene)	98-82-8	**5**	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	**66**	<2.5 U	<2.5 U	3.2	<2.5 U	<2.5 U	<2.5 U	<2.5 U
M,P-Xylene	179601-23-1	**5**	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	50	ug/l	<500 U	<10 U	<100 U	<250 U	<50 U	<5 U	<50 U	<5 U	13	<5 U	<5 U	<5 U	<5 U	<5 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	NS	ug/l	<500 U	<10 U	<100 U	<250 U	<50 U	<5 U	<50 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Methylene Chloride	75-09-2	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Naphthalene	91-20-3	**10**	ug/l	<250 U	<5 U	<50 UJ	<120 U	<25 U	1.2 J	**120**	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
n-Butylbenzene	104-51-8	**5**	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	0.85 J	**13 J**	<2.5 U	<2.5 U	3.3	<2.5 U	<2.5 U	<2.5 U	<2.5 U
n-Propylbenzene	103-65-1	**5**	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	1.2 J	**99**	<2.5 U	<2.5 U	**7.5**	<2.5 U	<2.5 U	<2.5 U	<2.5 U
o-Xylene (1,2-Dimethylbenzene)	95-47-6	**5**	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Sec-Butylbenzene	135-98-8	**5**	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	**7.9 J**	<2.5 U	<2.5 U	2.5	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Styrene	100-42-5	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
T-Butylbenzene	98-06-6	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Tert-Butyl Methyl Ether (MTBE)	1634-04-4	10	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Tetrachloroethene (PCE)	127-18-4	**5**	ug/l	**37 J**	**12**	**7.3 J**	<25 U	<5 U	1.1	<5 U	3.8	1.3	1.6	<0.5 U	0.57	<0.5 U	<0.5 U
Toluene	108-88-3	**5**	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Total 1,2-Dichloroethene (Cis and Trans)	540-59-0	NS	ug/l	9,700	<5 U	820	2,800	780	20	1,100	13	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Total Xylenes	1330-20-7	**5**	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Total, 1,3-Dichloropropene (Cis And Trans)	542-75-6	0.4	ug/l	<50 U	<1 U	<10 U	<25 U	<5 U	<0.5 U	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Trans-1,2-Dichloroethene	156-60-5	**5**	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Trans-1,3-Dichloropropene	10061-02-6	0.4	ug/l	<50 U	<1 U	<10 U	<25 U	<5 U	<0.5 U	<5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
Trans-1,4-Dichloro-2-Butene	110-57-6	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Trichloroethene (TCE)	79-01-6	**5**	ug/l	**18,000**	1.6	**2,200**	**4,200**	**1,300**	**82**	**940**	**31**	2.3	3.4	1.3	3	1.6	1.4
Trichlorofluoromethane	75-69-4	5	ug/l	<250 U	<5 U	<50 U	<120 U	<25 U	<2.5 U	<25 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U	<2.5 U
Vinyl Acetate	108-05-4	NS	ug/l	<500 U	<10 U	<100 U	<250 U	<50 U	<5 U	<50 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Vinyl Chloride	75-01-4	**2**	ug/l	**20 J**	<2 U	**25**	**18 J**	**30**	0.15 J	**22**	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Total CVOCs	TOTALCVOCS	NS	ug/l	27777	13.6	3056.2	7018	2110	103.25	2064	47.8	3.6	5	1.3	3.57	1.6	1.4

Table 5A
Remedial Investigation Report
Groundwater Sample Analytical Results

514 Union Street
Brooklyn, New York
NYSDEC BCP Site No.: C224318
Langan Project No.: 170361307

Analyte	CAS Number	NYSDEC SGVs	Location	MW18D	MW18DD	MW18S	MW18S	MW19D	MW19DD	MW19S	MW22D	MW22DD	MW22S	MW24D	MW24S	MW25S	MW25S
			Sample Name	MW18D_031726	MW18DD_031726	MW18S_110323	MW18S_031326	MW19D_021826	MW19DD_021926	MW19S_021926	MW22D_021826	MW22DD_021826	MW22S_021826	MW24D_021726	MW24S_021726	MW25S_021726	GWDUP01_021726
			Sample Date	03/17/2026	03/17/2026	11/03/2023	03/13/2026	02/18/2026	02/19/2026	02/19/2026	02/18/2026	02/18/2026	02/18/2026	02/17/2026	02/17/2026	02/17/2026	02/17/2026
			Sample Depth	17-27	40-50	7-17	6-16	17-27	30-35	7-17	17-27	30-35	7-17	17-27	7-17	7-17	7-17
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Semi-Volatile Organic Compounds																	
1,2,4,5-Tetrachlorobenzene	95-94-3	5	ug/l	NA	NA	NA	NA	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U
1,2,4-Trichlorobenzene	120-82-1	5	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
1,2-Dichlorobenzene	95-50-1	3	ug/l	NA	NA	NA	NA	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
1,3-Dichlorobenzene	541-73-1	3	ug/l	NA	NA	NA	NA	<2 UJ	<2 U	<2 U	<2 UJ	<2 UJ	<2 UJ	<2 UJ	<2 UJ	<2 UJ	<2 UJ
1,4-Dichlorobenzene	106-46-7	3	ug/l	NA	NA	NA	NA	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
1,4-Dioxane (P-Dioxane)	123-91-1	**0.35**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	95-95-4	NS	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
2,4,6-Trichlorophenol	88-06-2	NS	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
2,4-Dichlorophenol	120-83-2	1	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
2,4-Dimethylphenol	105-67-9	1	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
2,4-Dinitrophenol	51-28-5	1	ug/l	NA	NA	NA	NA	<20 U	<20 U	<20 U	<20 U	<20 U	<20 U	<20 U	<20 U	<20 U	<20 U
2,4-Dinitrotoluene	121-14-2	5	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
2,6-Dinitrotoluene	606-20-2	5	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
2-Chloronaphthalene	91-58-7	10	ug/l	NA	NA	NA	NA	<0.2 U	<0.2 U	0.07 J	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U
2-Chlorophenol	95-57-8	NS	ug/l	NA	NA	NA	NA	<2 U	<2 U	<2U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
2-Methylnaphthalene	91-57-6	NS	ug/l	NA	NA	NA	NA	0.14	2.5	120	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U
2-Methylphenol (o-Cresol)	95-48-7	NS	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
2-Nitroaniline	88-74-4	5	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
2-Nitrophenol	88-75-5	NS	ug/l	NA	NA	NA	NA	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U
3 & 4 Methylphenol (m&p Cresol)	65794-96-9	NS	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
3,3'-Dichlorobenzidine	91-94-1	5	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
3-Nitroaniline	99-09-2	5	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
4,6-Dinitro-2-Methylphenol	534-52-1	NS	ug/l	NA	NA	NA	NA	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U
4-Bromophenyl Phenyl Ether	101-55-3	NS	ug/l	NA	NA	NA	NA	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
4-Chloro-3-Methylphenol	59-50-7	NS	ug/l	NA	NA	NA	NA	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
4-Chloroaniline	106-47-8	5	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
4-Chlorophenyl Phenyl Ether	7005-72-3	NS	ug/l	NA	NA	NA	NA	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
4-Nitroaniline	100-01-6	5	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
4-Nitrophenol	100-02-7	NS	ug/l	NA	NA	NA	NA	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U	<10 U
Acenaphthene	83-32-9	20	ug/l	NA	NA	NA	NA	<0.1 U	0.27	0.3	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U
Acenaphthylene	208-96-8	NS	ug/l	NA	NA	NA	NA	0.21	<0.1 U	0.06 J	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U
Acetophenone	98-86-2	NS	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Anthracene	120-12-7	50	ug/l	NA	NA	NA	NA	<0.1 U	0.2	0.24	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U
Benzo(a)anthracene	56-55-3	**0.002**	ug/l	NA	NA	NA	NA	<0.1 U	<0.1 U	**0.38 J**	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U
Benzo(a)pyrene	50-32-8	**0**	ug/l	NA	NA	NA	NA	<0.1 U	<0.1 U	**0.27 J**	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U
Benzo(b)fluoranthene	205-99-2	**0.002**	ug/l	NA	NA	NA	NA	<0.1 U	<0.1 U	**0.33**	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U
Benzo(g,h,i)Perylene	191-24-2	NS	ug/l	NA	NA	NA	NA	<0.1 U	<0.1 U	0.19 J	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U
Benzo(k)fluoranthene	207-08-9	**0.002**	ug/l	NA	NA	NA	NA	<0.1 U	<0.1 U	**0.15**	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U
Benzoic Acid	65-85-0	NS	ug/l	NA	NA	NA	NA	<50 U	<50 U	<50 U	<50 U	<50 U	<50 U	<50 U	<50 U	<50 U	<50 U
Benzyl Alcohol	100-51-6	NS	ug/l	NA	NA	NA	NA	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
Benzyl Butyl Phthalate	85-68-7	50	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Biphenyl (Diphenyl)	92-52-4	5	ug/l	NA	NA	NA	NA	<2 U	<2 U	0.46 J	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
Bis(2-chloroethoxy) methane	111-91-1	5	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Bis(2-chloroethyl) ether (2-chloroethyl ether)	111-44-4	1	ug/l	NA	NA	NA	NA	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
Bis(2-chloroisopropyl) ether	108-60-1	5	ug/l	NA	NA	NA	NA	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
Bis(2-ethylhexyl) phthalate	117-81-7	5	ug/l	NA	NA	NA	NA	<3 U	<3 U	1.4 J	<3 U	<3 U	<3 U	<3 U	<3 U	<3 U	<3 U
Carbazole	86-74-8	NS	ug/l	NA	NA	NA	NA	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
Chrysene	218-01-9	**0.002**	ug/l	NA	NA	NA	NA	<0.1 U	<0.1 U	**0.35**	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U
Dibenz(a,h)anthracene	53-70-3	NS	ug/l	NA	NA	NA	NA	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U
Dibenzofuran	132-64-9	NS	ug/l	NA	NA	NA	NA	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
Dibutyl phthalate	84-74-2	50	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Diethyl phthalate	84-66-2	50	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Dimethyl phthalate	131-11-3	50	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Dioctyl phthalate	117-84-0	50	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Fluoranthene	206-44-0	50	ug/l	NA	NA	NA	NA	0.32	0.66	0.96	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U
Fluorene	86-73-7	50	ug/l	NA	NA	NA	NA	0.14	0.18	0.27	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U
Hexachlorobenzene	118-74-1	**0.04**	ug/l	NA	NA	NA	NA	<0.8 U	<0.8 U	**0.05 J**	<0.8 U	<0.8 U	<0.8 U	<0.8 U	<0.8 U	<0.8 U	<0.8 U
Hexachlorobutadiene	87-68-3	0.5	ug/l	NA	NA	NA	NA	<0.5 UJ	<0.5 U	<0.5 U	<0.5 UJ	<0.5 UJ	<0.5 UJ	<0.5 UJ	<0.5 U	<0.5 UJ	<0.5 UJ
Hexachlorocyclopentadiene	77-47-4	5	ug/l	NA	NA	NA	NA	<20 UJ	<20 U	<20 U	<20 UJ	<20 UJ	<20 UJ	<20 UJ	<20 U	<20 UJ	<20 UJ
Hexachloroethane	67-72-1	5	ug/l	NA	NA	NA	NA	<0.8 U	<0.8 U	<0.8 U	<0.8 U	<0.8 U	<0.8 U	<0.8 U	<0.8 U	<0.8 U	<0.8 U
Indeno(1,2,3-cd)pyrene	193-39-5	**0.002**	ug/l	NA	NA	NA	NA	<0.1 U	<0.1 U	**0.19 J**	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U
Isophorone	78-59-1	50	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Naphthalene	91-20-3	**10**	ug/l	NA	NA	NA	NA	0.11	0.9	**120**	<0.1 U	<0.1 U	0.24	<0.1 U	<0.1 U	<0.1 U	<0.1 U
Nitrobenzene	98-95-3	0.4	ug/l	NA	NA	NA	NA	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
n-Nitrosodi-N-Propylamine	621-64-7	NS	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
n-Nitrosodiphenylamine	86-30-6	50	ug/l	NA	NA	NA	NA	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
Pentachlorophenol	87-86-5	1	ug/l	NA	NA	NA	NA	<0.8 U	<0.8 U	<0.8 U	<0.8 U	<0.8 U	<0.8 U	<0.8 U	<0.8 U	<0.8 U	<0.8 U
Phenanthrene	85-01-8	50	ug/l	NA	NA	NA	NA	1.4	1.6	1.4	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U
Phenol	108-95-2	1	ug/l	NA	NA	NA	NA	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Pyrene	129-00-0	50	ug/l	NA	NA	NA	NA	0.38	0.52	0.87	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U	<0.1 U

Table 5A
Remedial Investigation Report
Groundwater Sample Analytical Results

514 Union Street
Brooklyn, New York
NYSDEC BCP Site No.: C224318
Langan Project No.: 170361307

Analyte	CAS Number	NYSDEC SGVs	Location	MW18D	MW18DD	MW18S	MW18S	MW19D	MW19DD	MW19S	MW22D	MW22DD	MW22S	MW24D	MW24S	MW25S	MW25S
			Sample Name	MW18D_031726	MW18DD_031726	MW18S_110323	MW18S_031326	MW19D_021826	MW19DD_021926	MW19S_021926	MW22D_021826	MW22DD_021826	MW22S_021826	MW24D_021726	MW24S_021726	MW25S_021726	GWDUP01_021726
			Sample Date	03/17/2026	03/17/2026	11/03/2023	03/13/2026	02/18/2026	02/19/2026	02/19/2026	02/18/2026	02/18/2026	02/18/2026	02/17/2026	02/17/2026	02/17/2026	02/17/2026
			Sample Depth	17-27	40-50	7-17	6-16	17-27	30-35	7-17	17-27	30-35	7-17	17-27	7-17	7-17	7-17
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Pesticides																	
4,4'-DDD	72-54-8	0.3	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	72-55-9	0.2	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	50-29-3	0.2	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	309-00-2	0	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha BHC (Alpha Hexachlorocyclohexane)	319-84-6	0.01	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha Chlordane	5103-71-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha Endosulfan	959-98-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beta Bhc (Beta Hexachlorocyclohexane)	319-85-7	0.04	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beta Endosulfan	33213-65-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane (alpha and gamma)	57-74-9	0.05	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta Bhc (Delta Hexachlorocyclohexane)	319-86-8	0.04	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	60-57-1	0.004	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	1031-07-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	72-20-8	0	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Aldehyde	7421-93-4	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	53494-70-5	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma Bhc (Lindane)	58-89-9	0.05	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma Chlordane (Trans)	5103-74-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	76-44-8	0.04	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor Epoxide	1024-57-3	0.03	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	72-43-5	35	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toxaphene	8001-35-2	0.06	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides																	
2,4,5-T (Trichlorophenoxyacetic Acid)	93-76-5	35	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-D (Dichlorophenoxyacetic Acid)	94-75-7	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silvex (2,4,5-Tp)	93-72-1	0.26	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polychlorinated Biphenyl																	
PCB-1016 (Aroclor 1016)	12674-11-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1221 (Aroclor 1221)	11104-28-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1232 (Aroclor 1232)	11141-16-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1242 (Aroclor 1242)	53469-21-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1248 (Aroclor 1248)	12672-29-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1254 (Aroclor 1254)	11097-69-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1260 (Aroclor 1260)	11096-82-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1262 (Aroclor 1262)	37324-23-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1268 (Aroclor 1268)	11100-14-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	1336-36-3	0.09	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals - Dissolved																	
Aluminum	7429-90-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	7440-36-0	**3**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	7440-38-2	25	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	7440-39-3	1000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7440-41-7	3	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	7440-43-9	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	7440-70-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Total	7440-47-3	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	7440-48-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	7440-50-8	200	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	7439-89-6	300	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	25	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	7439-95-4	**35000**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	7439-96-5	**300**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	7439-97-6	0.7	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	100	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	7440-09-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	7782-49-2	**10**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	7440-22-4	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	7440-23-5	**20000**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	0.5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	7440-66-6	2000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5A
Remedial Investigation Report
Groundwater Sample Analytical Results

514 Union Street
Brooklyn, New York
NYSDEC BCP Site No.: C224318
Langan Project No.: 170361307

Analyte	CAS Number	NYSDEC SGVs	Location	MW18D	MW18DD	MW18S	MW18S	MW19D	MW19DD	MW19S	MW22D	MW22DD	MW22S	MW24D	MW24S	MW25S	MW25S
			Sample Name	MW18D_031726	MW18DD_031726	MW18S_110323	MW18S_031326	MW19D_021826	MW19DD_021926	MW19S_021926	MW22D_021826	MW22DD_021826	MW22S_021826	MW24D_021726	MW24S_021726	MW25S_021726	GWDUP01_021726
			Sample Date	03/17/2026	03/17/2026	11/03/2023	03/13/2026	02/18/2026	02/19/2026	02/19/2026	02/18/2026	02/18/2026	02/18/2026	02/17/2026	02/17/2026	02/17/2026	02/17/2026
			Sample Depth	17-27	40-50	7-17	6-16	17-27	30-35	7-17	17-27	30-35	7-17	17-27	7-17	7-17	7-17
			Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Metals - Total																	
Aluminum	7429-90-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	7440-36-0	**3**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	7440-38-2	25	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	7440-39-3	1000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7440-41-7	3	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	7440-43-9	5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	7440-70-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Hexavalent	18540-29-9	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Total	7440-47-3	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Trivalent	16065-83-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	7440-48-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	7440-50-8	200	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	57-12-5	200	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	7439-89-6	300	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	25	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	7439-95-4	**35000**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	7439-96-5	**300**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	7439-97-6	0.7	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	100	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	7440-09-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	7782-49-2	**10**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	7440-22-4	50	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	7440-23-5	**20000**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	7440-28-0	0.5	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	7440-66-6	2000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Per- and Polyfluoroalkyl Substances																	
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	763051-92-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1H,1H,2H,2H-Perfluorodecane Sulfonic Acid (8:2 FTS)	39108-34-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	6HPFHXSA	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1H,1H,2H,2H-Perfluorooctane Sulfonic Acid (6:2 FTS)	27619-97-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3 FTCA)	914637-49-3	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Perfluoroheptyl Propanoic Acid (7:3 FTCA)	812-70-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Perfluoropropyl Propanoic Acid (3:3 FTCA)	356-02-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,8-Dioxa-3H-perfluorononanoic Acid (ADONA)	919005-14-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9-Chlorohexadecafluoro-3-Oxanonane-1-Sulfonic Acid (9Cl-PF3ONS)	756426-58-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	13252-13-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-ethyl Perfluorooctanesulfonamide (NEtFOSA)	4151-50-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	2991-50-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-ethyl Perfluorooctanesulfonamidoethanol (NEtFOSE)	1691-99-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-methyl Perfluorooctanesulfonamide (NMeFOSA)	31506-32-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	2355-31-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-methyl Perfluorooctanesulfonamidoethanol (NMeFOSE)	24448-09-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nonafluoro-3,6-dioxaheptanoic Acid (NFDHA)	151772-58-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoro(2-ethoxyethane)sulfonic Acid (PFEESA)	113507-82-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoro-3-methoxypropanoic Acid (PFMPA)	377-73-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoro-4-methoxybutanoic Acid (PFMBA)	863090-89-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorobutanesulfonic Acid (PFBS)	375-73-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorobutanoic Acid (PFBA)	375-22-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorodecanesulfonic Acid (PFDS)	335-77-3	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorodecanoic Acid (PFDA)	335-76-2	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorododecanesulfonic Acid (PFDoS)	79780-39-5	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorododecanoic Acid (PFDoA)	307-55-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoroheptanoic Acid (PFHpA)	375-85-9	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorohexanesulfonic Acid (PFHxS)	355-46-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorohexanoic Acid (PFHxA)	307-24-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorononanesulfonic Acid (PFNS)	68259-12-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorononanoic Acid (PFNA)	375-95-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanesulfonamide (PFOSA)	754-91-6	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanesulfonic Acid (PFOS)	1763-23-1	**0.0027**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanoic Acid (PFOA)	335-67-1	**0.0067**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoropentanesulfonic Acid (PFPeS)	2706-91-4	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoropentanoic Acid (PFPeA)	2706-90-3	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorotridecanoic Acid (PFTrDA)	72629-94-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoroundecanoic Acid (PFUnA)	2058-94-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PFOA and PFOS	TOTPFOAPFOS	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry																	
Chloride (As Cl)	16887-00-6	250000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethane	74-84-0	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	74-85-1	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	74-82-8	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Ammonia (As N)	7664-41-7	**2000**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Nitrate (As N)	14797-55-8	**10000**	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Nitrite	14797-65-0	1000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphorus	7723-14-0	NS	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate (As SO4)	14808-79-8	250000	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1
Remedial Investigation Report
Cumulative Groundwater Sample Analytical Results

514 Union Street
Brooklyn, New York
NYSDEC BCP Site No.: C224318
Langan Project No.: 170361307

Notes:

CAS - Chemical Abstract Service
NS - No standard
ug/l - microgram per liter
NA - Not analyzed
RL - Reporting limit
<RL - Not detected

Groundwater sample analytical results are compared to the New York State Department of Environmental Conservation (NYSDEC) Title 6 Codes, Rules, and Regulations (NYCRR) Part 703.5 and the NYSDEC Technical and Operation Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values for Class GA Water and published addenda (herein collectively referenced as "NYSDEC SGVs").

Qualifiers:

J - The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.

UJ - The analyte was not detected at a level greater than or equal to the RL; however, the reported RL is approximate and may be inaccurate or imprecise.

U - The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.

Exceedance Summary:

10 - Result exceeds NYSDEC SGVs

Table 1
Monitoring Well Groundwater Laboratory Analytical Results
Volatile Organic Compounds
473 President Street Off-Site
NYSDEC Site No. C224220
473 President Street
Brooklyn, NY

Lab Report Number:	NYDEC Class GA Criteria	26B0789	26B0789	26B0789	26B0789	26B0789	26B0789	26B0789	26B0789
Well ID:		HRP-MW-2	HRP-MW-3	HRP-MW-5	HRP-MW-5B	HRP-MW-6S	HRP-MW-6D	HRP-MW-7S	HRP-MW-7D
Screen Interval (ft bg):		7-17	7-17	6-16	15-25	6-16	20-30	6-16	15-25
Date Collected:		02/17/2026	02/17/2026	02/18/2026	02/18/2026	02/18/2026	02/18/2026	02/18/2026	02/18/2026
Volatile Organic Compounds (VOCs) (ug/l)									
1,1,1-Trichloroethane	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
1,1,2,2-Tetrachloroethane	5	< 0.500 U	< 0.500 U	< 0.500 U	< 0.500 U	< 10.0 U	< 2.00 U	< 0.500 U	< 0.500 U
1,1,2-Trichloroethane	1	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
1,1-Dichloroethane	NP	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
1,1-Dichloroethene	5	< 1.00 U	< 1.00 U	< 1.00 U	**0.300 J**	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
1,2,3-Trichlorobenzene	5	< 5.00 U	< 5.00 U	< 5.00 U	< 5.00 U	< 100 U	< 20.0 U	< 5.00 U	< 5.00 U
1,2,3-Trichloropropane	0.04	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 40.0 U	< 8.00 U	< 2.00 U	< 2.00 U
1,2,4-Trichlorobenzene	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
1,2,4-Trimethylbenzene	5	< 1.00 U	< 1.00 U	**1.40**	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
1,2-Dibromo-3-chloropropane	0.04	< 5.00 U	< 5.00 U	< 5.00 U	< 5.00 U	< 100 U	< 20.0 U	< 5.00 U	< 5.00 U
1,2-Dibromoethane (EDB) (ethylene dibromide)	0.0006	< 0.500 U	< 0.500 U	< 0.500 U	< 0.500 U	< 10.0 U	< 2.00 U	< 0.500 U	< 0.500 U
1,2-Dichlorobenzene	3	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
1,2-Dichloroethane	0.6	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
1,2-Dichloropropane	1	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
1,3,5-Trimethyl-benzene	5	< 1.00 U	< 1.00 U	**0.690 J**	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
1,3-Dichlorobenzene	3	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
1,4-Dichlorobenzene	3	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
2-Butanone (MEK)	50	< 20.0 U	< 20.0 U	< 20.0 U	< 20.0 U	< 400 U	< 80.0 U	< 20.0 U	< 20.0 U
2-Hexanone (Methyl butyl ketone/MBK)	50	< 10.0 U	< 10.0 U	< 10.0 U	< 10.0 U	< 200 U	< 40.0 U	< 10.0 U	< 10.0 U
4-Isopropyltoluene	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
Acetone	50	< 50.0 U	< 50.0 U	< 50.0 U	< 50.0 U	< 1000 U	< 200 U	< 50.0 U	< 50.0 U
Benzene	1	< 1.00 U	**0.590 J**	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
Bromochloromethane	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
Bromodichloromethane	50	< 0.500 U	< 0.500 U	< 0.500 U	< 0.500 U	< 10.0 U	< 2.00 U	< 0.500 U	< 0.500 U
Bromoform	50	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
Bromomethane	5	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 40.0 U	< 8.00 U	< 2.00 U	< 2.00 U
Carbon disulfide	60	< 5.00 U	< 5.00 U	< 5.00 U	< 5.00 U	< 100 U	< 20.0 U	< 5.00 U	< 5.00 U
Carbon tetrachloride	5	**0.520 J**	< 5.00 U	< 5.00 U	< 5.00 U	< 100 U	< 20.0 U	< 5.00 U	< 5.00 U
Chlorobenzene	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
Chloroethane	5	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 40.0 U	< 8.00 U	< 2.00 U	< 2.00 U
Chloroform	7	**0.840 J**	< 2.00 U	< 2.00 U	< 2.00 U	< 40.0 U	< 8.00 U	< 2.00 U	< 2.00 U
Chloromethane	5	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 40.0 U	< 8.00 U	< 2.00 U	< 2.00 U
cis-1,2-Dichloroethene	5	**1.10**	< 1.00 U	< 1.00 U	**7.10**	**270**	**80.0**	**1.90**	**2.10**
cis-1,3-Dichloropropene	0.4	< 0.500 U	< 0.500 U	< 0.500 U	< 0.500 U	< 10.0 U	< 2.00 U	< 0.500 U	< 0.500 U
Cyclohexane	NP	< 5.00 U	< 5.00 U	< 5.00 U	< 5.00 U	< 100 U	< 20.0 U	< 5.00 U	< 5.00 U
Dibromochloromethane	50	< 0.500 U	< 0.500 U	< 0.500 U	< 0.500 U	< 10.0 U	< 2.00 U	< 0.500 U	< 0.500 U
Dichlorodifluoromethane	5	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 40.0 U	< 8.00 U	< 2.00 U	< 2.00 U
Ethylbenzene	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
Isopropylbenzene	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
m,p-Xylene	NP	< 2.00 U	< 2.00 U	**0.450 J**	< 2.00 U	< 40.0 U	< 8.00 U	< 2.00 U	< 2.00 U
Methyl acetate	NP	< 1.00 UJ	< 1.00 UJ	< 1.00 UJ	< 1.00 UJ	< 20.0 UJ	< 4.00 UJ	< 1.00 UJ	< 1.00 UJ
Methyl isobutyl ketone (MIBK)	NP	< 10.0 U	< 10.0 U	**1.90 J**	< 10.0 U	< 200 U	< 40.0 U	< 10.0 U	< 10.0 U
Methylcyclohexane	NP	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
Methylene chloride	5	< 5.00 U	< 5.00 U	< 5.00 U	< 5.00 U	< 100 U	< 20.0 U	< 5.00 U	< 5.00 U
Methyltertbutyl ether	10	< 1.00 U	**3.10**	< 1.00 U	**0.460 J**	< 20.0 U	< 4.00 U	**0.420 J**	**0.770 J**
Naphthalene	10	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 40.0 U	< 8.00 U	< 2.00 U	< 2.00 U
n-Butylbenzene	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
n-Propylbenzene	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
o-Xylene	5	< 1.00 U	< 1.00 U	**0.390 J**	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
sec-Butylbenzene	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
Styrene	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
tert-Butylbenzene	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
Tetrachloroethene	5	**140 J**	**0.650 J**	< 1.00 U	**19.0**	**7.40 J**	**8.80**	**30.0**	**30.0**
Toluene	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
Total Xylenes	NP	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	< 1.00 U
trans-1,2-Dichloroethene	5	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 20.0 U	< 4.00 U	< 1.00 U	**0.250 J**
trans-1,3-Dichloropropene	0.4	< 0.500 U	< 0.500 U	< 0.500 U	< 0.500 U	< 10.0 U	< 2.00 U	< 0.500 U	< 0.500 U
Trichloroethene	5	**1.10**	< 1.00 U	< 1.00 U	**4.70**	**1,900**	**400**	**2.70**	**2.50**
Trichlorofluoromethane	5	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 40.0 U	< 8.00 U	< 2.00 U	**0.260 J**
Vinyl chloride	2	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 40.0 U	**2.70 J**	< 2.00 U	< 2.00 U

Legend	
< 1.0	Parameter not detected above the laboratory reporting limit
< 1.0	Parameter not detected above the laboratory reporting limit; laboratory reporting limit exceeds NYSDEC Class GA Criteria
1.0	Parameter reported above the laboratory reporting limit but below NYSDEC Class GA Criteria
1.0	Parameter reported at a concentration greater than NYSDEC Class GA Criteria

Notes:
µg/L= micrograms per liter
NP = not promulgated
J = Detected but below the reporting limit (lowest calibration standard); therefore, result is an estimated concentration
ft bg = feet below grade

Table 2
Exterior Soil Vapor Point Laboratory Analytical Results (Detections Only)
Volatile Organic Compounds
473 President Street
NYSDEC Site No. C224220A
Brooklyn, NY

Lab Report No:	22J3301								22J4339	22J3301	
Sample ID:	SV-1	SV-2	SV-3	SV-4	SV-5	SV-6	SV-7	SV-8	SV-9	SV-10	SV-11
Date Collected:	10/20/2022	10/20/2022	10/20/2022	10/20/2022	10/20/2022	10/20/2022	10/20/2022	10/20/2022	10/27/2022	05/25/2022	05/20/2022
Volatile Organic Compounds (µg/m³)											
1,1,1-Trichloroethane	**0.94 J**	< 1.1	< 1.1	< 1.1	< 110	< 1.1	**11**	< 1.1	< 1.1	**23**	< 1.1
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 6.1	< 6.1	< 6.1	< 6.1	< 610	< 6.1	< 6.1	< 6.1	< 6.1	< 6.1	< 6.1
1,1-Dichloroethane	< 0.81	< 0.81	< 0.81	< 0.81	< 81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81
1,1-Dichloroethene	< 0.79	< 0.79	< 0.79	< 0.79	**350**	**1.4**	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79
1,2,4-Trimethylbenzene	**1.4**	**2.0**	**1.4**	**1.5**	< 98	**1.0**	**1.5**	**1.1**	< 0.98	**1.5**	**1.8**
1,2-Dichloroethane	< 0.81	< 0.81	< 0.81	< 0.81	< 81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81
1,2-Dichloropropane	< 0.92	< 0.92	< 0.92	< 0.92	< 92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92
1,3 Butadiene	< 0.44	< 0.44	< 0.44	< 0.44	< 44	< 0.44	< 0.44	< 0.44	< 0.44	< 0.44	< 0.44
1,3,5-trimethyl-benzene	< 0.98	**0.55 J**	< 0.98	< 0.98	< 98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98
1-Ethyl-4-methyl-benzene	< 0.98	**0.92 J**	< 0.98	< 0.98	< 98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98
2-Butanone (MEK)	< 24	< 24	< 24	< 24	< 2,400	< 24	< 24	**13 J**	< 24	**8.4 J**	**9.0 J**
2-Hexanone (Methyl butyl ketone/MBK)	**0.44 J**	**0.69 J**	**0.52 J**	**0.67 J**	< 82	< 0.82	**0.59 J**	**0.87**	< 0.82	**0.97**	< 0.82
Acetone	**36**	**32**	**25**	**94**	< 1,900	< 19	**36**	**74**	**12 J**	**57**	**150**
Acrolein	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	**0.87**	< 0.64	< 0.64	**1.0**	**100**	**3.7**	**1.2**	**2.7**	< 0.64	**2.8**	**1.5**
Bromodichloromethane	< 1.3	< 1.3	< 1.3	**1.3 J**	< 130	< 1.3	< 1.3	< 1.3	< 1.3	**9.4**	**28**
Carbon disulfide	**1.3 J**	**1.4 J**	**1.2 J**	**4.2 J**	< 620	**2.3 J**	**2.7 J**	**4.3 J**	**1.0 J**	**5.4 J**	**8.4**
Carbon tetrachloride	< 1.3	< 1.3	< 1.3	< 1.3	< 130	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3
Chlorobenzene	< 0.92	< 0.92	< 0.92	< 0.92	< 92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92
Chloroethane	< 0.53	< 0.53	< 0.53	< 0.53	< 53	< 0.53	< 0.53	< 0.53	< 0.53	< 0.53	< 0.53
Chloroform	**13**	**5.0**	**36**	**47**	**1,100**	**5.4**	**7.5**	**13**	**9.1**	**260**	**480**
Chloromethane	< 0.83	< 0.83	**0.37 J**	< 0.83	< 83	**0.43 J**	< 0.83	< 0.83	< 0.83	< 0.83	< 0.83
cis-1,2-Dichloroethene	**2.4**	**0.62 J**	< 0.79	< 0.79	**13,000**	**36**	**2.2**	< 0.79	< 0.79	< 0.79	< 0.79
Cyclohexane	< 0.69	< 0.69	< 0.69	< 0.69	**560**	**2.3**	**1.4**	< 0.69	< 0.69	**0.76**	**1.5**
Dibromochloromethane	< 1.7	< 1.7	< 1.7	**2.3**	< 170	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7
Dichlorodifluoromethane	**3.6**	**1.9**	**2.1**	**2.0**	< 99	**1.9**	**1.8**	**1.7**	**2.2**	**1.9**	**2.0**
Ethanol	**10 J**	**11 J**	**11 J**	**9.9 J**	**710 J**	**9.8 J**	**12 J**	**11 J**	**12 J**	**10 J**	**23**
Ethylbenzene	< 0.87	< 0.87	< 0.87	**0.57 J**	< 87	< 0.87	**0.61 J**	< 0.87	< 0.87	< 0.87	**1.0**
Heptane	< 0.82	< 0.82	< 0.82	**0.64 J**	< 82	**14**	**1.1**	**0.87**	< 0.82	**1.7**	**1.7**
Hexane	< 28	< 28	< 28	< 28	< 2,800	**440**	< 28	< 28	< 28	**4.3 J**	**16 J**
Isopropyl Alcohol	**100**	**84**	**69**	**70**	< 2,000	**67**	**100**	**65**	**96**	**57**	**110**
m,p-Xylene	**1.3 J**	**1.7 J**	**1.3 J**	**2.2**	< 170	**1.5 J**	**2.2**	**1.1 J**	< 1.7	**1.7 J**	**3.4**
Methyl isobutyl ketone (MIBK)	< 0.82	< 0.82	< 0.82	**0.57 J**	< 82	< 0.82	< 0.82	**0.87**	< 0.82	**0.77 J**	< 0.82
Methylene chloride	< 6.9	< 6.9	< 6.9	< 6.9	< 690	< 6.9	< 6.9	< 6.9	< 6.9	< 6.9	< 6.9
Naphthalene	< 1.0	< 1.0	< 1.0	< 1.0	< 100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	**0.50 J**	**0.92**	**0.56 J**	**1.1**	< 87	**0.59 J**	**0.87**	**0.52 J**	< 0.87	**0.66 J**	**1.3**
Propene	< 14	< 14	< 14	**4.2 J**	< 1,400	< 14	**6.9 J**	< 14	< 14	**12 J**	< 14
Styrene	< 0.85	< 0.85	< 0.85	< 0.85	< 85	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85	**1.8**
Tetrachloroethene	**700**	**28**	**10**	**15**	**460**	**4.1**	**100**	**4.6**	**1.5**	**340**	**57**
Tetrahydrofuran	< 5.9	< 5.9	< 5.9	**2.3 J**	< 590	< 5.9	< 5.9	< 5.9	< 5.9	< 5.9	< 5.9
Toluene	**2.2**	**2.1**	**2.1**	**2.8**	**45 J**	**3.3**	**4.9**	**2.1**	**0.60 J**	**3.3**	**3.7**
trans-1,2-Dichloroethene	< 0.79	< 0.79	< 0.79	< 0.79	< 79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79
Trichloroethene	**60**	**0.82 J**	< 1.1	**2.9**	**86,000**	**180**	**13**	**0.86 J**	**1.8**	**3.8**	**40**
Trichlorofluoromethane	**5.7**	**9.6**	**19**	**11**	< 450	**1.5 J**	**17**	< 4.5	< 4.5	**1.6 J**	< 4.5
Vinyl chloride	< 0.51	< 0.51	< 0.51	< 0.51	**920**	**3.1**	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51

Legend	
< 1.0	Parameter not detected above the laboratory reporting limit
1.0	Parameter reported above the laboratory reporting limit but below the applicable regulatory standard/criterion

Notes:
J = Value is estimated
µg/m³ = micrograms per cubic meter

Table 2
Exterior Soil Vapor Point Laboratory Analytical Results (Detections Only)
Volatile Organic Compounds
473 President Street
NYSDEC Site No. C224220A
Brooklyn, NY

Lab Report No:	22J3301			23A2216				22J3301	22J4339	23A2216
Sample ID:	SV-12	SV-13	SV-14	SV-15	SV-16	SV-17	SV-18	OA-1	OA-1	OA-1
Date Collected:	07/27/2022	07/28/2022	07/27/2022	10/20/2022	10/20/2022	10/20/2022	10/20/2022	10/20/2022	10/27/2022	01/18/2023
Volatile Organic Compounds (µg/m³)										
1,1,1-Trichloroethane	< 1.1	**5.3**	**1.1**	< 0.27	< 0.27	**0.22 J**	< 16	< 0.19	< 0.19	< 0.27
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 6.1	**1.7 J**	< 6.1	< 1.5	**0.74 J**	**0.47 J**	< 92	**0.40 J**	**0.40 J**	< 1.5
1,1-Dichloroethane	< 0.81	**1.3**	< 0.81	< 0.20	< 0.20	**0.19 J**	< 12	< 0.14	< 0.14	< 0.20
1,1-Dichloroethene	< 0.79	< 0.79	< 0.79	< 0.20	< 0.20	< 0.20	< 12	< 0.14	< 0.14	< 0.20
1,2,4-Trimethylbenzene	**1.9**	**1.7**	**2.3**	**0.81**	**5.9**	**1.2**	< 15	**0.22**	**0.16 J**	**0.12 J**
1,2-Dichloroethane	< 0.81	< 0.81	< 0.81	< 0.20	< 0.20	**0.53**	< 12	< 0.14	< 0.14	< 0.20
1,2-Dichloropropane	< 0.92	< 0.92	< 0.92	< 0.23	< 0.23	< 0.23	< 14	< 0.16	< 0.16	< 0.23
1,3 Butadiene	< 0.44	< 0.44	< 0.44	< 0.11	< 0.11	< 0.11	< 6.6	**0.082**	< 0.077	**0.11**
1,3,5-trimethyl-benzene	< 0.98	< 0.98	< 0.98	**0.17 J**	**0.99**	**0.29**	< 15	< 0.17	< 0.17	< 0.25
1-Ethyl-4-methyl-benzene	< 0.98	< 0.98	< 0.98	**0.21 J**	**1.4**	**0.37**	< 15	< 0.17	< 0.17	< 0.25
2-Butanone (MEK)	< 24	< 24	< 24	< 5.9	**4.6 J**	< 5.9	< 350	< 4.1	**1.4 J**	< 5.9
2-Hexanone (Methyl butyl ketone/MBK)	< 0.82	< 0.82	**0.52 J**	< 0.20	**0.58**	< 0.20	< 12	< 0.14	**0.44**	< 0.20
Acetone	**67**	**32**	**29**	**34**	**43**	**44**	< 290	**7.7**	**9.1**	**4.5 J**
Acrolein	NA	NA	NA	< 2.3	**0.66 J**	< 2.3	< 140	NA	NA	< 2.3
Benzene	**24**	**2.0**	**0.98**	**1.2**	**1.3**	**3.6**	**16**	**0.57**	**0.31**	**0.31**
Bromodichloromethane	< 1.3	< 1.3	< 1.3	< 0.34	< 0.34	< 0.34	< 20	< 0.24	< 0.23	< 0.34
Carbon disulfide	**5.9 J**	**1.3 J**	**3.1 J**	**0.69 J**	**0.64 J**	**0.39 J**	**25 J**	< 1.1	< 1.1	< 1.6
Carbon tetrachloride	< 1.3	< 1.3	< 1.3	< 0.31	< 0.31	< 0.31	< 19	**0.45**	**0.44**	< 0.31
Chlorobenzene	< 0.92	< 0.92	< 0.92	< 0.23	< 0.23	**0.31**	< 14	< 0.16	< 0.16	< 0.23
Chloroethane	< 0.53	< 0.53	< 0.53	< 0.13	< 0.13	**0.13**	< 7.9	< 0.093	< 0.092	< 0.13
Chloroform	**16**	**20**	**25**	**0.33**	**1.0**	**0.35**	**77**	< 0.17	< 0.17	< 0.24
Chloromethane	**0.51 J**	< 0.83	< 0.83	**0.42**	**0.55**	< 0.21	< 12	**0.9**	**0.87**	**0.32**
cis-1,2-Dichloroethene	**2.4**	**84**	< 0.79	**0.57**	< 0.20	< 0.20	< 12	< 0.14	< 0.14	< 0.20
Cyclohexane	**1.1**	< 0.69	< 0.69	**0.33**	**2.3**	**6.5**	**9,400**	**0.15**	< 0.12	< 0.17
Dibromochloromethane	< 1.7	< 1.7	< 1.7	< 0.43	< 0.43	< 0.43	< 26	< 0.30	< 0.30	< 0.43
Dichlorodifluoromethane	**2.0**	**1.8**	**1.7**	**0.96**	**1.2**	**0.62**	< 15	**1.0**	**1.0**	**0.61**
Ethanol	**10 J**	**18**	**14 J**	**16**	**7.2**	**3.7 J**	< 230	**8.3**	**13**	**4.0**
Ethylbenzene	**0.56 J**	< 0.87	< 0.87	**0.80**	**3.7**	**1.3**	**8.9 J**	**0.20**	**0.12 J**	**0.13 J**
Heptane	**0.77 J**	**1.3**	< 0.82	**0.82**	**1.2**	**25**	**14**	**1.4**	**0.19**	< 0.20
Hexane	**4.5 J**	< 28	< 28	**3.1 J**	**2.0 J**	**65**	< 420	**1.7 J**	< 4.9	< 7
Isopropyl Alcohol	**74**	**60**	**82**	**13**	**7.5**	**3.4 J**	< 290	**1.6 J**	**9.2**	< 4.9
m,p-Xylene	**2.1**	**1.9**	**1.5 J**	**3.2**	**16**	**5.0**	**25 J**	**0.62**	**0.37**	**0.40 J**
Methyl isobutyl ketone (MIBK)	< 0.82	< 0.82	**0.75 J**	< 0.20	**0.35**	< 0.20	< 12	**0.16**	**0.26**	< 0.20
Methylene chloride	< 6.9	< 6.9	< 6.9	**2.6**	< 1.7	< 1.7	< 100	< 1.2	< 1.2	< 1.7
Naphthalene	< 1.0	< 1.0	< 1.0	< 0.26	**0.44**	< 0.26	< 16	**0.25**	**0.19**	< 0.26
o-Xylene	**0.87**	**0.78 J**	**0.66 J**	**1.1**	**5.3**	**1.6**	**7.6 J**	**0.25**	**0.15 J**	**0.15 J**
Propene	**14**	< 14	< 14	< 3.4	< 3.4	**2.6 J**	< 210	< 2.4	**0.67 J**	< 3.4
Styrene	< 0.85	< 0.85	< 0.85	< 0.21	**0.35**	**0.20 J**	< 13	< 0.15	< 0.15	< 0.21
Tetrachloroethene	**11**	**380**	**33**	< 0.34	**0.77**	**0.52**	**29**	**0.26**	< 0.24	< 0.34
Tetrahydrofuran	**5.7 J**	**240**	< 5.9	< 1.5	< 1.5	< 1.5	< 88	< 1.0	< 1.0	< 1.5
Toluene	**5.4**	**2.6**	**2.6**	**9.0**	**120**	**8.3**	**29**	**2.2**	**0.71**	**0.44**
trans-1,2-Dichloroethene	< 0.79	**3.9**	< 0.79	< 0.20	< 0.20	< 0.20	< 12	< 0.14	< 0.14	< 0.20
Trichloroethene	**1.7**	**70**	< 1.1	**0.56**	< 0.27	< 0.27	< 16	< 0.19	< 0.19	< 0.27
Trichlorofluoromethane	< 4.5	**1.5 J**	< 4.5	**0.96 J**	**1.5**	**0.73 J**	< 67	**1.0**	**1.0**	**0.54 J**
Vinyl chloride	< 0.51	< 0.51	< 0.51	< 0.13	< 0.13	< 0.13	< 7.7	< 0.09	< 0.089	< 0.13

Legend	
< 1.0	Parameter not detected above the laboratory reporting limit
1.0	Parameter reported above the laboratory reporting limit but below the applicable regulatory standard/criterion

Notes:
J = Value is estimated
µg/m³ = micrograms per cubic meter

APPENDIX B
Site-specific Health and Safety Plan (HASP)

MOVE YOUR ENVIRONMENT FORWARD

SITE-SPECIFIC HEALTH AND SAFETY PLAN (HASP)

473 President Street Off-Site – Site #C224220A

Brooklyn, New York, 11215

Prepared For:

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233
Contract #D009808-73

Prepared By:

HRP Associates, Inc.
1 Fairchild Square, Suite 110
Clifton Park, NY 12065

HRP #: DEC1073.RA

Issued On: June 20, 2026

ADDENDUM LOG		
Addendum Number	**Date Issued**	**Modification(s) Needed/Reason(s)**

DISCLAIMER

HRP Associates, Inc. does not guarantee the health or safety of any person entering this site. Due to the potential hazards of this site and the activity occurring thereon, it is not possible to discover, evaluate, and provide protection for all possible hazards which may be encountered. Strict adherence to the health and safety guidelines set forth herein will reduce, but not eliminate, the potential for injury at this site. The health and safety guidelines in this plan were prepared specifically for this site for use and should not be used on any other site.

If unexpected conditions were to arise, any employee will have "Stop Work Authority." Employees should be capable of identifying existing and predictable hazards in their surroundings or working conditions that are unsanitary, hazardous, or dangerous to the workers. The employee(s) has the authority to impose prompt corrective measures to eliminate these hazards. Some examples include the ability to stop work, close a jobsite, or evacuate workers if needed.

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1.0 INTRODUCTION

This Health and Safety Plan (HASP) has been prepared for the Remedial Investigation (RI) that will be performed in the off-site study area of the 473 President Street Site (the Site). The general and contact information of the Site can be found on **Table 1** below.

This HASP has been developed in accordance with HRP Associates, Inc.'s (HRP) Health and Safety (H&S) procedures as required under the Occupational Safety and Health Administration's (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) regulation (Code of Federal Regulations (CFR), 29 CFR 1910.120). Specific H&S information for the project is contained in this HASP. This Plan has also been developed to establish minimum standards necessary for onsite investigation activities to protect the H&S of HRP personnel.

HRP personnel and associated contractors shall be familiar with this HASP prior to conducting proposed site work. This plan must be present onsite and be available for reference/inspection when the subject site work is being conducted.

All project personnel shall sign the certification page acknowledging that they have read and understand this HASP. Changes in the scope of the project or introduction of new hazards to the project shall require revision of the HASP, and approval by the Project Manager (PM) under the Addendum Log.

TABLE 1 GENERAL INFORMATION		
Project Number	DEC1073.RA	
Site/Project Name	473 President Street Off-Site	
Site Address/Location	473 President Street, Brooklyn, NY 11215	
CONTACTS		
HRP's Contacts		
Title	**Name**	**Phone Number**
Project Manager	Patrick Montuori	518-877-7101 Ext. 1411
Site Safety Officer	Zachary Zehr	Zachary Zehr

2.0 EMERGENCY CONTACTS AND PROCEDURES

2.1 Contacts

Table 2 presents the Emergency Contact information associated with the planned Remedial Investigation work. The following information, including directions to the nearest hospital shall be posted at the Site. When contacting the local authorities, be sure to provide: your name, facility name, full address, telephone number, and the nature of the emergency. The information on **Table**

2 should be revised, if necessary, upon review of the work to be completed and prior to initializing the activities.

TABLE 2 EMERGENCY CONTACTS		
Contact	**Name**	**Phone Number**
Local Police	NYCPD 78th Precinct Police Department (routine calls):	718-399-3197
Local Ambulance	Medlife Ambulance	212-225-8989
Local Fire Department	FDNY EMS Station 32- Fire Department (routine calls):	718-222-1290
Poison Control Center	Poison Control Center	1-800-222-1222
National Response Center	National Response Center	800-424-8802
Spill Response Agency	DEC Spills Hotline	1-800-457-7362
Local Hospital	The Brooklyn Hospital Center	718-250-8000
Local Hospital Address (Map in **Figure 4**)	121 DeKalb Avenue, Brooklyn, NY	
HRP's Site Safety Officer	Zachary Zehr	845-532-1882
Project Manager	Patrick Montuori	518-877-7101 Ext. 1411
State Agency PM	Marnie DeLuke	518-402-3262
State Agency PM	William Bennett	518-402-9659

For the police, ambulance, and fire department, contact 9-1-1.

The Site Safety Officer will coordinate the entry and exit of response personnel in the event of an emergency.

Map and directions to the following medical facilities are provided on **Figure 4**.

2.2 Emergency Procedures

In the event of a worker injury, fire, explosion, spill, flood, or other emergency that threatens the safety and health of site workers, the following procedure will be followed:

1. If the emergency originates within the work area covered by this Plan, the HRP Site Safety Officer shall act as the Emergency Coordinator. The emergency evacuation signal is an air horn or a loud yell. All emergency situations (including worker injuries, no matter how small) will be reported to the Site Safety Officer, who will determine the appropriate emergency response, up to and including evacuation. The Site Safety Officer will be responsible for reporting any emergency situation to the appropriate authorities, using a telephone or other appropriate method.

2. In the case of an evacuation, site workers will exit the site along the safest route(s) and assemble with team members at a safe rally point. Those workers in the Exclusion Zone will follow the emergency decontamination procedures outlined in **Section 6.4**. Accounting for all site personnel will be conducted by the Site Safety Officer using the personnel log at a location determined by the Site Safety Officer.
3. HRP personnel are not permitted to participate in handling the emergency. Fire and medical emergencies will be handled by the local fire department and ambulance service. In the case of a spill of hazardous materials, a local commercial spill clean-up firm should be contacted.

   NOTE: If the work is completed in New York, the New York State Department of Environmental Conservation (NYSDEC) may be contacted.

   In addition, the HSO/Project Manager must advise the site contact that the New York Spill Hotline should be contacted and, if the spill quantity is greater than the Reportable Quantity (RQ) under CERCLA and/or SARA, the National Response Center (NRC) and Local Emergency Planning Committee should also be contacted. If the spill begins to flow overland and threatens to contaminate a storm drain or surface water, HRP personnel may attempt to contain and isolate the spill using any available resources, but only if, in the judgment of the Site Safety Officer, such action will not expose the workers to dangerous levels of hazardous substances and is necessary to preserve life or property. In the event that a spill of material of any amount threatens to reach navigable waters, the National Response Center (NRC) shall be contacted.
4. Once initial emergency procedures to protect worker safety and health have been addressed, and control of emergency has been completed, the Site Safety Officer will complete HRP's Incident Investigation Report and submit this form to the appropriate personnel (HRP and/or client contact).
5. All site workers will be familiarized with the above procedures during the pre-entry briefing to be conducted before site work begins.

In the event of an evacuation, meet at the following rally points:

- In the event of a site evacuation, the rally point will be on the northwest corner of Nevins Street and President Street (**Figures 2 and 3**). The designated rally point may be relocated by the HSO based on project or site conditions. All site workers will be notified of any relocation prior to implementation.

Emergency Supplies and Equipment

Table 3 presents the appropriate Emergency Supplies and Equipment List for the planned listed work. Select the appropriate supplies and equipment based on the proposed work. The information on **Table 3** should be revised, if necessary, upon review of the listed work and prior to initializing the activities.

TABLE 3 EMERGENCY SUPPLIES/EQUIPMENT	
SUPPLY ITEM	**LOCATION ONSITE**
☒ First Aid Kit	In Vehicle
☒ Fire Extinguisher	In Vehicle
☒ Spill Kit	In Vehicle
☒ Hand Sanitizer	In Vehicle
☒ Caution Tape, Cones	In Vehicle
☒ Water or Other Fluid	In Vehicle
☒ Wash and Dry Towels	In Vehicle
☒ Sunscreen	In Vehicle
☒ Cooling Aids (cooling towels, vests, etc.)	In Vehicle
☐ Other	

3.0 SCOPE OF WORK

3.1 Site Background

The 473 President Street Off-Site study area consists of the area surrounding the President Street Sites which are located on adjoining parcels in the Gowanus neighborhood of Brooklyn, New York. The President Street Site locations are depicted on **Figure 1** and are described below.

- 473 President Street (Site No. C224220) located at 473 President Street, identified as Block 440, Lot 1. The site has recently been redeveloped into a nine-story high rise apartment building referred to as 499 President Street.
- President Street Portfolio (Site No. C224309), which formerly included two non-contiguous parcels located at 469 President Street (E Waste Parcel) and 532 Union Street (Pontone Parcel), separated by 473 President Street. In 2020 the two parcels were merged with the 473 President Street Site parcel (Block 440, Lot 1), which as noted above is occupied by the 9-story apartment building referred to as 499 President Street.

- 514 Union Street (Site No. C224318) includes two contiguous parcels located at 514 Union Street, identified as Block 440, Lot 12, and 305 Nevins Street, identified as Block 440, Lot 9, and is occupied by a single-story building occupied by the Royal Palms Shuffleboard Club and a vacant commercial building.

The off-site study area surrounding the President Street Sites extends west to east from the Gowanus Canal to 3rd Avenue and north to south from Sackett Street to Carrol Street. The off-site study is depicted on **Figures 2 and 3**.

The area surrounding the President Street Sites is primarily residential, with some light industrial and commercial uses. Several NYSDEC remediation sites are located within the study area, including the following sites which are depicted on **Figure 3**:

- Former Chatham Cleaners site (Site No. 224431) located at 282 Nevins Street. An Inactive Hazardous Waste Program site, currently under investigation. The site was identified as a NYSDEC Class P-Site during SVI sampling completed as a part of the SC report for this Site.
- 318 Nevins Street Site (Site No. C2242350) located at 318 Nevins Street. A BCP site currently under remediation and redevelopment.
- Former A&A Brake Service Site (Site No. C224372) located at 558 Sackett Street. A BCP site at which remediation was completed in 2025.
- 585 Union Street Site (Site No. C224329) located at 585 Union Street. A BCP site at which remediation was completed in 2023.
- K-Fulton Works Site (Site No. 224051) a multi-parcel site located north of the intersection of Nevins Street and Degraw Street. An Inactive Hazardous Waste Program site, currently under remediation.
- 563 Sackett Street Site (Site No. C224222) located at 563 Sackett Street. A BCP site currently under investigation.

In addition, the Gowanus Canal is located on the western boundary of the study area and is a United States Environmental Protection Agency (EPA) National Priority List (NPL) site currently under remediation.

Figure 1 shows the site's location map.

3.2 Project's Description

The purpose of the RI portion of this work assignment (WA) is to characterize the nature and extent of off-site chlorinated volatile organic compound (CVOC) groundwater and soil vapor impacts related to contamination identified at three Brownfield Cleanup Program (BCP) sites referred to collectively herein as "the President Street Sites. The RI will also collect information necessary to scope in-situ treatment of the off-site CVOC groundwater contamination as an IRM.

Refer to the Introduction (**Section 1.0**) for the site's information and contacts.

3.3 Site Type

TABLE 4 SITE TYPE (Check all that may apply to the site/project.)	
☒ Active	☐ Abandoned
☐ Industrial	☐ Landfill
☐ Inactive	☐ Unsecured
☐ Well Field	☐ Water Work
☒ Residential	☐ Railroad
☐ Undeveloped	☒ Commercial
☐ Secure	☐ Service Station
☐ Other – Specify	

3.4 Scope of Work

In general, the work to be performed by HRP and/or HRP's subcontractors consists of investigative methods to evaluate the environmental condition of the Site. The fieldwork for this task includes the following subtasks:

GPR Survey

Complete a Ground Penetrating Radar (GPR) survey to locate utilities and/or obstructions that may affect the locations of soil borings.

Soil Boring Installation and Soil Sampling:

To investigate potential soil contamination and collect other physical and chemical parameters which may impact the effectiveness of chemical or biological in-situ groundwater treatment, HRP will conduct the following activities:

• Install up to 9 soil borings to a maximum depth of 30 feet below grade (ft bg) for the purpose of characterizing and evaluating potential impacts to subsurface soils. Soil samples will be collected continuously, logged, and screened using a calibrated photoionization detector (PID).

• Collect up to 3 soil samples from each boring for laboratory analysis. Soil samples will be selected based on observed evidence of contamination (PID readings, odor, staining, etc.), the observed water table interface, and the conceptual site model.

Groundwater Sampling:

To evaluate the current lateral and vertical extent of groundwater contamination and to inform the design of the in-situ groundwater treatment remedy, HRP will conduct the following activities:

• All groundwater obtained during well development and sampling will be disposed of in accordance with DER-10.

• Collect groundwater samples from up to 17 existing monitoring wells. Groundwater samples will be collected in general accordance with low-flow groundwater sampling procedures. A synoptic round of water levels will be collected from accessible monitoring wells prior to the start of groundwater sampling.

Instantaneous Change in Head Testing:

To determine hydraulic conductivity and other hydrogeologic characteristics, instantaneous change in head testing, also known as "slug testing," will be performed at up to 10 monitoring wells.

At each monitoring well both a falling head (slug-in) test and a rising head (slug-out) test will be performed by submerging and withdrawing a mechanical slug, constructed of Schedule 40 PVC pipe. During each test, water level measurements will be recorded automatically using a pressure transducer data logger programmed to record water levels at intervals of less than one second. Manual water level measurements will also be recorded using an electronic water level tape. Water level readings will be recorded until water level has recovered to within a minimum of 60% of its original level.

Site Surveys:

Soil boring locations and elevations will be surveyed according to horizontal and vertical datums by a New York State licensed land surveyor. Field surveying will include establishing project horizontal control and the collection of soil borings, monitoring wells, soil vapor samples and other relevant Site features.

Check the box for the following topics that are applicable to the project being completed (**Table 5**).

TABLE 5 TASKS	
☐ Site Inspections (e.g., ESA)	☐ Drum Sampling
☐ Industrial Hygiene	☒ Ground Water Sampling
☐ Asbestos Survey	☐ Landfill Sampling
☐ Bridge Inspections	☐ Product Sampling
☒ Drilling/Probing	☐ Remediation Monitoring (air/water)
☐ Well Repair/Abandonment	☒ Soil Gas Sampling
☐ Stack Testing	☐ Stormwater Sampling

TABLE 5 TASKS	
☐ Surface Water Sampling	☒ Surveying
☐ Wastewater Sampling/Benchmark Test	☐ Confined Space Entry
☐ Excavation	☐ Emergency Spill Response Oversight
☐ Chemical/Waste Exposure/Handling	☐ Other

Should conditions or the scope of work described herein change significantly; a HASP Addendum will be completed.

A Safety and Logistics Planning call will be held prior to conducting any intrusive activities at the site. Representatives from HRP and each subcontractor will attend the call to discuss logistical and safety challenges general to the scope of work and specific to the Site. This call is documented on the Safety and Logistics Planning Log in **Appendix A**.

Specific procedures may be needed for certain job tasks, include at the end of this HASP.

4.0 ROLES AND RESPONSIBILITIES

The following personnel on **Table 6** are designated to perform the stated project activities and to ensure that the requirements of this HASP are met. The same person may fill more than one role, and/or serve as an alternate in the absence of the designated team member.

A complete list of HRP employee and subcontractor responsibilities (as applicable) can be found in the HRP's H&S procedures.

NOTE: Any employee has the STOP WORK AUTHORITY (sometimes known as PAUSE WORK).

TABLE 6 ROLES AND RESPONSIBILITIES	
Project Team Member	**Responsibilities and Tasks**
Zachary Zehr (or Qualified Alternate Safety Officer)	**HRP's Site Safety Officer:** Ensuring all site work is performed in accordance with HRP's H&S Programs, as well as in accordance with local, state, and federal regulations. • Directing and implementing HRP's HASP. • Reviewing the Subcontractor's HASP and being aware of the hazards detailed therein. • Conduct a job orientation meeting and routine safety meetings for HRP employees and subcontractors, as applicable. • Provide copies of these inspections, recordkeeping/personnel logs to the engineer/contractor as required. • Ensuring all project personnel have been adequately trained in the recognition and avoidance of unsafe conditions. • Address Stop Work Orders that shall be executed upon the determination of an imminent H&S concern and will notify the appropriate contacts upon issuance of this order. • Authorizing work to resume, upon approval from the Contractor. • Directing activities, as defined in the HRP's and the Contractor's written HASP, during emergency situations. • Providing personnel monitoring where applicable. • Ensuring that adequate personal protective equipment (PPE) and first aid supplies are available. • Ensure site security, to the extent practicable. • Ensure accident victims are promptly cared for, and the incident is investigated and properly reported. • Communicating with HRP's PM, Office H&S Manager (OHSM), and others when needed. • Report all injuries, illnesses, and other incidents to the PM.

Patrick Montuori (Site Supervisor / Project Manager)	**HRP's Site Supervisor/Project Manager**
	• Monitor and assist the Site Safety Officer.
	• Maintain appropriate rules, regulations, and codes at the job site.
	• Provide advanced safety planning for all activities through the use of scheduling and administrative controls.
	• Obtain site-specific H&S information and communicate that information with the appropriate personnel (i.e., contractors, client, etc.)
	• Report all injuries, illnesses, and other incidents to the Regional Office Manager (ROM) and Corporate H&S Officer (CHSO). If ROM or CHSO cannot be reached, contact Chief Operating Officer (COO) or Human Resources.
	• Ensure all HRP personnel are trained and qualified to perform site work.
	• If an SSE is involved in any job tasks of this HASP, identify SSE and assign a mentor to the SSE.
	  ○ Ensure the SSE has completed the appropriate training per their Health & Safety Onboarding, this includes their understanding of the Short Service Employee Program.
	  ○ Ensure the SSE has understood and acknowledged the guidelines set within this HASP.
	• Follow the guidelines set within the Short Service Employee Program for further instructions.

TABLE 6 ROLES AND RESPONSIBILITIES	
Project Team Member	**Responsibilities and Tasks**
Site Workers (Subcontractors)	**Site Workers** • Read and work in accordance with this HASP. • Report all unsafe work practices to the Site Safety Officer. • Report all incidents, including near-misses to the Site Safety Officer. • Work in a safe manner. • Provide designated Competent Person
This Section below is for when an SSE will be performing job tasks listed in this HASP.	
Short Service Employee	**Short Service Employee (SSE)** • Read and work in accordance with this HASP. An acknowledgement of the Field Team Acknowledgement form in Section 12 of this HASP serves as confirmation that the SSE understands the procedures and guidelines outlined in this HASP. • Wears orange SSE identification badge in visible location (at all times). • Report all unsafe work practices, near misses, and incidents to the Site Safety Officer and Mentor. • Work in a safe manner. • Absorbs knowledge of assigned Mentor • Does not work alone as a single person crew • Performs work as directed • See the Short Service Employee Program for other details of Roles & Responsibilities of an SSE.
Assigned Mentor	**Mentor of Short Service Employee** • Read and work in accordance with this HASP. • Report all unsafe work practices, near misses, and incidents to the Site Safety Officer. • Work in a safe manner. • If performing job tasks that are listed in this HASP, then follow the appropriate responsibilities listed within this table • See the Short Service Employee Program for other details of Roles & Responsibilities of a mentor.

*A list of site workers will be maintained in the Personnel Log (**Appendix B**).

5.0 PROJECT HAZARDS AND CONTROL MEASURES

5.1 Identifying Hazards

The Site Supervisor/PM shall complete the Job Safety Analysis (JSA) in **Appendix C** prior to the start of the project. The JSA identifies the steps of the task to be performed with its hazards, unsafe conditions, and materials that are known or suspected to be onsite. The hazards that are listed in the JSA must be ranked using HIGH (H), MEDIUM (M), or LOW (L) based on current site knowledge. Use the results of this analysis to verify that controls in the JSA are adequate to mitigate task hazards.

Details of specific hazards associated with individual tasks will be discussed in the Toolbox Talk (formerly known as the Daily Job Brief Record (**Appendix D**)). **The Toolbox Talk is the key to the entire operation**. We are writing this HASP prior to going onsite and therefore cannot anticipate all of the site-specific hazards. The PM must do a thorough job on the Toolbox Talk, so

we remain compliant. The Daily Toolbox Talk records will be reviewed by the PM at the conclusion of the field work.

5.2 Task Policy Reminders

Confined Spaces

Only properly trained HRP personnel are authorized to enter confined spaces. Confined space entry may be performed by subcontractors who have the proper training and experience to conduct this work.

Emergency Spill Response Oversight

HRP personnel are not permitted to participate in handling the emergency, only the oversight of such activities.

Excavations

It is HRP's policy to ensure that for excavation projects the subcontracted environmental contractor will provide a competent person to perform daily and as needed inspections of excavation sites. This policy will be conveyed through the subcontract agreement with the environmental contractor. At a minimum HRP will provide our employees involved with construction projects with awareness level training regarding excavation hazards and notify the subcontracted firm if any obvious excavation safety hazard exists during the course of onsite activities.

Drilling

HRP employees will not perform drilling, rather HRP will use a competent subcontractor to perform drilling services. At a minimum, HRP will provide our employees involved with this type of project with awareness level training regarding drilling, the hazards of the equipment and distance of the drilling.

Chemical Hazards

Hazardous materials and/or chemicals are listed on **Table 9**. Contaminants that are known or suspected onsite are listed at the end of this document on **Table 13** includes Chemical name, odor threshold OSHA permissible exposure limit (PEL), the American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit value (TLV), OSHA short-term exposure limit (STEL), Immediately Dangerous to Life or Health (IDLH) Concentrations, routes of exposure, and symptoms of acute exposure. Chemicals likely to be encountered during site work are highlighted.

Physical Hazards

Physical hazards known or suspected to be onsite are listed on **Table 8**. **Table 8** includes description of potential hazards, methods to identify/minimize them, potential for occurrence and potentially affected tasks.

Air Monitoring

In order to determine potential health hazards and to determine the level of personal protection needed during drilling, excavation, and sampling activities within the areas of concern, a

photoionization detector (PID) will be periodically operated to monitor air quality for the purpose of ensuring minimal exposure to volatile organic compounds.

Background ambient air levels will be established outside the exclusion zone prior to commencement of site work. Ambient air sampling will occur in the breathing zone of site workers for comparison to the action levels (described below). Additionally, air sampling will be conducted in the vicinity of any intrusive exploration (i.e., near excavations, trenches, etc.) to determine if any contaminants are present. See **Table 7** for action levels to be used.

TABLE 7
ACTION LEVELS
Use the following Action Levels

INSTRUMENT	ACTION LEVEL	LEVEL OF PROTECTION OR ACTION REQUIRED
PID	<5 ppm	• Continue to monitor • Recheck levels after fifteen minutes • If levels are sustained, reassess • Use engineering controls to lower breathing zone vapors • Level C protection (at the H&S Officer's (HSO) discretion)
PID	>5 ppm	• Stop work and evacuate exclusion zone • Recheck levels after fifteen mins • Use engineering controls to lower breathing zone vapors • If levels are sustained, contact CHSO and/or OHSM, and re-evaluate HASP

NOTE: When the background reading is >1 ppm, assess the area and equipment, but continue PID monitoring and wear Level D protection

ppm = parts per million

When an action level is equaled or exceeded, the work area should be evacuated, and the area re-tested with the sampling device. If the appropriate action level continues to be exceeded, the Site Safety Officer will have to assess the use of engineering controls to lower vapor levels or availability of required increased personal protection equipment before authorizing re-entry.

5.3 Community Air Monitoring (required by DER 10)

AWARENESS FOR NEW YORK ONLY:

To ensure the protection of receptors surrounding the site HRP has developed and will implement a Community Air Monitoring Program (CAMP), which requires real time monitoring of volatile organics and dust during the remedial investigation. The CAMP will be implemented during all intrusive activities.

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than ten micrometers (10 µm) in size (PM-10) and capable of integrating over a period of fifteen

minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities.

If the downwind PM-10 particulate level is 100 micrograms per cubic meter($\mu g/m^3$) greater than the background (upwind perimeter) for the fifteen-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work may continue with dust suppression techniques provided that no visible dust is migrating from the work area.

If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 $\mu g/m^3$ above the upwind level, work will 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 $\mu g/m^3$ of the upwind level and in preventing visible dust migration.

TABLE 8
HAZARDS KNOWN OR SUSPECTED ONSITE
*Check all that may potentially apply to the tasks being performed. Chemical Hazards are included on **Table 8**.

PHYSICAL HAZARDS	SAFETY HAZARDS	BIOLOGICAL HAZARDS	ERGONOMIC HAZARDS	PSYCHOLOGICAL HAZARDS
☐ Structure Unsafe	☒ Slipping/Tripping/Falling	☐ Bacteria	☒ Repetitive Movements	☒ Workload
☐ Uneven Floors/Surfaces	☐ Improper Machine Guard	☐ Viruses	☐ Improper Work Setup	☐ Short Service Employee
☐ Ceiling Unsafe	☒ Equipment Malfunction	☐ Insects	☐ Poor Equipment Design	☐ New Worker
☐ Falling Objects/Loads	☐ Struck By	☐ Plants	☐ Poor Workstation Design	☐ Lone Worker
☐ Flying Debris	☐ Homeless Encampments	☐ Animals/Birds	☐ Postural/Workflow	☒ Stress
☒ Slippery Floor/Ground	☐ Falling Into	☐ Other (Specify)	☒ Manual Handling	☐ Harassment
☒ Obstructed Walking Areas	☐ Cave In/Collapses		☐ Other (Specify)	☐ Communication Issue
☒ Misuse of Machinery	☒ Underground Utilities			☐ Other (Specify)
☒ Excessive/Loud Noise	☐ Excavation Spoils			
☐ Poor Lighting	☐ Superimposed Loads			
☐ Fire	☒ Mobile Equipment/Machinery			
☐ Radiation	☒ Electrical			
☐ Magnetic Fields	☐ Poor Housekeeping			
☐ Pressure Extremes	☐ Suspicious Activity/Person			
☒ Extreme Heat/Cold	☒ Security			
☒ Inclement Weather	☒ Traffic			
☐ Confined Space Entry	☐ Other (Specify)			
☐ Atmosphere				
☐ Drowning				
☐ Flooding				
☐ Poor Visibility				
☐ Other (Specify)				

CONTROL MEASURES AND WORK PRACTICES

NOTE: Hand signals are encouraged to communicate during a job where hearing is limited, but vision is not. These hand signals should be listed within the Toolbox Talk and JSA.

REQUIRED PERMITS

☐ None ☐ Excavation ☐ Encroachment ☐ Confined Space Entry ☐ Hot Tap ☐ Street Open/Closing ☐ Hot Work
☐ Energized Equipment ☐Other (Specify)

***These permits may not be issued by HRP employees. You may reference them as needed.**

TABLE 9
HAZARDOUS MATERIAL SUMMARY
Check all that may apply onsite. Attach Safety Data Sheets (SDS) in **Appendix F** for each chemical that will be brought to the site.

HAZARDOUS MATERIAL LIST		**KNOWN CHEMICALS** List the actual chemical name that HRP employees are exposed to.
☐ Acids	☐ Diesel Fuel/Oil	Tetrachloroethylene (PCE)
☐ Pickling Liquors	☐ Lubricants	Trichloroethylene (TCE)
☐ Caustics	☐ PCBs	Cis-1,2 Dichloroethylene
☐ Pesticides	☐ PAHs	Vinyl Chloride
☐ Dyes/Inks	☐ Kerosene	
☐ Cyanides	☐ Propane	
☐ Phenols	☐ PFAS	
☐ Halogens	☐ Mold	
☐ Dioxins	☐ Distillation Bottoms	
☐ Fly Ash	☐ Fecal Matter/Animal Waste	
☐ Asbestos	☐ Laboratory Waste	
☐ Millings/Mine Tailings	☐ Pharmaceuticals	**CONTROL MEASURES:**
☐ Ferrous Smelter	☐ Hospital Waste	
☐ Non-Ferrous Smelter	☐ Radiological Waste	
☐ Metals	☐ Municipal Waste	
☐ Chlorinated Solvents	☐ Construction Debris	
☒ Hydrocarbons	☐ Aluminum	Nitrile Gloves
☐ Alcohols	☐ Paint	
☐ Ketones	☐ Pigments	
☐ Esters	☐ Metal Sludges	
☐ Ethers	☐ POTW Sludges	
☐ Oily Wastes	☐ Other (Specify)	
☐ Gasoline		

5.4 Equipment Usage

Table 10 below lists the equipment that will be used for the above task(s). Equipment must be included in the JSA and/or Toolbox Talk for proper hazard identification of tasks being performed.

TABLE 10
EQUIPMENT USAGE

EQUIPMENT/ INSTRUMENT	USED FOR	CALIBRATION BY	CALIBRATION DATE
MiniRae 3000 PID, 11.7 eV bulb	Soil Screening		

6.0 SUSPECTED CONTAMINATION AND DECONTAMINATION

6.1 Suspected Contamination

Prior to commencement of work in the area of suspected contamination, protective zones specific for each phase of the HASP will be established by the Site Safety Officer, if necessary, prior to the start of field work. These zones will be defined during the Toolbox Talk.

The purpose of the protective zones is to prevent potential cross-contamination of adjacent areas as well as to protect project personnel from exposure to contaminated areas.

6.2 Decontamination Procedures

All personnel and equipment leaving the exclusion zone must be properly cleaned and decontaminated. When there is evidence of chemical contamination during the site operations, all personnel will be decontaminated under the direction of the Site Safety Officer. Clean-up and/or decontamination of personnel shall consist of washing off excessively soiled PPE with a disinfectant detergent scrub and water. At the very least, all personnel should wash their hands and face before leaving the exclusion zone. After washing, all disposable clothing (Tyvek, gloves, etc.) will be removed and placed in a double lined plastic bag.

Sampling tools and any other non-disposable items will be decontaminated between sampling points, and at the direction of HRP personnel, to prevent cross-contamination of work areas or environmental samples, as applicable.

6.3 Emergency Decontamination

If immediate medical attention is required in an emergency, decontamination will be performed after the victim has been stabilized. If a worker has been exposed to an extremely toxic or corrosive material, then emergency decontamination will consist of flushing with copious amounts of water. If the victim cannot be decontaminated because it will interfere with emergency medical aid being administered, then the victim should be wrapped with plastic or other available items (i.e., an uncontaminated coverall) to reduce potential contamination of other personnel or medical equipment.

If a site worker has been overcome by heat related illness, then any protective clothing should be removed immediately. In the case of non-medical emergency evacuation, decontamination should be performed as quickly as possible, unless instant evacuation is necessary to save life or prevent injury.

6.4 Personal Hygiene

All employees will be required to wash their hands and face prior to eating, smoking, drinking, and going to the bathroom. Workers will be required to remove contaminated PPE and clothing prior to leaving the Contaminant Reduction Zone. All field personnel should avoid contact with potentially contaminated substances such as puddles, pools, mud, etcetera.

7.0 PERSONAL PROTECTIVE EQUIPMENT

There is different equipment that is worn to minimize exposure to hazards that can cause serious work injuries and illnesses. **Table 11** will list out the PPE that is required onsite and for the job that needs to be performed.

TABLE 11
PERSONAL PROTECTIVE EQUIPMENT
Check all the PPE that may apply and give the description of PPE.

TYPE of PPE	DESCRIPTION of PPE
HEAD AND FACE: ☐ Not Needed ☒ Safety Glasses ☐ Safety Goggles ☐ Face Shield ☒ Hard Hat ☒ Hearing ☐ Other	
FEET: ☐ Not Needed ☒ Steel Toes ☐ Overboots ☐ Disposable Booties ☐ Rubber Boots ☐ Electrostatic Discharge (ESD) ☐ Chemical Resistant ☐ Other	
PROTECTIVE CLOTHING: ☒ Not Needed ☐ Encapsulated Suit ☐ Splash Suit ☐ Apron ☒ High Visibility Vest ☐ Coveralls ☐ Other	
HANDS: ☐ Not Needed ☐ Cut Resistant ☐ Chemical Resistant ☐ Under Gloves ☐ Over Gloves ☐ Heat Resistant ☒ Other: **Nitrile Gloves**	
RESPIRATOR: ☒ Not Needed ☐ Supplied Air ☐ APR	☐ Filtering Face Piece (N95/Dust Mask) ☐ Half Face ☐ Full Face

7.1 Levels of Personal Protective Equipment

As identified in **Section 5.0**, the overall H&S risk associated with chemical hazards for HRP, and associated contractors is considered significant. This is primarily due to the moderate concentrations of chemical contaminants expected based on minimal contact personnel will have with any potentially contaminated media. Therefore, the minimal level of protection for HRP personnel during the conduct of all the environmental work performed at the site will be Level D PPE. The following constitute Level D PPE; it may be used as appropriate:

- Coveralls
- Gloves, as applicable
- Chemical-resistant steel toe and shank shoes
- Boots, outer, chemical-resistant (disposable), as applicable
- Safety glasses or chemical splash goggles
- Hard hat, as applicable
- Escape mask, as applicable
- Face shield, as applicable

If site conditions warrant, an upgrade to Level C PPE may be required. If required, the Contractor will make Level C PPE readily available. The following constitute Level C PPE; it may be used as appropriate:

- Full-face or half-mask, air purifying respirators (National Institute for Occupational Safety and Health (NIOSH) approved)
- Hooded chemical-resistant clothing (e.g., Tyvek, overalls, two-piece chemical-splash suit, disposable chemical-resistant overalls)
- Coveralls, as applicable
- Gloves, outer, chemical-resistant
- Gloves, inner, chemical-resistant
- Boots (outer), chemical-resistant steel toe and shank, as applicable
- Boot-covers, outer, chemical-resistant (disposable), as applicable
- Hard hat, as applicable
- Escape mask, as applicable
- Face shield, as applicable

NOTE: Safety vest may or may not be required depending onsite conditions/location and will be addressed at the time of task assignment by the Site Safety Officer.

If the Toolbox Talk determines that protection beyond Level D is required, HRP will re-evaluate the HASP as well as the site conditions, and will revise the HASP as required.

NOTE: The level of protection identified here does not include the necessary equipment for entering confined spaces.

The following table provides a general description of potential field activity tasks to be performed and associated (recommended) PPE. The use of this PPE may or may not vary depending onsite conditions and will be addressed at the time of task assignment by the Site Safety Officer.

TABLE 12
POTENTIAL FIELD ACTIVITY TASKS AND ASSOCIATED PPE

Task Description	Invasive (Y/N)	Protection Level
Site Mobilization - Surveying, fence and barrier installation, hay bale installation, decon and work zone set up, soil staging areas preparation	N	Level D
Soil and Water Sampling - Drilling, sampling, soil moving as needed.	Y	Modified Level D or Level C – Respirator as needed based on monitoring. Eye protection required during collection of any liquid sample
Soil Excavation, Staging and Load-Out	Y	Modified Level D – or Upgrade to Level C dependent on monitoring
Decontamination - Truck dry sweeping, decon pressure wash of equipment, PPE change out	Y	Modified Level D – or Upgrade to Level C dependent on monitoring
Waste Management - Soil load-out for offsite disposal, water removal for disposal, PPE disposal	Y	Modified Level D – or Upgrade to Level C dependent on monitoring
Site Control (Exclusion, Decontamination, Support Zones)	N	Modified Level D – or Upgrade to Level C dependent on monitoring
Communications - Use of hand signals, backup alarms, and voice	N	NA
Site Restoration	Y	Level D

8.0 TRAINING/MEDICAL SURVEILLANCE

8.1 Training Requirements

All HRP and HRP subcontractor personnel who enter the work zone and/or Exclusion Zone must have successfully completed the 40-hour or 24-hour training requirement outlined in 29 CFR 1910.120(e). If the 40-hour or 24-hour training of any person occurred more than twelve months prior to commencement of work, then that person must have attended an 8-hour refresher course within the twelve months prior to commencement of work.

If respirators are in use in the Exclusion Zone, then all personnel must have undergone respirator training and a fit test within the last twelve months.

Training certificates and records for HRP employee(s) are maintained by HRP. All other contractors will be required to supply written proof of training before being allowed into the Exclusion Zone.

An employee who is considered a Short Service Employee and will be performing job tasks relevant to the scope of project listed within this document, must comply with HRP's Short Service Employee Program.

The Project Manager must also comply to the guidelines within the stated SSE Program as well as ensuring the SSE has received the appropriate training related to the information and job tasks listed within this HASP.

8.2 Pre-Entry Briefing

Prior to commencement of work in an area of suspected contamination, HRP's HSO will conduct a pre-entry briefing with onsite contractors, which will include the following:

- Name of the Site Safety Officer and person responsible for the visitor log
- Description of the parcel as well as location of emergency telephones and the location/boundaries of the Exclusion Zone, Contamination Reduction Zone, and Support Zone, if established
- Review of hospital locations and directions
- Review of tasks to be conducted within the parcel by the site workers
- Review of the Emergency Action Plan and rally point, including the nearest emergency communications and telephone numbers
- The nature, level, and degree of anticipated hazards (physical and chemical) involved in the site work
- Required PPE
- Decontamination procedures

The Site Safety Officer should also, at this time, ensure that all onsite HRP and HRP subcontractor personnel have read the HASP and signed the Field Team Acknowledgement (**Section 12.0**). If additional information on the site becomes available, the Site Safety Officer will call additional briefings, as necessary.

8.3 Toolbox Talk (Daily Job Brief)

The HRP Site Safety Officer will conduct a safety overview meeting at the beginning of each workday on the site. The meeting will be given in addition to any safety meetings that the subcontractor conducts. A summary of the meeting topics signed by the personnel attending the meeting is included in **Appendix D**.

NOTE: Be sure to include any SSE(s) in the toolbox talk and inform the team of the SSE being on site.

8.4 Medical Surveillance

All HRP and HRP subcontractor personnel entering the Exclusion Zone must have had a physical within the twelve months prior to commencement of site work. A physician's written opinion regarding fitness for work for each employee including work limitations, if any, is on file at HRP, as applicable. A written opinion for all other site personnel must be supplied prior to commencement of site work to the HRP Site Safety Officer. Any work limitations for site personnel, or relevant medical information (i.e., allergic reactions to medication) should be included in this Plan.

9.0 AUTHORIZATION

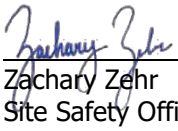
Personnel authorized to enter the Exclusion Zone include the personnel listed from **Table 6** of this plan. Persons not listed on **Table 6** may enter the Exclusion Zone only if the appropriate training and medical fitness certifications have been supplied to either the HRP PM or OHSM and the Site Safety Officer or his/her designee onsite has approved site entry. All personnel entering or leaving the Exclusion Zone must sign in and sign out with the recordkeeper.

10.0 RECORDKEEPING

By the completion of the Project this Site-Specific HASP document, and all associated records (Toolbox Talks, JSA, Monitoring data, etc.) must be provided to the appropriate personnel at the office that implemented the Project. The appropriate personnel will then electronically store these records into the project folder. It is expected that some scanning will be necessary.

11.0 SITE-SPECIFIC HEALTH AND SAFETY PLAN APPROVAL

This plan meets the minimum requirements of 29 CFR 1910.120 and 29 CFR 1929.65 and has been written for specified site conditions, dates, and personnel, and must be amended if conditions change. By their signature, the undersigned certify that this HASP is approved and will be utilized during activities at the project.



Zachary Zehr
Site Safety Officer — 7/22/2026 Date

Patrick Montuori
Project Manager — 7/22/2026 Date

Bryan Sherman
Office Health and Safety Manager — 7/22/2026 Date

Subcontractor:
I have been provided a copy of this HASP for review.

_____ _____
Name Date

Representing _____

The Designated Competent person representing [subcontractor] at the site will be:

_____.

Any alternate Competent Person will be noted in the Toolbox Talk (**Appendix D**).

ADDITIONAL APPROVALS (or Re-Approvals)	
Name:	**Date:**

12.0 FIELD TEAM ACKNOWLEDGMENT

All HRP personnel shall sign below after reading this HASP and shall agree with the following statement:

"I have read and understand this Site-Specific Health and Safety Plan.
I will comply with the provisions set forth therein."

Printed Name	Signature	Date
Zachary Zehr		
Amber Saforre		

NOTE: An SSE must also acknowledge this HASP.

FIGURES

Figure 1
Site Location Map

Path: S:\Data\NNYDEC - NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION\NEW YORK\MULTIPLE SITE ADDRESS\DEC1035P2 - Region 2 P_Sites\GIS\President_Street\President_Stn

USGS Quadrangle Information
Quad ID: 40073-F8
Name: Brooklyn, New York
Date Rev: 1995
Date Pub: 1999

Figure 1
Site Location
473 President Street Off-Site
Site: C224220A
473 Presidents Street
Brooklyn, New York
HRP # DEC1073.RA
Scale 1" = 2,000'

HRP
MOVE YOUR ENVIRONMENT FORWARD
ONE FAIRCHILD SQUARE
SUITE 110
CLIFTON PARK, NY 12065
(518) 877-7101
HRPASSOCIATES.COM

Figures 2 & 3

Site Plan with Areas of Environmental Concern

Chatham Cleaners Site Site #224431

Former A&A Brake Service Site Site #C224372

585 Union Street Site Site # C224329

RALLY POINT

HRP-MW-2

HRP-MW-4

HRP-MW-6S/D

HRP-MW-3

HRP-MW-4D

HRP-MW-7S/D

Union St

Union St

Union St

Union St

HRP-MW-5

HRP-MW-1

HRP-MW-5B

MW-12S

MW-14S

MW-13D

MW-16S/D/DD

514 Union Street Site Site #C224318

318 Nevins St. Site #C224350

Nevins St

Pontone Parcel Site #C224309

E Waste Parcel Site #C224309

473 President Street Site Site #C224220

MW-21B

MW-21A

President St

President St

MW-20A

MW-20B

Nevins St

Legend

- Groundwater Flow Direction
- Proposed Soil Boring Location
- Monitoring Well (RI Sample Location)
- Monitoring Well (RI Sample and Slug Test Location)
- Monitoring Well (Not to be Sampled during RI)

Path: S:\Data\NNYDEC - NYSDEC\NEW YORK\MULTIPLE SITE ADDRESS\DEC1035P2 - Region 2 P-Sites\P-Sites\GIS\President-Street\President-StreetSW.aprx

HRP
MOVE YOUR ENVIRONMENT FORWARD
ONE FAIRCHILD SQUARE
SUITE 110
CLIFTON PARK, NY 12065
(518) 877-7101
HRPASSOCIATES.COM

North

0 31.25 62.5 Feet

Revisions					
No.	Date				

Designed By: ZKZ

Drawn By: ZKZ

Reviewed By: PWM

Issue Date: 7/22/2026

Project No: DEC1073.RA

Sheet Size: 11x17

Remedial Investigation Groundwater Investigation Locations

473 President Street Off-Site Site #C224220A
473 President Street
Brooklyn, new York

Figure No.

2

HRP
MOVE YOUR ENVIRONMENT FORWARD
ONE FAIRCHILD SQUARE
SUITE 110
CLIFTON PARK, NY 12065
(518) 877-7101
HRPASSOCIATES.COM

North

0 40 80
Feet

Revisions					
No.					
Date					

Designed By:	Drawn By:	Reviewed By:
ZKZ	SRW	PWM

Issue Date:	Project No:	Sheet Size:
06/19/2026	DEC1035.P2	11x17

Remedial Investigation
Soil Vapor
Investigation Locations
473 President Street Off-Site
Site #C224220A
473 President Street
Brooklyn, new York

Figure No.
3

Path: S:\Data\NNYDEC - NYS\DEC\NEW YORK\MULTIPLE SITE ADDRESS\DEC1035P2 - Region 2 P-Sites\GIS\President-Street\President-StreetSW.aprx

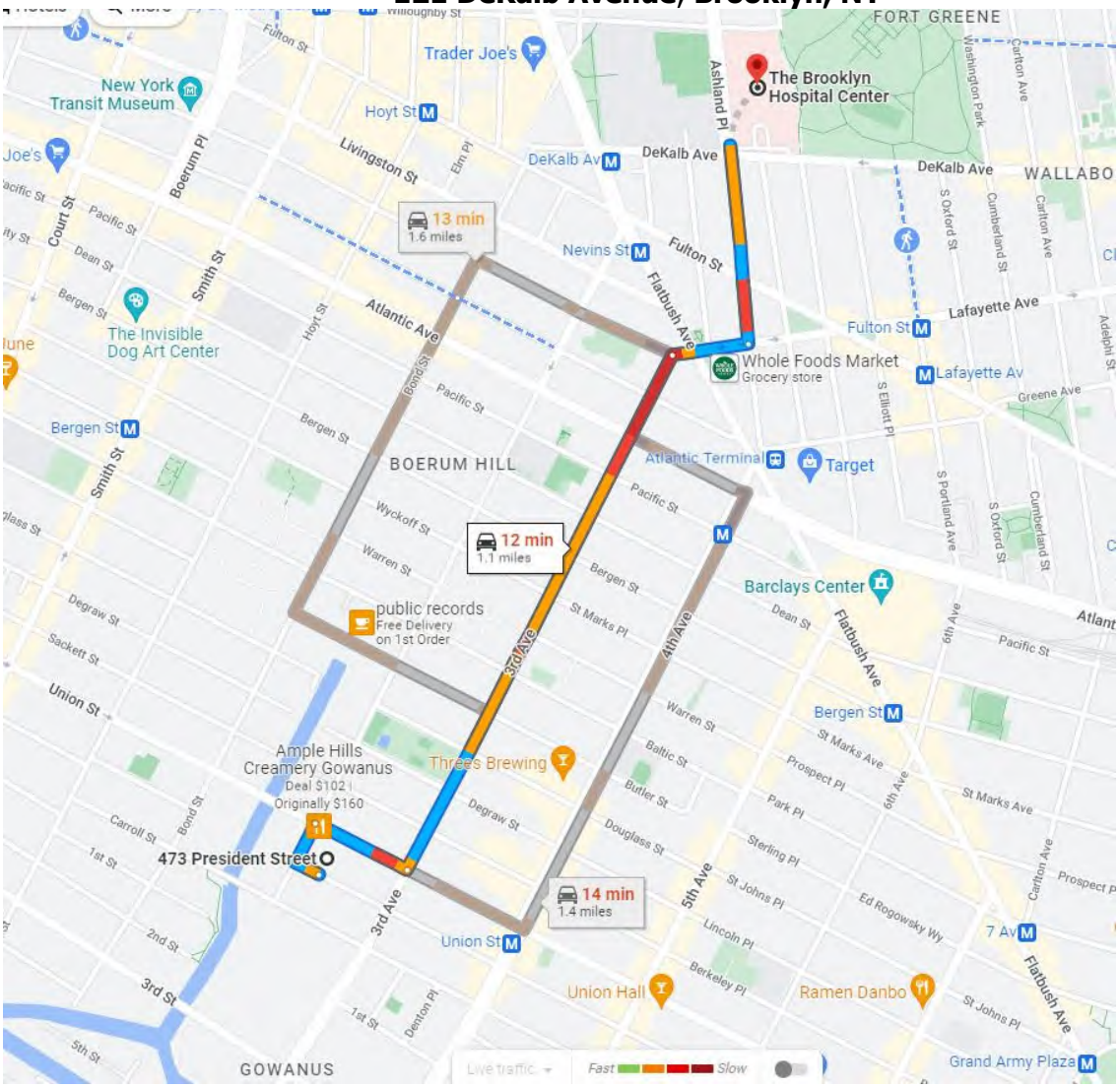
Figure 4
Route and Map to Nearest Hospital

Figure 4: Route and Map to Nearest Hospital and Medical Center

Directions to The Brooklyn Hospital Center

Total Estimated Time: 12 minutes
Total Estimated Distance: 1.1 miles

Begin at 473 President Street, Brooklyn, NY
End at to The Brooklyn Hospital Center
121 DeKalb Avenue, Brooklyn, NY



TABLES

TABLE 13
CONTAMINANTS OF CHEMICALS KNOWN OR SUSPECTED ONSITE
*HIGHLIGHT THOSE THAT APPLY TO THE TASK BEING PERFORMED.

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
1,1,1 Trichloroethane	44 ppm	350 ppm	350 ppm	---	700 ppm	Inh, Ing, Con	Head, Lass, CNS, Derm
1,1,2-Trichloroethane	---	10 ppm	10 ppm	----	[100 ppm]	Inh, Ing, Abs, Con	Eyes, Nose Irrit, Resp Irrit, CNS, Liver, Kidney Damage, Derm, [Carc]
1,2,4 Trimethylbenzene 1,3,5 Trimethylbenzene		25 mg/m^3	25 ppm	25 mg/m^3	ND	Inh, Ing, Con	Irrit Eyes, Skin, Nose, Throat, Resp Sys, Bron, Hyprochronic Anemia, Head, Drow, Ftg, Dizz, Nau, Inco, Vomit, Conf, Chemical Pneu (aspir lig)
1,1' Biphenyl	0.0062 mg/m^3	0.2 ppm	0.2 ppm	---	100 mg/m^3	Inh	
1,1-Dichloroethane	120 ppm	100 ppm	100 ppm	---	3,000 ppm	Inh, Ing, Con	CNS Depres, Skin Irrit, Liver, Lung, and Kidney Damage
1,1-Dichloroethylene***	500 ppm	---	5 ppm	---	---	Inh, Con	CNS depress, Resp, [Carc]
1,2-Dichlorobenzene	50 ppm	50 ppm	25 ppm		200 ppm	Inh, Ing, Abs, Con	Irrit, Resp
1,2-Dichloroethylene	26-87 ppm	200 ppm	200 ppm	---	1,000 ppm	Inh, Ing, Con	Vomit, Irrit Eyes, Resp Sys; CNS Depres
1,2-Dichloropropane	130-190 ppm	75 ppm	75 ppm	---	[400 ppm]	Inh, Con, Ing	Eye irritation, Drow, light-headedness; irritated skin, [Carc]
1,3-Dichlorobenzene	---	----	---	----	---	----	----
1,4-Dichlorobenzene	20 ppm	75 ppm	10 ppm	----	[150 ppm]	Inh, Ing	[Carc], Eye Irrit, swelling around eye, headache, nausea, vomiting
1-Methylnaphthalene	0.02 ppm	---	---	---	---	---	---
2,4-Dichlorophenol	1.4007 mg/m^3	---	---	---	---	---	---
2,4-Dimethylphenol	0.001 mg/m^3	---	---	---	---	---	---
2-Methylnaphthalene	0.01 ppm	---	---	---	---	---	---
2-Methylphenol (o-cresol) [skin]	1.4 mg/L	5 ppm	5 ppm	---	250 ppm	Inh, Abs, Ing, Con	Confusion, depression, Resp Fail; difficulty breathing, irregular rapid respiration, weak pulse; skin, eye burns; dermatitis

TABLE 13
CONTAMINANTS OF CHEMICALS KNOWN OR SUSPECTED ONSITE
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CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
3, 3'-Dichlorobenzidine	---	None	**---**	---	---	Inh, Abs, Ing, Con	Sens, Derm, Head, Dizz, Burns, GI Upset, [Carc]
4-Isopropyltoluene	---	---	---	---	---	Con, Inh, Ing	Defat, Eryt
Acenephthene	0.5048 mg/m^3	---	---	---	---	---	---
Acenaphthylene	---	---	---	---	---	---	---
Acetone	47.5 mg/m^3	1,000 ppm	500 ppm		2,500 ppm	Ing, Inh, Con	Head, Dizz; Irrit Eyes, Nose, Throat; Derm, CNS, Depress, Derm
Acetonitrile	70 mg/m^3	40 ppm	20 ppm	---	500 ppm	Inh, Ing, Abs, Con	Asphy; Nau, Vomit; Chest Pain; Weak, Stupor, Convuls; Eye Irrit
Aldrin	---	0.25 mg/m^3	0.25 mg/m^3	---	25 mg/m^3	Inh, Abs, Ing, Con	Head, Dizz, Nau, Vomit, Mal, Myo, [Carc]
Anthracene (Coal Tar Pitch)	---	0.2 mg/m^3			[80 mg/m^3]	Inh, Con	Derm, bron, [carc]
Antifreeze		50 ppm	100 mg/m^3 (aerosol)	---	ND	Inh, Ing, Con	Irrit Eyes, Skin, Nose, Throat, Nau, Vomit, Abdom Pain, Lass, Dizz, Stup, Conv, CNS, Depres, Skin Sen
Arsenic	----	0.010 mg/m^3	0.01 mg/m^3	----	[5 mg/m^3]	Abs, Inh, Con, Ing	Derm; GI; Resp Irrit; ulceration of nasal septum; Resp, Irrit, Hyper Pig of Skin, [Carc]
Barium (elemental)	---	0.5 mg/m^3	0.5 mg/m^3		50 mg/m^3 (barium components)	Inh, Ing, Con	Resp. Irrit, GI, Muscle Spasm, Eye Irrit, Slow Pulse; skin burns
Benzene*	4.7 ppm	1 ppm	0.5 ppm	5 ppm	[500 ppm]	Inh, Ing, Abs, Con	Irrit Eyes, Nose, Throat; Head, Nau, Derm, Ftg, Anor, Lass, [Carc]
Benzo(a)anthracene (coal tar pitch)	---	0.2 mg/m^3			[80 mg/m^3]	Inh, Con	[Carc], Derm, Bron
Benzo(a)pyrene (coal tar pitch)	---	0.2 mg/m^3	---		[80 mg/m^3]	Inh, Con	[Carc], Derm, Bron

TABLE 13
CONTAMINANTS OF CHEMICALS KNOWN OR SUSPECTED ONSITE
*HIGHLIGHT THOSE THAT APPLY TO THE TASK BEING PERFORMED.

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
Benzo(b)fluoranthene (coal tar pitch)	---	0.2 mg/m^3	---		[80 mg/m^3]	Inh, Con	[Carc], Derm, Bron
Benzo(g,h,i)perylene (coal tar pitch)	---	0.2 mg/m^3			[80 mg/m^3]	Inh, Con	[Carc], Derm, Bron
Benzo(k)fluoranthene (coal tar pitch)	---	0.2 mg/m^3			[80 mg/m^3]	Inh, Con	[Carc], Derm, Bron
Bis (2-ethylhexyl) Phthalate**	N/A	5 mg/m^3	5 mg/m^3	10 mg/m^3	[5,000 mg/m^3]	Inh, Ing, Con	[Carc], Irrit Eyes
Cadmium (dust)	---	0.005 mg/m^3	Lowest concentration feasible 0.01 mg/m^3	---	[9 mg/m^3]	Inh, Ing	CNS, Resp, Irrit, Vomit, Cough, Head, Chills, Nau, Diarr, Pulm Edema, Dysp, Chest Tight, [Carc]
Carbazole	---	---	---	---	---	Inh	---
Carbon disulfide	0.1-0.2 ppm	20 ppm	1 ppm	30 ppm	500 ppm	Inh, Abs, Ing, Con	Diz, Head,Ftg, Ner, anorexia, trembling hands, loss of fine motor coord, gastritis, eye, skin burns, Derm
Carbon Tetrachloride***	21.4 ppm	10 ppm	5 ppm	25 ppm	[200 ppm]	Inh, Abs, Con, Ing	CNS Depres, Nau, Vomit, Irrit, Irrit Eyes, Skin, Drow, Dizz, [Carc]
Chlorobenzene***	0.98 mg/m^3	75 ppm	10 ppm	---	1,000 ppm	Inh, Ing, Con	Irrit, Drow, CNS, Depres, Eyes, Skin, Nose, Inco.
Chloroform***	85 ppm	50 ppm	10 ppm	50 ppm	[500 ppm]	Inh, Ing. Con, Abs	Dizz, Dullness, Nau, Head, Ftg, Irrit Eyes, Skin, Conf, [Carc]
Chromium	---	1 mg/m^3	0.5 mg/m^3	---	250 mg/m^3	Inh, Ing, Con	Irrit Eyes, Sens Derm
Chrysene (coal tar pitch)		0.2 mg/m^3	---		[80 mg/m^3]	Inh, Con	Derm, Bron, [Carc]
Cis-1-2-Dichloroethylene	---	200 ppm	200 ppm	----	1000 ppm	Inh, Con, Ing	Irrit Eyes, Resp, CNS Depress
Copper (dusts and mists) (fumes)		1 mg/m^3 0.1 mg/m^3	1 mg/m^3 0.2 mg/m^3	----	100 mg/m^3	Inh, Ing, Con	Vomit, Derm, CNS, Irrit, Derm, Nau, Taste (metallic)

TABLE 13
CONTAMINANTS OF CHEMICALS KNOWN OR SUSPECTED ONSITE
*HIGHLIGHT THOSE THAT APPLY TO THE TASK BEING PERFORMED.

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
Cyanide	0.9 mg/m^3	5 mg/m^3	5 mg/m^3 (10 min)	5 mg/m^3	25 mg/m^3	Inh, Ing, Abs, Con	Weak, Head, Nau, Conf, Cyan
Dibenzo(a,h)anthracene						Inh, Ing	
Dichloromethane	540 mg/m^3	25 ppm	50 ppm	125 ppm	[2,300 ppm]	Inh, Abs, Ing, Con	Irrit Eyes, Skin, lass, drow, dizz, Numb, tingl, Nau, [Carc]
Diethylphthalate**	---	None	5 mg/m^3	---	N.D.	Inh, Ing, Con	Irrit Eyes, Skin, Nose, Throat, Head, Dizz, Nau, Lac, Possible Polyneur, Vestibular Dysfunc, Pain, Numb, lass, Spasms in Arms and Legs
Di-n-octylphthalate	---	---	---	---	---	Inh, Ing, Con	---
Dimethylpthalate	---	5 mg/m^3	5 mg/m^3	---	2,000 mg/m^3	Inh, Ing, Con	Irrit, Resp, Abdom
Ethyl Benzene*	8.7 mg/m^3	100 ppm	100 ppm	125 ppm	700 ppm	Inh, Abs, Con	Head. Irrit, Derm, Narc., Irrit Eyes, Skin; Coma
Fluoranthene		0.2 mg/m^3	0.2 mg/m^3			Ing, Inh	[Carc]
Fluorine*	6 mg/m^3	0.1 ppm	1 ppm	2 ppm	25 ppm	Inh, Con	
Fuel Oil/#2	----	----	300 ppm	----		Inh, Abs, Ins, Con	Irrit Eyes, Skin, Derm, Head, Ftg, Blurred Vision, Dizz, Conf
Ideno(1,2,3-cd)pyrene		0.2 mg/m^3				Ing, Inh	
Lead (inorganic forms and dust as Pb)****		0.05 mg/m^3	0.05 mg/m^3		100 mg/m^3	Inh, Ing, Con	Irrit, Cns, Vomit, Narco, Weak, Pall, Insom, Lass, Abdom, Constip
Mercury (organic alkyl compounds) [skin]		0.01 mg/m^3	0.01 mg/m^3	0.03 mg/m^3	2 mg/m^3	Inh, Abs, Ing, Con	Irrit Eyes, Skin; Cough & Chest Pain, Bron Pneu, Tremor, Insom, Irrty, Indecision, Head, Ftg, Weak, Stomatitis, Salv, GI Dist, Anor, Low-wgt, Ataxia

TABLE 13
CONTAMINANTS OF CHEMICALS KNOWN OR SUSPECTED ONSITE
*HIGHLIGHT THOSE THAT APPLY TO THE TASK BEING PERFORMED.

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
Mercury (compounds)	----	0.1 mg/m^3	0.025 mg/m^3	0.1 mg/m^3	10 mg/m^3	Inh, Abs, Ing, Con	Irrit Eyes, Skin; Cough & Chest Pain, Bron Pneu, Tremor, Insom, Irrty, Indecision, Head, Ftg, Weak, Stomatitis, Salv, GI Dist, Anor, Low-wgt, Ataxia
Methanol	13.1150 mg/m^3	200 ppm	200 ppm	---	6,000 ppm	Inh, Abs, Ing, Con	Irrit Eyes, Skin, Resp, Head, drow, dizz, Nau, Vomit, vis dist, Optic, derm
Methyl Ether	----	----	---	----	---	Inh	Poison
Methyl Ethyl Ketone (2-Butanone)***	0.7375 mg/m^3	200 ppm	200 ppm	300 ppm	3,000 ppm	Inh, Con, Ing	Irrit Eyes, Skin, Nose, Throat, Head, Dizz, Vomit, Derm
Methylene Chloride	540 mg/m^3	25 ppm	50 ppm	125 ppm	[2,300 ppm]	Inh, Ing, Con, Abs	Ftg, Weak, dizz, drow, Numb, Tingle [carc], Irrit Eyes, Skin, Nau
Mineral Spirit	20 ppm	500 ppm	100 ppm	---	20,000 mg/m^3	Inh, Ing, Con	Irrit Eyes, Nose, Throat, Dizz, Derm, Chemical pneu
Methyl tert butyl ether (MTBE)	---	---	50 ppm	---		Inh, Abs	
Naphtha	0.86 ppm	100 ppm	400 ppm	---	1,000 ppm	Inh, Con, Ing	Light Head, Drow, Irrit, Derm, Irrit Eyes, Skin, Nose
Naphthalene*	0.084 ppm	10 ppm	10 ppm	15 ppm	250 ppm	Inh, Abs, Ing, Con	Eye irritation; headache; confusion, excitement, malaise (vague feeling of ill-being); nausea, vomiting, abdominal pain; irritated bladder; profuse sweating; renal shutdown; dermatitis
Nickel (metal)	---	1 mg/m^3	1.5 mg/m^3	---	[10 mg/m^3]	Inh, Ing, Con	Head, Verti, Nau, Vomit, Pain, Cough, Weak, Convuls, Delirium, Pneu, ,[Carc]
Nitrobenzene	0.0235 mg/m^3	1 ppm	1 ppm	---	200 ppm	Inh, Abs, Ing, Con	Irrit Eyes, Skin, Anoxia, Derm, Anem, Methem

TABLE 13
CONTAMINANTS OF CHEMICALS KNOWN OR SUSPECTED ONSITE
*HIGHLIGHT THOSE THAT APPLY TO THE TASK BEING PERFORMED.

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
n-Butylbenzene	---	---	---	---	---	---	---
n-Propylbenzene	---	---	---	---	---	---	---
PCBs 42% chlorine (Aroclor 1242)	---	1 mg/m^3 (skin)	1 mg/m^3 (skin)	---	[5 mg/m^3]	Inh, Abs, Ing, Con	Irrit Eyes, Chloracne, Liver Damage [carc]
PCBs 54% chlorine (Aroclor 1254)	---	0.5 mg/m^3 (skin)	0.5 mg/m^3 (skin)	---	[5 mg/m^3]	Inh, Abs, Ing, Con	Irrit Eyes; Chloracne, Liver Damage [carc]
PFAS	There are currently no established exposure limits for PFAS. If your project involves potential exposure to PFAS, reach out to the CHSO or OHSM about current best practices relative to exposure controls.						
Petroleum Distillates	---	500 ppm	100 ppm		[1,100 ppm]	Inh, Ing, Con	Dizz, Drow, Head, Dry Skin, Nau, Irrit Eyes, Nose, Throat, [Carc]
Phenanthrene (Coal Tar Pitch)		0.2 mg/m^3	0.2 mg/m^3		[80 mg/m^3]	Inh, Con	Derm, bron, (carc)
Phenol**	0.1786 mg/m^3	5 ppm	5 ppm	---	250 ppm	Inh, Abs, Ing, Con	Irrit Eyes, Nose, Throat, Anor, Low Wgt, Weak Musc Ache, Pain, Dark Urine, Cyan, Liver, Kidney Damage, Skin, Burns, Derm, Ochronosis, Tremor, Convuls, Twitch
Pyrene		0.2 mg/m^3			[80 mg/m^3]	Inh, Con	[Carc]
Sec-Butylbenzene	---	---	---	---	---	---	---
Selenium	N/A	0.2 mg/m^3	0.2 mg/m^3	Unknown	1 mg/m^3	Inh, Ing, Con	Irrit, Head, Fever, Chills, Skin/Eye Burns, Metallic Taste, GI, Dysp, Bron
Silver (metal and soluble compounds as Ag)	----	0.01 mg/m^3	Metal = 0.1 mg/m^3 Soluble 0.01 mg/m^3		10 mg/m^3	Inh, Ing, Con	Blue-gray Eyes, Nasal Septum, Throat, Skin; Irrit, Ulcer, Skin, GI Dist
Tetrachloroethylene (a.k.a. perchloroethylene)***	4.68 ppm	100 ppm	25 ppm	200 ppm	[150 ppm]	Inh, Ing, Con, Abs	Irrit Eyes, Skin, Nose, throat, Resp. Nau, flush face, Neck, dizz, inco, head, drow, eryth, [Carc]

TABLE 13
CONTAMINANTS OF CHEMICALS KNOWN OR SUSPECTED ONSITE
*HIGHLIGHT THOSE THAT APPLY TO THE TASK BEING PERFORMED.

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
Toluene*	2.14 ppm	200 ppm	50 ppm	300 ppm	500 ppm	Inh, Abs, Ins, Con	Resp, Irrit, Ftg, Conf, Dizz, Head, Derm, Euph, Head, Dilated Pupils, Lac, Ner, Musc FTg, Insom, Pares, Derm, lass
Petroleum Distillates (naphtha)	10 ppm	100 ppm	400 ppm	---	1,000 ppm	Con, Inh, Ing	---
Trans 1,2-Dichloroethylene	0.3357 mg/m^3	200 ppm	200 ppm	---	1,000 ppm	Inh, Con	Irrit, Resp, CNS depress
Trichloroethylene***	21.4 ppm	100 ppm	50 ppm	200 ppm	[1,000 ppm]	Inh, Con, Abs, Ing	Head, Vert, Nau, Vomit, Derm, Vis Dist, Tremors, Som, Nau, Irrit Eyes, Skin, Card Acc., Ftg, [Carc]
Trichlorofluoromethane	28 mg/m^3	1,000 ppm	1,000 ppm		2,000 ppm	Inh, Con, Ing	Inco, trem, derm, card, asph, frost
Trichlorotrifluoroethane	45 ppm	1,000 ppm	1,000 ppm	1,250 ppm	2,000 ppm	Inh, Con, Ing	Irrit Skin, throat, Drow, Derm, CSN, Depress
Vinyl Chloride***	10-20 ppm	1 ppm	1 ppm	5 ppm	ND	Inh, Con	Lass, Abdom, Gi Bleeding; Hepatomegaly; Pallor or Cyan of Extremities; Liq: Frostbite; [Carc]
VM&P Naphtha (petroleum naphtha)	---	---	300 ppm	---	ND	Con, Ing, Inh	Irrit Eyes, Nose, Throat, Dizz, drow, head, nau, dry skin, chem. Pneumonitis
Xylene*	4.5 mg/m^3	100 ppm	100 ppm	150 ppm	900 ppm	Inh, Ing, Abs, Con	Dizz, Drow, Irrit, Excite, Nau, Vomit, Eyes, Skin, Nose, Throat
Zinc (oxide)	---	5 mg/m^3	2 mg/m^3	---	500 mg/m^3	Inh	Dry Throat, Cough, Chills, Tight Chest, Blurred Vision
4,4′ DDD	---	---	---	---	---	Ing, Inh, Con	---
4,4′ DDE	---	---	---	---	---	Ing, Inh, Con	---
4,4′ DDT	5.0725 mg/m^3	1 mg/m^3	1 mg/m^3	---	[500 mg/m^3]	Inh, Abs, Ing, Con	Irrit Eyes, Skin, Pares, Tongue, Lips, Face, Trem, Anxi, Dizz, Conf, Mal, Head, Lass, Conv, Paresi Hands, Vomit, [Carc]

TABLE 13
CONTAMINANTS OF CHEMICALS KNOWN OR SUSPECTED ONSITE
*HIGHLIGHT THOSE THAT APPLY TO THE TASK BEING PERFORMED.

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]
Aldrin		0.25 mg/m^3	0.25 mg/m^3	---	[25 mg/m^3]	Inh, Abs, Ing, Con	Head, Dizz, Nau, Vomit, Mal, Myo [Carc]
Chlordane [skin]	0.0084 mg/m^3	0.5 mg/m^3	0.5 mg/m^3		[100 mg/m^3]	Inh, Abs, Ing, Con	Blurred vision, confusion, delirium, cough; abdominal pian, nausea, vomiting diarrhea; irritability, tremor, convulsions [Carc]
EDB	76.8 mg/m^3	20 ppm		30 ppm	[100 ppm]	Inh, Abs	Resp. Irr, Eye Irr. [Carc]
Endosulfan I Endosulfan II	---	0.1 mg/m^3	0.1 mg/m^3	---	N.D.	Inh, Abs, Ing, Con	Irrit, Skin, Nau, Conf, Agit, Flush, Dry, Trem, Conv, Head
Endosulfan Sulfate		---	0.1 mg/m^3	---	---	Ing, Con	---
Endrin	1.8 x 10^{-2} ppm	0.1 mg/m^3	0.1 mg/m^{-3}	---	2 mg/m^3	Inh, Abs, Ing, Con	Epil Conv, Stup, Head, Dizz, Abdom, Nau, Vomit, Insom, Agress, Conf, Drow, Lass, Anor
Endrin Aldehyde	1.8 x 10^{-2} ppm	---	---	---	---	Inh, Con	---
Endrin Ketone	---	---	---	---	---	---	---
Heptachlor	0.02 ppm	0.5 mg/m^3	0.05 mg/m^3	---	[35 mg/m^3]	Inh, Abs, Ing, Con	In animals, Trem, Conv, [Carc]
Heptachlor epoxide	0.02 ppm	---	0.05 mg/m^3	---	---	Ing, Inh	Trem, Conv, [Carc]
Hydrogen Cyanide(Hydrocyanic Acid)	0.9 mg/m^3	10 ppm (11 mg/m^3)	4.7 ppm	4.7 ppm	50 ppm	Con, Inh, Ing, Abs	Asphy & death at high levels; Weak, Head, Conf, Nau, Vomit, Incr. Rate and Depth of Respiration or Respiration Slow and Gasping

TABLE 13
CONTAMINANTS OF CHEMICALS KNOWN OR SUSPECTED ONSITE
*HIGHLIGHT THOSE THAT APPLY TO THE TASK BEING PERFORMED.

CONTAMINANT	ODOR THRESHOLD	OSHA PEL[1]	TLV (ACGIH)	OSHA CEILING[2] /STEL	IDLH CONC.	ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE[3]

NOTES

* = Constituent found in ETPH

**=Constituent found in Acid/Base/Neutral Extractable Compounds

***=Constituent found in Volatile Organic Compounds

****=Constituent found in Leaching Lead

[1]PEL = Permissible Exposure Limit. If no PEL is available, then the NIOSH Threshold Limit Value (TLV) should be used, if available.

[2]Ceiling limit or Short-Term Exposure Limit (STEL), if available. Again, the NIOSH TLV may be used if no OSHA standard exists.

[3]Abbreviations are contained on the next page

[ ] = Potential Occupational Carcinogen

ND = Not Been Determined

ABBREVIATIONS

abdom = Abdominal
abs = Absorption
aggress = Aggressiveness
agit = Agitation
anor = Anorexia
anos = Anosmia (loss of the sense of smell)
Anxi = anxiety
anem – Anemia
aspir = Aspiration
asph – asphyxia
bron = Bronchitis
bron pneu = Bronchitis pneumonitis
[carc] = Potential occupational carcinogen
Card = Cardiac arrhythmias
CNS = Central nervous system
conf = Confusion
constip = Constipation
con = Skin and/or eye contact
conv = Convulsions
corn = Corneal
cyan = Cyanosis
defat = Defatting
depres = Depressant/Depression
derm = Dermatitis
diarr = Diarrhea
dist = Disturbance
dizz = Dizziness
drow = Drowsiness
dry = Dry mouth
dysp = Dyspnea (breathing difficulty)
emphy = Emphysema
epil-conv = Epileptiform convulsions
eryth = Erythema
euph = Euphoria
fib = Fibrosis
frost = frostbite
ftg = Fatigue
flush = Flushing
GI = Gastrointestinal
head = Headache
hyperpig = Hyperpigmentation
inco = Incoordination
ing = Ingestion
inh = Inhalation
inj = Injury
insom = Insomnia
irrit = Irritation
irrty = Irritability
lac = Lacrimation (discharge of tears)
lass = Lassitude (weakness, exhaustion)
li-head = Lightheadedness
liq = Liquid
low-wgt = Weight loss
mal = Malaise (vague feeling of discomfort)
malnut = Malnutrition
methem = Methemoglobinemia
myo = Myochonic (jerks of limbs)
mg/m = milligrams/cubic meter
muc memb = Mucous membrane
mus ftg = Muscle fatigue
narco = Narcosis
nau = Nausea
ner = Nervousness
numb = Numbness
optic = Optic nerve damage (blindness)
pall = Facial pallor
parap = Paralysis
ppm = Parts per million
pares = Paresthesia
paresi = Paresis
peri neur = Peripheral neuropathy
pneu = Pneumonitis
prot = Proteinuria
pulm = Pulmonary
peri neur = Peripheral neuropathy
pneu = Pneumonia
prot = Proteinuria
pulm = Pulmonary
repro = Reproductive
resp = Respiratory
skin sen = skin sensitization
salv = Salvation
som = Somnolence (sleepiness unnatural drowsiness)
subs = Substernal (occurring beneath the sternum)
stup = Stupor
sys = System
tingle = tingle limbs
trem – Tremors
verti = Vertigo
vis dist = Visual disturbance
vomit = Vomiting
weak = Weakness

APPENDIX A
Safety and Logistics Planning Log

Safety and Logistics Planning Log
DEC009808

Date of Call	
Work Assignment Number / Task	
DEC Site Name and Number	

ATTENDEES		
HRP		
POSITION	**NAME**	**NUMBER**
HRP PM		
HRP SSO		
HRP Other:		
HRP Other:		
SUBCONTRACTORS		
POSITION	**NAME**	**NUMBER**
Driller Contact		
Utility Survey		
Surveyor		
Construction		
Other		
DEC		
POSITION	**NAME**	**NUMBER**
DEC PM		
DEC Other:		
DEC Other:		

BRIEF DESCRIPTION: SCOPE OF WORK (Task Specific)	*Use additional forms for additional tasks

LOGISTICS			
Date of Work		Time to Meet	
Site Contact (phone)			
Notification of Site Contact made by			
Describe any unusual site-specific conditions/logistics here (if any):			

QUESTIONS	**Y/N**	**NOTES**
Water Needed? Source Confirmed?	Y / N	
Electricity Needed? Source Confirmed?	Y / N	
Water Storage Needed?	Y / N	
Water Discharges? Permits Needed/Attained?	Y / N	
Air Monitoring – CAMP?	Y / N	
Will there be intrusive work?	Y / N	
Locations marked in the field?	Y / N	
NYS Code Rule 753/Dig Safe System	Y / N	Ticket Number:
Confirmed that mark-out complete?	Y / N	
Anticipated Subsurface Conditions (Geology, Utilities, etc.):		
Anticipated Depth to Groundwater:		
Will NAPL/Product be Present?	Y / N Describe:	
Will there be any other parties entering the work zones? Describe control measures.		

APPENDIX B
Personnel Log

PERSONNEL LOG				
Name	**Representing**	**Date**	**Time In**	**Time Out**

APPENDIX C
Job Safety Analysis (JSA)

JSA Completed By	

HAZARD RANKING CHART

SEVERITY	CONSEQUENCE	PROBABILITY				
	Injury	**Frequent**	**Likely**	**Occasional**	**Seldom**	**Unlikely**
	Fatality	**H**	**H**	**H**	**H**	**M**
	Injury Requiring Hospitalization	**H**	**H**	**H**	**M**	**L**
	Injury Requiring Medical Treatment Beyond First Aid	**H**	**M**	**M**	**L**	**L**
	Injury Requiring First Aid	**M**	**L**	**L**	**L**	**L**

TASK			
LOCATION OF TASK PERFORMED		**DATE OF JSA**	

TASK DESCRIPTION

*There are different categories of hazards to include: Biological, Physical, Safety, Chemicals, and Ergonomics

STEPS	HAZARD	CONTROL MEASURES	RISK RATING

APPENDIX D
Toolbox Talk

TOOLBOX TALK

GENERAL INFORMATION		
Person Conducting	**Site Name/Address**	**HRP Client Name/Job #**
	473 President Street Off-Site 473 President Street, Brooklyn, NY	DEC1073.P2
Client Contact/Phone	**HRP H&S Rep.**	**HRP Supervisor**
Marnie DeLuke/ 518-524-0112		Patrick Montuori/518-978-2382
Date/Time	**Number Attending**	**Weather**
Designated Competent Person:		
Description of Work		

ATTENDEES (Use additional sheets as needed)		
Name	**Company**	**Signature**
If an SSE is present on site, identify employee(s) by providing their visual identification and announcing them to the attendees.		

EMERGENCY CONTACT INFORMATION		
Emergency Telephone Numbers	FIRE / POLICE / AMBULANCE: Dial 9-1-1	
Hospital Name & Location:		
NYSDEC Spill Line: 1-518-457-7362	National Response Center: 800-424-8802	CBYD: 800-922-4455
Health & Safety Manager:		

HAZARDS			
☐ Toxic	☐ Extreme Cold/Heat	☐ Soil Excavation	☐ Uneven Floors/Surfaces
☐ Corrosive	☐ Drains/Sumps	☐ Tank Excavation	☐ Flying Debris
☐ Flammable	☐ Sharp Objects	☐ Trenching	☐ Radiation
☐ Combustible	☐ Drilling in Soil	☐ Floor Holes	☐ Inclement Weather
☐ Reactive	☐ Lighting	☐ Working on/near Water	☐ Confined Space Entry
☐ Path Waste	☐ Slips/Trips/Falls	☐ Underground/Overhead Utilities	☐ Atmosphere
☐ Asbestos	☐ Lead	☐ Power washing	☐ Drowning / Flooding
☐ Abrasive Blasting	☐ Abrasive Blasting	☐ Lifting	☐ Poor Visibility
☐ Drum Handling	☐ Live Electrical Circuits	☐ Noise	☐ Equipment Malfunctions
☐ Pneumatic Tools	☐ Elevated Work Area	☐ Ladders	☐ Struck By
☐ Vac Truck	☐ Hot Work	☐ Vehicle Traffic	☐ Security (Threats, etc.)
☐ Improper Machine Guarding	☐ Cave In / Collapses	☐ Poor Housekeeping	☐ Suspicious Activity/Person
☐ Insects	☐ Plants	☐ Birds / Animals	☐ Repetitive Movements
☐ Improper Setup of Work Area	☐ Workload / Stress	☐ New / Lone Worker	☐ Poor Equipment Design

TOOLBOX TALK

☐ Pressure Extremes	☐ Mobile Equipment/Machinery	☐ Other (Specify)

PERSONAL SAFETY / PERSONAL PROTECTIVE EQUIPMENT (PPE)			
☐ Supplied Air Respirator	☐ SAR w/Egress Bottle	☐ SCBA	☐ Air Purifying Respirator Cartridge:
☐ Fully Encapsulating Suit	☐ Harness	☐ NOMEX (flam resistant)	☐ Protected Coveralls, Type:
☐ Overboots	☐ Lifebelt/Lanyard	☐ Hardhats	☐ Outer Gloves, Type:
☐ Safety Glasses	☐ Safety Goggles	☐ Face Shield	☐ Inner Gloves, Type:
☐ Reflective Vests	☐ Eye Wash	☐ Safety Shower	☐ First Aid Kit
☐ Hearing Protection	☐ Evacuation Plan	☐ Communications	☐ Properly Sloped Excavation/ Trench
☐ PFD's	☐ Ventilation	☐ Steel Toe Boots	☐ Flash suit
☐ Gloves (Nitrile, Cutting, etc.)	☐ ESD/Chemical Resistant Boots	☐ Other (Specify)	

FIRE SAFETY			
☐ Fire Extinguishers	☐ Hot Work Permit	☐ Fire Blanket	☐ Explosion-Proof Equipment
☐ Equipment Grounded & Bonded	☐ Non-Sparking Tools	☐ Eliminate Ignition Sources	☐ Area Kept Wet
☐ Smoking Area Designated Location:	☐ Fire Hose Laid Out	☐ Alarm Box in Area, Location:	☐ Other (Specify)

ISOLATE EQUIPMENT & ELECTRICAL EQUIPMENT			
☐ Establish Exclusion Zone/Traffic Cones	☐ Work Signs	☐ LockOut/TagOut	☐ Non-Conductive Tools
☐ Stop Transfers	☐ Caution Tape Area	☐ Equipment Grounded	☐ FR Suits/Coveralls
☐ GFCIS	☐ Temporary Fencing		

AIR MONITORING

Type of Meter:		Date last calibrated:	

SUBSTANCE	LEVEL B MAX.	ACTION LEVEL/LEVEL C MAX.	LEVEL D MAX.

STOP WORK AUTHORITY

The Stop Work Authority policy is required to be encouraged to the employees prior to the start of a job task.

Stop any work or behavior you deem unsafe to yourself or your coworkers. YOU have the authority to STOP WORK. You will never be penalized for stopping unsafe work or speaking up about hazards and injuries.

HEALTH & SAFETY COMMENTS-QUESTIONS-CONCERNS / TOPICS & SAFET RULES REVIEWED

Contaminants of Concern (COC):			
HEALTH & SAFETY SIGNATURE:		Date:	

Is there a Health & Safety Plan available on-site? Yes ☐ No ☐

☐ HAZARD ZONES NOT APPLICABLE, GENERAL WORK AREA Level D ☐ Modified Level D ☐ Level C ☐

Anything above Level C, foreman should use a Confined Space Permit/Form.

Note: HOT WORK requires a hot work permit and minimum 20# fire extinguisher. Foreman or HSM must record at least one contaminant of concern above. Toxic plants may be considered a COC if no chemical hazards are expected.

LEVEL C

Respirator Type:	

Name	Zone	Time In	Time Out	Decon Type

TOOLBOX TALK

Before performing Level C work, ALL employees must review HRP's Respiratory Protection Program - a copy of which must be on-site along with a HASP.

REVISION LOG

Each time a revision of this form is made, the revision information must be listed in the Revision Log below.

REVISION DATE	REVISION CONTENT	REVISED BY	APPROVED BY
4/1/2021	Prepared Form	SF	TAD
6/14/2024	- Updated Form to include Revision Log - Fixed formatting of form - Added Hazards - Added PPE	JLE	TAD
11.20.24	Added STOP WORK AUTHORITY section – page 2	JLE	TAD
6.18.26	- Added SSE note to Attendee Section	JLR	

APPENDIX E

Safety Data Sheets

(for chemicals brought to the site)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

Effective date: 12.08.2015 **Revision** : 12.10.2015

Trade Name: Alconox

1 Identification of the substance/mixture and of the supplier

1.1 Product identifier

Trade Name: Alconox
Synonyms:
Product number: Alconox

1.2 Application of the substance / the mixture : Cleaning material/Detergent

1.3 Details of the supplier of the Safety Data Sheet

Manufacturer	**Supplier**
Alconox, Inc. 30 Glenn Street White Plains, NY 10603 1-914-948-4040	Not Applicable

Emergency telephone number:
ChemTel Inc
North America: 1-800-255-3924
International: 01-813-248-0585

2 Hazards identification

2.1 Classification of the substance or mixture:

In compliance with EC regulation No. 1272/2008, 29CFR1910/1200 and GHS Rev. 3 and amendments.

Hazard-determining components of labeling:
Tetrasodium Pyrophosphate
Sodium tripolyphosphate
Sodium Alkylbenzene Sulfonate

2.2 Label elements:

Skin irritation, category 2.
Eye irritation, category 2A.

Hazard pictograms:

Signal word: Warning

Hazard statements:
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements:
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 If on skin: Wash with soap and water.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P321 Specific treatment (see supplemental first aid instructions on this label).
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P501 Dispose of contents and container as instructed in Section 13.

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

Effective date: 12.08.2015 **Revision** : 12.10.2015

Trade Name: Alconox

Additional information: None.

Hazard description

Hazards Not Otherwise Classified (HNOC): None

Information concerning particular hazards for humans and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to EC regulation No. 1272/2008, 29CFR1910/1200 and GHS Rev. 3 and amendments, and extended by company and literature data. The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company.

3 Composition/information on ingredients

3.1 Chemical characterization : None

3.2 Description : None

3.3 Hazardous components (percentages by weight)

Identification	Chemical Name	Classification	Wt. %
CAS number: 7758-29-4	Sodium tripolyphosphate	Skin Irrit. 2 ; H315 Eye Irrit. 2; H319	12-28
CAS number: 68081-81-2	Sodium Alkylbenzene Sulfonate	Acute Tox. 4; H303 Skin Irrit. 2 ; H315 Eye Irrit. 2; H319	8-22
CAS number: 7722-88-5	Tetrasodium Pyrophosphate	Skin Irrit. 2 ; H315 Eye Irrit. 2; H319	2-16

3.4 Additional Information : None.

4 First aid measures

4.1 Description of first aid measures

General information: None.

After inhalation:

Maintain an unobstructed airway.

Loosen clothing as necessary and position individual in a comfortable position.

After skin contact:

Wash affected area with soap and water.

Seek medical attention if symptoms develop or persist.

After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes.

Remove contact lens(es) if able to do so during rinsing.

Seek medical attention if irritation persists or if concerned.

After swallowing:

Rinse mouth thoroughly.

Seek medical attention if irritation, discomfort, or vomiting persists.

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

Effective date: 12.08.2015 **Revision** : 12.10.2015

Trade Name: Alconox

4.2 Most important symptoms and effects, both acute and delayed

None

4.3 Indication of any immediate medical attention and special treatment needed:

No additional information.

5 Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition.

For safety reasons unsuitable extinguishing agents : None

5.2 Special hazards arising from the substance or mixture :

Thermal decomposition can lead to release of irritating gases and vapors.

5.3 Advice for firefighters

Protective equipment:

Wear protective eye wear, gloves and clothing.
Refer to Section 8.

5.4 Additional information :

Avoid inhaling gases, fumes, dust, mist, vapor and aerosols.
Avoid contact with skin, eyes and clothing.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures :

Ensure adequate ventilation.
Ensure air handling systems are operational.

6.2 Environmental precautions :

Should not be released into the environment.
Prevent from reaching drains, sewer or waterway.

6.3 Methods and material for containment and cleaning up :

Wear protective eye wear, gloves and clothing.

6.4 Reference to other sections : None

7 Handling and storage

7.1 Precautions for safe handling :

Avoid breathing mist or vapor.
Do not eat, drink, smoke or use personal products when handling chemical substances.

7.2 Conditions for safe storage, including any incompatibilities :

Store in a cool, well-ventilated area.

7.3 Specific end use(s):

No additional information.

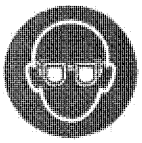
Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

Effective date: 12.08.2015 **Revision** : 12.10.2015

Trade Name: Alconox

8 Exposure controls/personal protection



8.1 Control parameters :

7722-88-5, Tetrasodium Pyrophosphate, OSHA TWA 5 mg/m3.

8.2 Exposure controls

Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

Respiratory protection:

Not needed under normal conditions.

Protection of skin:

Select glove material impermeable and resistant to the substance.

Eye protection:

Safety goggles or glasses, or appropriate eye protection.

General hygienic measures:

Wash hands before breaks and at the end of work.
Avoid contact with skin, eyes and clothing.

9 Physical and chemical properties

Appearance (physical state, color):	White and cream colored flakes - powder	**Explosion limit lower:** **Explosion limit upper:**	Not determined or not available. Not determined or not available.
Odor:	Not determined or not available.	**Vapor pressure at 20°C:**	Not determined or not available.
Odor threshold:	Not determined or not available.	**Vapor density:**	Not determined or not available.
pH-value:	9.5 (aqueous solution)	**Relative density:**	Not determined or not available.
Melting/Freezing point:	Not determined or not available.	**Solubilities:**	Not determined or not available.
Boiling point/Boiling range:	Not determined or not available.	**Partition coefficient (n-octanol/water):**	Not determined or not available.
Flash point (closed cup):	Not determined or not available.	**Auto/Self-ignition temperature:**	Not determined or not available.
Evaporation rate:	Not determined or not available.	**Decomposition temperature:**	Not determined or not available.

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

Effective date: 12.08.2015 **Revision** : 12.10.2015

Trade Name: Alconox

Flammability (solid, gaseous):	Not determined or not available.	**Viscosity**:	a. Kinematic: Not determined or not available. b. Dynamic: Not determined or not available.
Density at 20°C:	Not determined or not available.		

10 Stability and reactivity

10.1 Reactivity : None

10.2 Chemical stability : None

10.3 Possibility hazardous reactions : None

10.4 Conditions to avoid : None

10.5 Incompatible materials : None

10.6 Hazardous decomposition products : None

11 Toxicological information

11.1 Information on toxicological effects :

Acute Toxicity:

Oral:

: LD50 > 5000 mg/kg oral rat - Product .

Chronic Toxicity: No additional information.

Skin corrosion/irritation:

Sodium Alkylbenzene Sulfonate: Causes skin irritation. .

Serious eye damage/irritation:

Sodium Alkylbenzene Sulfonate: Causes serious eye irritation .

Tetrasodium Pyrophosphate: Rabbit - Risk of serious damage to eyes .

Respiratory or skin sensitization: No additional information.

Carcinogenicity: No additional information.

IARC (International Agency for Research on Cancer): None of the ingredients are listed.

NTP (National Toxicology Program): None of the ingredients are listed.

Germ cell mutagenicity: No additional information.

Reproductive toxicity: No additional information.

STOT-single and repeated exposure: No additional information.

Additional toxicological information: No additional information.

12 Ecological information

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

Effective date: 12.08.2015 **Revision** : 12.10.2015

Trade Name: Alconox

12.1 Toxicity:

Sodium Alkylbenzene Sulfonate: Fish, LC50 1.67 mg/l, 96 hours.
Sodium Alkylbenzene Sulfonate: Aquatic invertebrates, EC50 Daphnia 2.4 mg/l, 48 hours.
Sodium Alkylbenzene Sulfonate: Aquatic Plants, EC50 Algae 29 mg/l, 96 hours.
Tetrasodium Pyrophosphate: Fish, LC50 - other fish - 1,380 mg/l - 96 h.
Tetrasodium Pyrophosphate: Aquatic invertebrates, EC50 - Daphnia magna (Water flea) - 391 mg/l - 48 h.

12.2 Persistence and degradability: No additional information.

12.3 Bioaccumulative potential: No additional information.

12.4 Mobility in soil: No additional information.

General notes: No additional information.

12.5 Results of PBT and vPvB assessment:

PBT: No additional information.

vPvB: No additional information.

12.6 Other adverse effects: No additional information.

13 Disposal considerations

13.1 Waste treatment methods (consult local, regional and national authorities for proper disposal)

Relevant Information:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities. (US 40CFR262.11).

14 Transport information

14.1	**UN Number:** ADR, ADN, DOT, IMDG, IATA	None
14.2	**UN Proper shipping name:** ADR, ADN, DOT, IMDG, IATA	None
14.3	**Transport hazard classes:** ADR, ADN, DOT, IMDG, IATA	**Class:** None **Label:** None **LTD. QTY:** None

US DOT

Limited Quantity Exception: None

Bulk:	**Non Bulk:**
RQ (if applicable): None	**RQ (if applicable):** None
Proper shipping Name: None	**Proper shipping Name:** None
Hazard Class: None	**Hazard Class:** None
Packing Group: None	**Packing Group:** None
Marine Pollutant (if applicable): No additional information.	**Marine Pollutant (if applicable):** No additional information.

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

Effective date: 12.08.2015 **Revision** : 12.10.2015

Trade Name: Alconox

	Comments: None	**Comments:** None
14.4	**Packing group:** ADR, ADN, DOT, IMDG, IATA	None
14.5	**Environmental hazards** :	None
14.6	**Special precautions for user:**	None
	Danger code (Kemler):	None
	EMS number:	None
	Segregation groups:	None
14.7	**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.	
14.8	**Transport/Additional information:**	
	Transport category:	None
	Tunnel restriction code:	None
	UN "Model Regulation":	None

15 Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture.

North American

SARA

Section 313 (specific toxic chemical listings): None of the ingredients are listed.
Section 302 (extremely hazardous substances): None of the ingredients are listed.

CERCLA (Comprehensive Environmental Response, Clean up and Liability Act) Reportable

Spill Quantity: None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

Inventory: All ingredients are listed.
Rules and Orders: Not applicable.

Proposition 65 (California):

Chemicals known to cause cancer: None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females: None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males: None of the ingredients are listed.

Chemicals known to cause developmental toxicity: None of the ingredients are listed.

Canadian

Canadian Domestic Substances List (DSL):
All ingredients are listed.

EU

REACH Article 57 (SVHC): None of the ingredients are listed.

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

Effective date: 12.08.2015 **Revision** : 12.10.2015

Trade Name: Alconox

Germany MAK: Not classified.

Asia Pacific

Australia

Australian Inventory of Chemical Substances (AICS): All ingredients are listed.

China

Inventory of Existing Chemical Substances in China (IECSC): All ingredients are listed.

Japan

Inventory of Existing and New Chemical Substances (ENCS): All ingredients are listed.

Korea

Existing Chemicals List (ECL): All ingredients are listed.

New Zealand

New Zealand Inventory of Chemicals (NZOIC): All ingredients are listed.

Philippines

Philippine Inventory of Chemicals and Chemical Substances (PICCS): All ingredients are listed.

Taiwan

Taiwan Chemical Substance Inventory (TSCI): All ingredients are listed.

16 Other information

Abbreviations and Acronyms: None

Summary of Phrases

Hazard statements:

H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements:

P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 If on skin: Wash with soap and water.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P321 Specific treatment (see supplemental first aid instructions on this label).
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P501 Dispose of contents and container as instructed in Section 13.

Manufacturer Statement:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

NFPA: 1-0-0

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

Effective date: 12.08.2015 **Revision** : 12.10.2015

Trade Name: Alconox

HMIS: 1-0-0

SAFETY DATA SHEET

Version 5.2
Revision Date 02/24/2014
Print Date 11/13/2016

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : Distilled water

Product Number : 07-6061
Brand : Katayama OEM Partner
REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No. : 7732-18-5

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements

Not a hazardous substance or mixture.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula : H2O H_2O
Molecular Weight : 18.02 g/mol
CAS-No. : 7732-18-5
EC-No. : 231-791-2

No ingredients are hazardous according to OSHA criteria.
No components need to be disclosed according to the applicable regulations.

4. FIRST AID MEASURES

4.1 Description of first aid measures

If inhaled
If not breathing give artificial respiration

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

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture
no data available

5.3 Advice for firefighters
no data available

5.4 Further information
The product itself does not burn.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
For personal protection see section 8.

6.2 Environmental precautions
no data available

6.3 Methods and materials for containment and cleaning up
Wipe up with absorbent material (e.g. cloth, fleece).

6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
No special storage conditions required.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters
Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice.

Personal protective equipment

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min

Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Respiratory protection
No special protective equipment required.

Control of environmental exposure
Prevent product from entering drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: colourless
b)	Odour	no data available
c)	Odour Threshold	no data available
d)	pH	6.0 - 8.0 at 25 °C (77 °F)
e)	Melting point/freezing point	0.0 °C (32.0 °F)
f)	Initial boiling point and boiling range	100 °C (212 °F) - lit.
g)	Flash point	not applicable
h)	Evapouration rate	no data available
i)	Flammability (solid, gas)	no data available
j)	Upper/lower flammability or explosive limits	no data available
k)	Vapour pressure	no data available
l)	Vapour density	no data available
m)	Relative density	1.000 g/cm3 at 3.98 °C (39.16 °F)
n)	Water solubility	completely miscible
o)	Partition coefficient: n-octanol/water	no data available
p)	Auto-ignition 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
no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity
no data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
no data available

10.4 Conditions to avoid
no data available

10.5 Incompatible materials
no data available

10.6 Hazardous decomposition products
In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
no data available

Inhalation: no data available

Dermal: no data available

no data available

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitisation
no data available

Germ cell mutagenicity
no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component 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 identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
no data available

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

Additional Information
RTECS: ZC0110000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
no data available

12.2 Persistence and degradability
not applicable

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 Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Taking into account local regulations the product may be disposed of as waste water after neutralisation.

14. TRANSPORT INFORMATION

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

15. REGULATORY INFORMATION

REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: 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
No SARA Hazards

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Water	7732-18-5	

New Jersey Right To Know Components

	CAS-No.	Revision Date
Water	7732-18-5	

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

HMIS Rating

Health hazard:	0
Chronic Health Hazard:	
Flammability:	0
Physical Hazard	0

NFPA Rating

Health hazard:	0
Fire Hazard:	0
Reactivity Hazard:	0

Further information

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. 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.

Preparation Information

Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

Version: 5.2 Revision Date: 02/24/2014 Print Date: 11/13/2016

Hydrochloric Acid,ACS

SECTION 1 : Identification of the substance/mixture and of the supplier

Product name : **Hydrochloric Acid,ACS**

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: **S25358**

Recommended uses of the product and uses restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific
9 Barnhart Drive, Hanover, PA 17331

Supplier Details:

Fisher Science Education
15 Jet View Drive, Rochester, NY 14624

Emergency telephone number:

Fisher Science Education Emergency Telephone No.: 800-535-5053

SECTION 2 : Hazards identification

Classification of the substance or mixture:

Corrosive
Serious eye damage, category 1
Corrosive to metals, category 1
Skin corrosion, category 1B

Irritant
Specific target organ toxicity following single exposure, category 3

Corr. Metals 1
Corr. Skin 1B
Eye Damage 1
STOT. SE 3

Signal word :Danger

Hazard statements:
May be corrosive to metals
Causes severe skin burns and eye damage
May cause respiratory irritation

Precautionary statements:
If medical advice is needed, have product container or label at hand
Keep out of reach of children
Read label before use
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Keep only in original container
Do not get in eyes, on skin, or on clothing
Wash skin thoroughly after handling
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
Specific treatment (see supplemental first aid instructions on this label)
Wash contaminated clothing before reuse
Absorb spillage to prevent material damage
Store in a well ventilated place. Keep container tightly closed
Store locked up
Store in corrosive resistant stainless steel container with a resistant inner liner
Dispose of contents and container to an approved waste disposal plant

Other Non-GHS Classification:

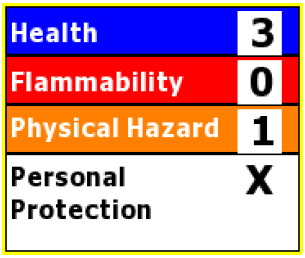
WHMIS

D1A

E

NFPA/HMIS

NFPA SCALE (0-4)



HMIS RATINGS (0-4)

SECTION 3 : Composition/information on ingredients

Ingredients:		
CAS 7647-01-0	Hydrochloric Acid, ACS	30-50 %
CAS 7732-18-5	Water	50-70 %
		Percentages are by weight

SECTION 4 : First aid measures

Description of first aid measures

After inhalation: Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position.Seek medical attention if irritation or coughing persists.

After skin contact: Wash affected area with soap and water. Immediately remove contaminated clothing and shoes.Rinse thoroughly with plenty of water for at least 15 minutes.Immediately seek medical attention.

After eye contact: Protect unexposed eye. Flush thoroughly with plenty of water for at least 15

minutes.Remove contact lenses while rinsing.Continue rinsing eyes during transport to hospital.

After swallowing: Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Immediately seek medical attention.

Most important symptoms and effects, both acute and delayed:

Inhalation may cause irritation to nose and upper respiratory tract, ulceration, coughing, chest tightness and shortness of breath. Higher concentrations cause tachypnoea, pulmonary oedema and suffocation . Ingestion may cause corrosion of lips, mouth, oesophagus and stomach, dysphagia and vomiting.Pain, eye ulceration, conjunctival irritation, cataracts and glaucoma may occur following eye exposure.Erythema and skin irritation, as well as chemical burns to skin and mucous membranes may arise following skin exposure.;Potential sequelae following ingestion of hydrochloric acid include perforation, scarring of the oesophagus or stomach and stricture formation causing dysphagia or gastric outlet obstruction. In some cases, RADS may develop. Respiratory symptoms may take up to 36 hours to develop.Symptoms of burning sensation, cough, wheezing, laryngitis, shortness of breath, spasm, inflammation, edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Indication of any immediate medical attention and special treatment needed:

Provide SDS to Physician.Physician should treat symptomatically.

SECTION 5 : Firefighting measures

Extinguishing media

Suitable extinguishing agents: Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

For safety reasons unsuitable extinguishing agents:

Special hazards arising from the substance or mixture:

Combustion products may include carbon oxides or other toxic vapors.If in contact with metals toxic fumes may be released.

Advice for firefighters:

Protective equipment: Wear protective eyeware, gloves, and clothing. Refer to Section 8. Wear respiratory protection.

Additional information (precautions): Thermal decomposition can produce poisoning chlorine. Hydrochloric acid reacts also with many organic materials with liberation of heat.Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing.

SECTION 6 : Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation. Ensure that air-handling systems are operational.

Environmental precautions:

Should not be released into environment. Prevent from reaching drains, sewer, or waterway.

Methods and material for containment and cleaning up:

Always obey local regulations. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Containerize for disposal. Refer to Section 13. Keep in suitable closed containers for disposal. Soak up with inert absorbent material and dispose of as hazardous waste. Cover spill with soda ash or calcium carbonate. Mix and add water to form slurry.Wear protective eyeware, gloves, and clothing. Refer to Section 8.

Reference to other sections:

SECTION 7 : Handling and storage

Precautions for safe handling:

Prevent formation of aerosols. Never use hot water and never add water to the acid.Do not allow contact between hydrochloric acid, metal, and organics.Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Prevent contact with skin, eyes, and clothing. Follow proper disposal methods. Refer to Section 13. Do not eat, drink, smoke, or use personal products when handling chemical substances. Use only in well ventilated areas.Avoid splashes or spray in enclosed areas.

Conditions for safe storage, including any incompatibilities:

Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Store away from incompatible materials. Provide ventilation for containers. Keep container tightly sealed.Containers for hydrochloric acid must be made from corrosion resistant materials: glass, polyethylene, polypropylene, polyvinyl chloride, carbon steel lined with rubber or ebonite.

SECTION 8 : Exposure controls/personal protection

Control Parameters:	7647-01-0, Hydrochloric Acid, ACGIH: 2 ppm Ceiling 7647-01-0, Hydrochloric Acid, NIOSH: 5 ppm Ceiling; 7 mg/m3 Ceiling
Appropriate Engineering controls:	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of handling.
Respiratory protection:	Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.
Protection of skin:	Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.
Eye protection:	Faceshield (8-inch minimum).Tightly fitting safety goggles.
General hygienic measures:	Perform routine housekeeping. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes, and clothing. Before rewearing wash contaminated clothing.

SECTION 9 : Physical and chemical properties

Appearance (physical state,color):	Clear, colorless liquid.	**Explosion limit lower**: **Explosion limit upper**:	Non Explosive Non Explosive
Odor:	Pungent odor	**Vapor pressure**:	5.7mmHg @ 0C
Odor threshold:	0.3 – 14.9 mg/m3	**Vapor density**:	1.27 (Air=1)
pH-value:	< 1	**Relative density**:	1.0 - 1.2

Melting/Freezing point:	- 74 C	**Solubilities**:	Miscible
Boiling point/Boiling range:	81.5 - 110 C	**Partition coefficient (n-octanol/water)**:	Not Determined
Flash point (closed cup):	Not Applicable	**Auto/Self-ignition temperature**:	Not Determined
Evaporation rate:	>1.00	**Decomposition temperature**:	Not Determined
Flammability (solid,gaseous):	non combustible	**Viscosity**:	a. Kinematic:Not Determined b. Dynamic: Not Determined
Density: Not Determined **Hydrochloric Acid:**MW is36.46			

SECTION 10 : Stability and reactivity

Reactivity: Reacts violently with bases and is corrosive.
Chemical stability: No decomposition if used and stored according to specifications.
Possible hazardous reactions: Attacks many metals in the presence of water forming flammable explosive gas (hydrogen).Reacts violently with oxidants forming toxic gas (chlorine).
Conditions to avoid: Incompatible materials.
Incompatible materials: Bases, Amines, Alkali metals, Metals, permanganates (potassium permanganate), Fluorine, Metal acetylides, Hexalithium disilicide.
Hazardous decomposition products: Hydrogen chloride gas.Carbon oxides.

SECTION 11 : Toxicological information

Acute Toxicity:		
Inhalation:	7647-01-0	LD50 Rat 3124 ppm/hour
Oral:	7647-01-0	LD50 Rat 238 - 277 mg/kg
Dermal:	7647-01-0	LD50 Rabbit >5010 mg/kg
Chronic Toxicity: No additional information.		
Corrosion Irritation:		
Dermal:	7647-01-0	Skin - rabbit Result: Causes burns.
Ocular:	7647-01-0	Eyes - rabbit Result: Corrosive to eyes
Sensitization:		No additional information.
Single Target Organ (STOT):		7647-01-0: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.
Numerical Measures:		No additional information.
Carcinogenicity:		No additional information.
Mutagenicity:		No additional information.

Reproductive Toxicity:	No additional information.

SECTION 12 : Ecological information

Ecotoxicity

7647-01-0: Toxicity to fish LC50 - Gambusia affinis (Mosquito fish) - 282 mg/l - 96 h (Hydrochloric acid)

Persistence and degradability:
Bioaccumulative potential:
Mobility in soil:
Other adverse effects:

SECTION 13 : Disposal considerations

Waste disposal recommendations:

Do not allow product to reach sewage system or open water.It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. Product or containers must not be disposed together with household garbage. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification.

SECTION 14 : Transport information

UN-Number

1789

UN proper shipping name

HYDROCHLORIC ACID

Transport hazard class(es)

Class:
8 Corrosive substances

Packing group:II
Environmental hazard:
Transport in bulk:
Special precautions for user:

SECTION 15 : Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

Acute

SARA Section 313 (Specific toxic chemical listings):

7647-01-0 Hydrochloric Acid

RCRA (hazardous waste code):

None of the ingredients is listed

TSCA (Toxic Substances Control Act):

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

7647-01-0 Hydrochloric Acid 5000 lbs

Proposition 65 (California):

Chemicals known to cause cancer:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed

Chemicals known to cause developmental toxicity:

None of the ingredients is listed

Canada

Canadian Domestic Substances List (DSL):

All ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 0.1%):

None of the ingredients is listed

Canadian NPRI Ingredient Disclosure list (limit 1%):

7647-01-0 Hydrochloric Acid

SECTION 16 : Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.Note:. The responsibility to provide a safe workplace remains with the user.The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment.The information contained herein is, to the best of our knowledge and belief, accurate.However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material.It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

GHS Full Text Phrases:

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods
PNEC: Predicted No-Effect Concentration (REACH)
CFR: Code of Federal Regulations (USA)
SARA: Superfund Amendments and Reauthorization Act (USA)
RCRA: Resource Conservation and Recovery Act (USA)
TSCA: Toxic Substances Control Act (USA)
NPRI: National Pollutant Release Inventory (Canada)
DOT: US Department of Transportation
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
DNEL: Derived No-Effect Level (REACH)

Effective date : 01.08.2015
Last updated : 03.20.2015

Nitric Acid, 3M

SECTION 1 : Identification of the substance/mixture and of the supplier

Product name : **Nitric Acid, 3M**

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: **S25860**

Recommended uses of the product and uses restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific
9 Barnhart Drive, Hanover, PA 17331

Supplier Details:

Fisher Science Education
15 Jet View Drive, Rochester, NY 14624

Emergency telephone number:

Fisher Science Education Emergency Telephone No.: 800-535-5053

SECTION 2 : Hazards identification

Classification of the substance or mixture:

Oxidizing
Oxidizing liquids, category 3

Corrosive
Serious eye damage, category 1
Skin corrosion, category 1B

Ox. liq. 3
Skin corrosion/irritation - Skin Corr. 1B
Eye Damage 1

Signal word :Danger

Hazard statements:
May intensify fire; oxidizer
Causes severe skin burns and eye damage
Causes serious eye damage

Precautionary statements:
If medical advice is needed, have product container or label at hand
Keep out of reach of children
Read label before use
Keep away from heat/sparks/open flames/hot surfaces. No smoking
Wear protective gloves/protective clothing/eye protection/face protection
Do not breathe dust/fume/gas/mist/vapours/spray
Do not eat, drink or smoke when using this product
Take any precaution to avoid mixing with combustibles
Keep/Store away from clothing/combustible materials
Wash skin thoroughly after handling
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
Specific treatment (see supplemental first aid instructions on this label)
In case of fire: Use agents recommended in section 5 for extinction
Store locked up
Dispose of contents/container to ...

Other Non-GHS Classification:

WHMIS

C E

NFPA/HMIS

NFPA SCALE (0-4)

Health	3
Flammability	0
Physical Hazard	2
Personal Protection	X

HMIS RATINGS (0-4)

SECTION 3 : Composition/information on ingredients

Ingredients:		
CAS 7697-37-2	Nitric Acid	26.03 %
CAS 7732-18-5	Deionized Water	73.97 %
		Percentages are by weight

SECTION 4 : First aid measures

Description of first aid measures

After inhalation: Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position.Seek medical advice if discomfort or irritation persists.

After skin contact: Wash affected area with soap and water. Rinse or flush skin/hair gently with water for at least 30 minutes.Seek immediate medical attention

After eye contact: Protect unexposed eye. Remove contact lens(es) if able to do so during rinsing. Rinse or flush eye gently with water for at least 30 minutes, lifting upper and lower lids.Seek immediate medical attention (ophthalmologist)

After swallowing: Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

Most important symptoms and effects, both acute and delayed:

Headache, Shortness of breath.Irritation/burns, all routes of exposure.May cause severe burns, blindness and/or permanent damage. May cause burns, deep penetrating ulcerations of the skin, delayed tissue destruction, redness, pain. May cause gastrointestinal irritation with nausea, vomiting and diarrhea;

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention, provide SDS document to physician.

SECTION 5 : Firefighting measures

Extinguishing media

Suitable extinguishing agents: Does not burn. Use extinguishing media appropriate for surrounding fire.If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

For safety reasons unsuitable extinguishing agents:

Special hazards arising from the substance or mixture:

Combustion products may include carbon oxides or other toxic vapors.Nitrogen oxides (NOx)

Advice for firefighters:

Protective equipment:

Additional information (precautions): Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

SECTION 6 : Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation.Keep away from ignition sources. Protect from heat.Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

Environmental precautions:

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13

Methods and material for containment and cleaning up:

If in a laboratory setting, follow Chemical Hygiene Plan procedures.Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.

Reference to other sections:

SECTION 7 : Handling and storage

Precautions for safe handling:

Prevent formation of aerosols. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan.Use only in well ventilated areas.Avoid splashes or spray in enclosed areas.No smoking.Keep away from heat and sources of ignition.

Conditions for safe storage, including any incompatibilities:

Store in a cool location. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents.Store in cool, dry conditions in well sealed containers. Keep container tightly sealed.Store with like hazards. Storage class (TRGS 510): Oxidizing

hazardous materials

SECTION 8 : Exposure controls/personal protection

Control Parameters: 7697-37-2, Nitric Acid, NIOSH 4 ppm STEL; 10 mg/m3 STEL
7697-37-2, Nitric Acid , NIOSH 2 ppm TWA; 5 mg/m3 TWA
7697-37-2 , Nitric Acid , ACGIH 4 ppm STEL
7697-37-2, Nitric Acid , ACGIH 2 ppm TWA

Appropriate Engineering controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling.Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

Respiratory protection: Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.

Protection of skin: The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled.Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Eye protection: Safety glasses with side shields or goggles.

General hygienic measures: The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

SECTION 9 : Physical and chemical properties

Appearance (physical state,color):	colorless liquid	**Explosion limit lower**: **Explosion limit upper**:	Not Determined Not Determined
Odor:	strong acrid	**Vapor pressure**:	49 hPa (37 mmHg) at 50 °C (122 °F)
Odor threshold:	0.29 ppm	**Vapor density**:	2.5 (Air = 1)
pH-value:	<1.0	**Relative density**:	1.413 g/cm3 at 20 °C (68 °F)
Melting/Freezing point:	-41.6°C (-42.9°F)	**Solubilities**:	Soluble
Boiling point/Boiling range:	120.5 °C (248.9 °F)	**Partition coefficient (n-octanol/water)**:	Not Determined
Flash point (closed cup):	Not Determined	**Auto/Self-ignition temperature**:	Not Determined

Evaporation rate:	Not Determined	**Decomposition temperature**:	Not Determined
Flammability (solid,gaseous):	Not Determined	**Viscosity**:	a. Kinematic:Not Determined b. Dynamic: Not Determined
Density: Not Determined			

SECTION 10 : Stability and reactivity

Reactivity: Oxidizer.Reacts violently with alcohol, organic material, turpene, charcoal. Violent reaction with Nitric acid + Acetone and Sulfuric acid. Nitric Acid will react with water or steam to produce heat and toxic, corrosive and flammable vapors. (Nitric acid, fuming)
Chemical stability: No decomposition if used and stored according to specifications.
Possible hazardous reactions: Oxidizer: Contact with combustible/organic material may cause fire
Conditions to avoid:excess heat.combustible materials.Incompatible Materials.
Incompatible materials: Highly reactive with alkalis.Reactive with reducing agents. combustible materials. organic materials,metals. Acids.Reducing agents.aldehydes.
Hazardous decomposition products: Nitrogen oxides (NOx)

SECTION 11 : Toxicological information

Acute Toxicity:		
Inhalation:	67 ppm 4 h	Inhalation LC50 Rat
Chronic Toxicity: No additional information.		
Corrosion Irritation:		
Dermal:		Rabbit: Corrosive
Ocular:		Rabbit: Corrosive to eyes
Dermal:	Section 2	Classified as causing severe skin burns and eye damage.
Ocular:	Section 2	Classified as causing serious eye damage
Sensitization:		No additional information.
Single Target Organ (STOT):		No additional information.
Numerical Measures:		No additional information.
Carcinogenicity:		No additional information.
Mutagenicity:		No additional information.
Reproductive Toxicity:		Experiments have shown reproductive toxicity effects on laboratory animals.

SECTION 12 : Ecological information

Ecotoxicity Persistence and degradability: Readily degradable in the environment.
Bioaccumulative potential:
Mobility in soil: Aqueous solution has high mobility in soil.

Other adverse effects:

SECTION 13 : Disposal considerations

Waste disposal recommendations:

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water.It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

SECTION 14 : Transport information

UN-Number

2031

UN proper shipping name

Nitric Acid

Transport hazard class(es)

Class:
8 Corrosive substances

Packing group:II
Environmental hazard:
Transport in bulk:
Special precautions for user:

SECTION 15 : Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

Acute, Chronic

SARA Section 313 (Specific toxic chemical listings):

7697-37-2 Nitric Acid

RCRA (hazardous waste code):

None of the ingredients is listed

TSCA (Toxic Substances Control Act):

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

7697-37-2 Nitric acid 1000 lbs

Proposition 65 (California):

Chemicals known to cause cancer:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed

Chemicals known to cause developmental toxicity:

None of the ingredients is listed

Canada

Canadian Domestic Substances List (DSL):

All ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 0.1%):

None of the ingredients is listed

Canadian NPRI Ingredient Disclosure list (limit 1%):

7697-37-2 Nitric Acid

SECTION 16 : Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.Note:. The responsibility to provide a safe workplace remains with the user.The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment.The information contained herein is, to the best of our knowledge and belief, accurate.However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material.It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

GHS Full Text Phrases:

Abbreviations and acronyms:
IMDG: International Maritime Code for Dangerous Goods
PNEC: Predicted No-Effect Concentration (REACH)
CFR: Code of Federal Regulations (USA)
SARA: Superfund Amendments and Reauthorization Act (USA)
RCRA: Resource Conservation and Recovery Act (USA)
TSCA: Toxic Substances Control Act (USA)
NPRI: National Pollutant Release Inventory (Canada)
DOT: US Department of Transportation
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
DNEL: Derived No-Effect Level (REACH)

Effective date : 12.29.2014
Last updated : 03.23.2015

Methanol, Lab Grade, 4L

SECTION 1 : Identification of the substance/mixture and of the supplier

Product name : **Methanol, Lab Grade, 4L**

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: **S25426A**

Recommended uses of the product and uses restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific
9 Barnhart Drive, Hanover, PA 17331

Supplier Details:

Fisher Science Education
15 Jet View Drive, Rochester, NY 14624

Emergency telephone number:

Fisher Science Education Emergency Telephone No.: 800-535-5053

SECTION 2 : Hazards identification

Classification of the substance or mixture:

Flammable
Flammable liquids, category 2

Toxic
Acute toxicity (oral, dermal, inhalation), category 3

Health hazard
Specific target organ toxicity following single exposure, category 1

AcTox Dermal. 3
Flammable liq. 2
AcTox Oral. 3
AcTox Inhaln. 3
Stot SE. 1

Signal word :Danger

Hazard statements:
Highly flammable liquid and vapour
Toxic if swallowed
Toxic in contact with skin
Toxic if inhaled
Causes damage to organs

Precautionary statements:
If medical advice is needed, have product container or label at hand
Keep out of reach of children
Read label before use

Wear protective gloves/protective clothing/eye protection/face protection
Wash skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid breathing dust/fume/gas/mist/vapours/spray
Keep away from heat/sparks/open flames/hot surfaces. No smoking
Do not breathe dust/fume/gas/mist/vapours/spray
Specific treatment (see supplemental first aid instructions on this label)
IF ON SKIN: Wash with soap and water
Call a POISON CENTER or doctor/physician if you feel unwell
Specific measures (see supplemental first aid instructions on this label)
Take off contaminated clothing and wash before reuse
Wash contaminated clothing before reuse
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
IF exposed: Call a POISON CENTER or doctor/physician
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Store locked up
Store in a well ventilated place. Keep cool
Dispose of contents and container as instructed in Section 13

Other Non-GHS Classification:

WHMIS

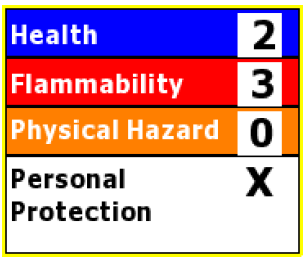
B2

D1B

D2B

NFPA/HMIS

NFPA SCALE (0-4)



HMIS RATINGS (0-4)

SECTION 3 : Composition/information on ingredients

Ingredients:		
CAS 67-56-1	Methanol	>90 %

Percentages are by weight

SECTION 4 : First aid measures

Description of first aid measures

After inhalation: Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position.Get medical assistance.If breathing is difficult, give oxygen

After skin contact: Wash affected area with soap and water. Rinse/flush exposed skin gently using water for 15-20 minutes. Seek medical attention if irritation persists or if concerned.

After eye contact: Protect unexposed eye. Rinse or flush eye gently with water for at least 15-20 minutes, lifting upper and lower lids.Seek medical attention if irritation persists or if concerned

After swallowing: Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Dilute mouth with water or milk after rinsing.Get medical assistance.

Most important symptoms and effects, both acute and delayed:

Poison. Toxic by ingestion, absorption through skin and inhalation, potentially causing irreversible effects. Irritating to eyes, skin, and respiratory tract. Irritation- all routes of exposure.Shortness of breath.Nausea.Headache.May be fatal or cause blindness if swallowed. Cannot be made non-poisonous. May cause gastrointestinal irritation, vomiting, and diarrhea. Central nervous system disorders. Skin disorders, preexisting eye disorders, gastrointestinal tract;Toxic: danger of very serious irreversible effects by inhalation, ingestion or absorption through skin. Experiments have shown reproductive toxicity effects on laboratory animals. May cause adverse kidney and liver effects

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention, provide SDS document to physician.Physician should treat symptomatically.

SECTION 5 : Firefighting measures

Extinguishing media

Suitable extinguishing agents: Dry chemical, foam, dry sand, or Carbon Dioxide.Water spray can keep containers cool.

For safety reasons unsuitable extinguishing agents: Water may be ineffective.

Special hazards arising from the substance or mixture:

Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated

Advice for firefighters:

Protective equipment: Wear protective eyeware, gloves, and clothing. Refer to Section 8.

Additional information (precautions): Remove all sources of ignition. Avoid contact with skin, eyes, and clothing.Ensure adequate ventilation.Take precautions against static discharge.

SECTION 6 : Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Use spark-proof tools and explosion-proof equipment.Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.Ensure adequate ventilation.

Environmental precautions:

Prevent from reaching drains, sewer or waterway. Should not be released into environment.

Methods and material for containment and cleaning up:

If necessary use trained response staff or contractor. Remove all sources of ignition. Contain spillage and then

collect. Do not flush to sewer.Absorb with a noncombustible absorbent material such as sand or earth and containerize for disposal. Ventilate area of leak or spill.Use spark-proof tools and explosion-proof equipment.Follow proper disposal methods. Refer to Section 13.

Reference to other sections:

SECTION 7 : Handling and storage

Precautions for safe handling:

Use in a chemical fume hood. Wash hands before breaks and immediately after handling the product.Avoid contact with skin, eyes, and clothing.Take precautions against static discharge.

Conditions for safe storage, including any incompatibilities:

Store in a cool location. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Keep container tightly sealed.Store with like hazards. Protect from freezing and physical damage.

SECTION 8 : Exposure controls/personal protection

Control Parameters:	67-56-1, Methanol, ACGIH: 250 ppm STEL; 200 ppm TWA 67-56-1, Methanol, NIOSH: 250 ppm STEL; 325 mg/m3 STEL 67-56-1, Methanol, NIOSH: 200 ppm TWA; 260 mg/m3 TWA
Appropriate Engineering controls:	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Ensure that dust-handling systems (exhaust ducts, dust collectors, vessels, and processing equipment) are designed to prevent the escape of dust into the work area.
Respiratory protection:	Use in a chemical fume hood. If exposure limit is exceeded, a full-face respirator with organic cartridge may be worn.
Protection of skin:	Select glove material impermeable and resistant to the substance.Select glove material based on rates of diffusion and degradation.
Eye protection:	Safety glasses with side shields or goggles.
General hygienic measures:	Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.Perform routine housekeeping.

SECTION 9 : Physical and chemical properties

Appearance (physical state,color):	Clear colorless liquid	**Explosion limit lower**: **Explosion limit upper**:	6 31
Odor:	Alcohol	**Vapor pressure**:	128 hPa @ 20°C
Odor threshold:	Not Available	**Vapor density**:	1.11
pH-value:	Not Available	**Relative density**:	0.79
Melting/Freezing point:	-98°C	**Solubilities**:	Miscible at 20 °C

Boiling point/Boiling range:	64.7°C @ 760mmHg	**Partition coefficient (n-octanol/water)**:	Not Available
Flash point (closed cup):	12°C	**Auto/Self-ignition temperature**:	455°C
Evaporation rate:	5.2	**Decomposition temperature**:	Not Available
Flammability (solid,gaseous):	Flammable	**Viscosity**:	a. Kinematic:Not Available b. Dynamic: Not Available
Density: Not Available			

SECTION 10 : Stability and reactivity

Reactivity: Vapours may form explosive mixture with air.
Chemical stability: Stable under normal conditions.
Possible hazardous reactions: None under normal processing.
Conditions to avoid: Excess heat, Incompatible Materials, flames, or sparks.
Incompatible materials: Oxidizing agents, reducing agents, alkali metals, acids, sodium, potassium, metals as powders, acid chlorides, acid anhydrides, powdered magnesium, and aluminum.
Hazardous decomposition products:carbon monoxide, formaldehyde.

SECTION 11 : Toxicological information

Acute Toxicity:		
Dermal:	(rabbit)	LD-50 15800 mg/kg
Oral:	(rat)	LD-50 5628 mg/kg
Inhalation:	(rat)	LC-50 130,7 mg/l
Chronic Toxicity: No additional information.		
Corrosion Irritation:		
Ocular:		Irritating to eyes
Dermal:		Irritating to skin
Sensitization:		No additional information.
Single Target Organ (STOT):		Classified as causing damage to organs:Eyes, skin, optic nerve, gastrointestinal tract, central nervous system, respiratory system, liver, spleen, kidney, blood
Numerical Measures:		No additional information.
Carcinogenicity:		Teratogenicity : has occurred in experimental animals.
Mutagenicity:		Mutagenetic effects have occurred in experimental animals.

Reproductive Toxicity:	Developmental Effects (Immediate/Delayed) have occurred in experimental animals

SECTION 12 : Ecological information

Ecotoxicity

Freshwater Fish: 96 Hr LC50 Pimephales promelas: 28200 mg/L

Freshwater Fish: 96 Hr LC50 Oncorhynchus mykiss: 19500 - 20700 mg/L

Freshwater Fish: 96 Hr LC50 Pimephales promelas: >100 mg/L

Freshwater Fish: 96 Hr LC50 Oncorhynchus mykiss: 18 - 20 mL/L

Freshwater Fish: 96 Hr LC50 Lepomis macrochirus: 13500 - 17600 mg/L

Persistence and degradability: Not persistant.
Bioaccumulative potential: Not Bioaccumulative.
Mobility in soil: Aqueous solution has high mobility in soil.
Other adverse effects:

SECTION 13 : Disposal considerations

Waste disposal recommendations:

Methanol RCRA waste code U154. Do not allow product to reach sewage system or open water.It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Absorb with a noncombustible absorbent material such as sand or earth and containerize for disposal. Provide ventilation. Have fire extinguishing agent available in case of fire. Eliminate all sources of ignition.Use spark-proof tools and explosion-proof equipment.Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification.

SECTION 14 : Transport information

UN-Number

UN1230

UN proper shipping name

Methanol

Transport hazard class(es)

Class:
3 Flammable liquids

Class:
6.1 Toxic substances

Packing group:II
Environmental hazard:
Transport in bulk:
Special precautions for user:

SECTION 15 : Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

Acute, Chronic, Fire

SARA Section 313 (Specific toxic chemical listings):

67-56-1 Methanol

RCRA (hazardous waste code):

67-56-1 Methanol RCRA waste code U154

TSCA (Toxic Substances Control Act):

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

67-56-1 Methanol 5000 lbs

Proposition 65 (California):

Chemicals known to cause cancer:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed

Chemicals known to cause developmental toxicity:

67-56-1 Methanol

Canada

Canadian Domestic Substances List (DSL):

All ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 0.1%):

None of the ingredients is listed

Canadian NPRI Ingredient Disclosure list (limit 1%):

67-56-1 Methanol

SECTION 16 : Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.Note:. The responsibility to provide a safe workplace remains with the user.The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment.The information contained herein is, to the best of our knowledge and belief, accurate.However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material.It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

GHS Full Text Phrases:

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods
PNEC: Predicted No-Effect Concentration (REACH)

CFR: Code of Federal Regulations (USA)
SARA: Superfund Amendments and Reauthorization Act (USA)
RCRA: Resource Conservation and Recovery Act (USA)
TSCA: Toxic Substances Control Act (USA)
NPRI: National Pollutant Release Inventory (Canada)
DOT: US Department of Transportation
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
DNEL: Derived No-Effect Level (REACH)

Effective date : 01.08.2015
Last updated : 03.27.2015

Sodium Hydroxide, 0.5M

SECTION 1 : Identification of the substance/mixture and of the supplier

Product name : **Sodium Hydroxide, 0.5M**

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: **S25881**

Recommended uses of the product and uses restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific
9 Barnhart Drive, Hanover, PA 17331

Supplier Details:

Fisher Science Education
15 Jet View Drive, Rochester, NY 14624

Emergency telephone number:

Fisher Science Education Emergency Telephone No.: 800-535-5053

SECTION 2 : Hazards identification

Classification of the substance or mixture:

Corrosive
Serious eye damage, category 1
Corrosive to metals, category 1
Skin corrosion, category 1B

Skin Corr. 1B
Eye corr. 1
Metal Corr. 1

Signal word :Danger

Hazard statements:
May be corrosive to metals
Causes severe skin burns and eye damage
Causes serious eye damage

Precautionary statements:
If medical advice is needed, have product container or label at hand
Keep out of reach of children
Read label before use
Keep only in original container
Do not breathe dust/fume/gas/mist/vapours/spray
Wash ... thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Absorb spillage to prevent material damage
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

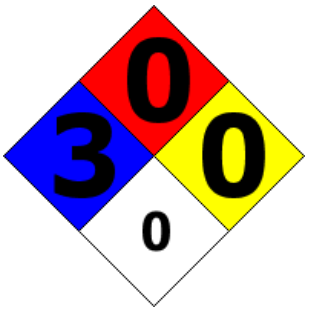
Immediately call a POISON CENTER or doctor/physician
Store in a corrosive resistant/... container with a resistant inner liner
Store locked up
Dispose of contents/container to ...

Other Non-GHS Classification:

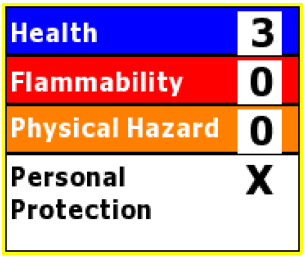
WHMIS

E

NFPA/HMIS



NFPA SCALE (0-4)



HMIS RATINGS (0-4)

SECTION 3 : Composition/information on ingredients

Ingredients:		
CAS 1310-73-2	Sodium Hydroxide	2 %
CAS 7732-18-5	Deionized Water	98 %
		Percentages are by weight

SECTION 4 : First aid measures

Description of first aid measures

After inhalation: Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position.Seek medical advice if discomfort or irritation persists.If breathing difficult, give oxygen.

After skin contact: Take off contaminated clothing and shoes immediately.Wash affected area with soap and water.Seek medical attention if irritation, discomfort persist.

After eye contact: Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Immediately get medical assistance.

After swallowing: Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

Most important symptoms and effects, both acute and delayed:

Irritation, Nausea,Headache, Shortness of breath.;

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention, provide SDS document to physician.

SECTION 5 : Firefighting measures

Extinguishing media

Suitable extinguishing agents: If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

For safety reasons unsuitable extinguishing agents:

Special hazards arising from the substance or mixture:

Combustion products may include carbon oxides or other toxic vapors.Thermal decomposition can lead to release of irritating gases and vapors.Sodium oxides.

Advice for firefighters:

Protective equipment: Use NIOSH-approved respiratory protection/breathing apparatus.

Additional information (precautions): Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

SECTION 6 : Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Transfer to a disposal or recovery container.Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation.Keep away from ignition sources. Protect from heat.

Environmental precautions:

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13

Methods and material for containment and cleaning up:

If in a laboratory setting, follow Chemical Hygiene Plan procedures.Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.Collect liquid and dilute with water. Neutralize with dilute acid solutions. Decant water to drain with excess water. Absorb with suitable material. Dispose of remaining solid as normal refuse. Always obey local regulations.

Reference to other sections:

SECTION 7 : Handling and storage

Precautions for safe handling:

Absorb spillage to prevent material damage due to corrosiveness to metal. Avoid contact with eyes, skin, and clothing. Wash hands after handling. Do not mix with acids.Follow good hygiene procedures when handling chemical materials. Use only in well ventilated areas.

Conditions for safe storage, including any incompatibilities:

Protect from freezing and physical damage.Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents.Store in cool, dry conditions in well sealed containers. Store with Corrosives.

SECTION 8 : Exposure controls/personal protection

Control Parameters:	1310-73-2, Sodium Hydroxide, OSHA PEL TWA 2 mg/m3 1310-73-2, Sodium Hydroxide, ACGIH TLV TWA 2 mg/m3
Appropriate Engineering controls:	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling.Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or dusts (total/respirable) below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.
Respiratory protection:	Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.
Protection of skin:	The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled.Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
Eye protection:	Safety glasses with side shields or goggles.
General hygienic measures:	The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

SECTION 9 : Physical and chemical properties

Appearance (physical state,color):	Clear, colorless liquid	**Explosion limit lower**: **Explosion limit upper**:	Non Explosive Non Explosive
Odor:	Odorless	**Vapor pressure**:	14mmHg @ 20C
Odor threshold:	Not Determined	**Vapor density**:	>1
pH-value:	Alkaline	**Relative density**:	Approx 1
Melting/Freezing point:	Approx 0°C	**Solubilities**:	Soluble in Water
Boiling point/Boiling range:	Approx 100°C	**Partition coefficient (n-octanol/water)**:	Not Determined
Flash point (closed cup):	Not Determined	**Auto/Self-ignition temperature**:	Not Determined
Evaporation rate:	Not Determined	**Decomposition temperature**:	Not Determined
Flammability (solid,gaseous):	Not Determined	**Viscosity**:	a. Kinematic:Not Determined b. Dynamic: Not Determined
Density: Not Determined			

SECTION 10 : Stability and reactivity

Reactivity:
Chemical stability: No decomposition if used and stored according to specifications.
Possible hazardous reactions:
Conditions to avoid: Incompatible materials, excess heat

Incompatible materials:acids, Organic materials, Chlorinated solvents, Aluminum, Phosphorus, Tin/tin oxides, Zinc
Hazardous decomposition products:sodium oxides, hydrogen. Carbon oxides (CO, CO2).

SECTION 11 : Toxicological information

Acute Toxicity: No additional information.	
Chronic Toxicity: No additional information.	
Corrosion Irritation: No additional information.	
Sensitization:	No additional information.
Single Target Organ (STOT):	No additional information.
Numerical Measures:	No additional information.
Carcinogenicity:	No additional information.
Mutagenicity:	No additional information.
Reproductive Toxicity:	No additional information.

SECTION 12 : Ecological information

Ecotoxicity Persistence and degradability: Readily degradable in the environment.
Bioaccumulative potential: Not Bioaccumulative.
Mobility in soil:
Other adverse effects:

SECTION 13 : Disposal considerations

Waste disposal recommendations:

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water.It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.Neutralize with dilute acid solutions.

SECTION 14 : Transport information

UN-Number

1824

UN proper shipping name

Sodium hydroxide solution

Transport hazard class(es)

Class:
8 Corrosive substances

Packing group:II
Environmental hazard:
Transport in bulk:

Special precautions for user:

SECTION 15 : Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

None of the ingredients is listed

SARA Section 313 (Specific toxic chemical listings):

None of the ingredients is listed

RCRA (hazardous waste code):

None of the ingredients is listed

TSCA (Toxic Substances Control Act):

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

1310-73-2 Sodium Hydroxide 1000 lb

Proposition 65 (California):

Chemicals known to cause cancer:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed

Chemicals known to cause developmental toxicity:

None of the ingredients is listed

Canada

Canadian Domestic Substances List (DSL):

All ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 0.1%):

None of the ingredients is listed

Canadian NPRI Ingredient Disclosure list (limit 1%):

1310-73-2 Sodium Hydroxide

SECTION 16 : Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.Note:. The responsibility to provide a safe workplace remains with the user.The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment.The information contained herein is, to the best of our knowledge and belief, accurate.However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material.It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

GHS Full Text Phrases:

Abbreviations and acronyms:
IMDG: International Maritime Code for Dangerous Goods
PNEC: Predicted No-Effect Concentration (REACH)
CFR: Code of Federal Regulations (USA)
SARA: Superfund Amendments and Reauthorization Act (USA)
RCRA: Resource Conservation and Recovery Act (USA)
TSCA: Toxic Substances Control Act (USA)
NPRI: National Pollutant Release Inventory (Canada)
DOT: US Department of Transportation
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
DNEL: Derived No-Effect Level (REACH)

Effective date : 12.14.2014
Last updated : 03.25.2015

SAFETY DATA SHEET

1. Identification

Product identifier: SODIUM BISULFATE

Other means of identification
Product No.: 7432, 3534

Recommended use and restriction on use

Recommended use: Not available.
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company Name:	Avantor Performance Materials, Inc.
Address:	3477 Corporate Parkway, Suite 200 Center Valley, PA 18034
Telephone:	Customer Service: 855-282-6867
Fax:	
Contact Person:	Environmental Health & Safety
e-mail:	info@avantormaterials.com

Emergency telephone number:
24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard classification

Health hazards

Serious eye damage/eye irritation Category 1

Label elements

Hazard symbol:

Signal word: Danger

Hazard statement: Causes serious eye damage.

Precautionary statement

Prevention: Wear eye protection/face protection.

Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
SODIUM BISULFATE (HYDRATED FORM)		10034-88-5	90 - 100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion: Rinse mouth thoroughly. Get medical attention if symptoms occur.

Inhalation: Move to fresh air. Get medical attention if symptoms occur.

Skin contact: Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.

Eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed

Symptoms: Causes serious eye damage.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

5. Fire-fighting measures

General fire hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment.

Methods and material for containment and cleaning up: Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination.

Notification Procedures: Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling: Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Avoid inhalation of dust. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities: Keep containers tightly closed. Store in cool, dry place. Store in a well-ventilated place.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None of the components have assigned exposure limits.

Appropriate engineering controls No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection: Use suitable protective gloves if risk of skin contact.

Other: Wear suitable protective clothing.

Respiratory protection: In case of inadequate ventilation, use respiratory protection.

Hygiene measures: Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and chemical properties

Appearance

Physical state:	Solid
Form:	Crystals or powder.
Color:	Colorless
Odor:	Odorless
Odor threshold:	No data available.
pH:	1.4
Melting point/freezing point:	58 °C
Initial boiling point and boiling range:	No data available.
Flash Point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	2.1 (20 °C)
Solubility(ies)	
Solubility in water:	670 g/l
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

Other information

Molecular weight:	138.08 g/mol

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical stability:	Material is unstable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur. The substance is hygroscopic and will absorb water by contact with the moisture in the air.
Conditions to avoid:	Contact with incompatible materials. Moisture. Avoid conditions which create dust.
Incompatible materials:	Strong bases.
Hazardous decomposition products:	Sulfur dioxide gas may be liberated from the product.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May cause irritation of the gastrointestinal tract.

Inhalation: May cause irritation to the respiratory system.

Skin contact: May cause irritation.

Eye contact: Causes serious eye damage.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: No data available.

Dermal
Product: No data available.

Inhalation
Product: No data available.

Repeated dose toxicity
Product: No data available.

Skin corrosion/irritation
Product: May cause skin irritation.

Serious eye damage/eye irritation
Product: Causes serious eye damage.

Respiratory or skin sensitization
Product: Not a skin sensitizer.

Carcinogenicity
Product: This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ cell mutagenicity

In vitro
Product: No mutagenic components identified

In vivo
Product: No mutagenic components identified

Reproductive toxicity
Product: No components toxic to reproduction

Specific target organ toxicity - single exposure
Product: No data available.

Specific target organ toxicity - repeated exposure
Product: No data available.

Aspiration hazard
Product: Not classified

Other effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and degradability

Biodegradation
Product: There are no data on the degradability of this product.

BOD/COD ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration factor (BCF)
Product: No data available on bioaccumulation.

Partition coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil: The product is water soluble and may spread in water systems.

Other adverse effects: The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number:	UN 3260
UN proper shipping name:	Corrosive solid, acidic, inorganic, n.o.s.(SODIUM BISULFATE)
Transport hazard class(es)	
Class(es):	8
Label(s):	8
Packing group:	III
Marine Pollutant:	No

IMDG

UN number:	UN 3260
UN proper shipping name:	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.(SODIUM BISULFATE)
Transport hazard class(es)	
Class(es):	8
Label(s):	8
EmS No.:	F-A, S-B
Packing group:	III
Marine Pollutant:	No

IATA

UN number:	UN 3260
Proper Shipping Name:	Corrosive solid, acidic, inorganic, n.o.s.(SODIUM BISULFATE)
Transport hazard class(es):	
Class(es):	8
Label(s):	8
Marine Pollutant:	No
Packing group:	III

15. Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund amendments and reauthorization act of 1986 (SARA)

Hazard categories

X	Acute (Immediate)		Chronic (Delayed)		Fire		Reactive		Pressure Generating

SARA 302 Extremely hazardous substance

None present or none present in regulated quantities.

SARA 304 Emergency release notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous chemical

Chemical identity	Threshold Planning Quantity

SARA 313 (TRI reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US state regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

No ingredient regulated by NJ Right-to-Know Law present.

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

No ingredient regulated by PA Right-to-Know Law present.

US. Rhode Island RTK

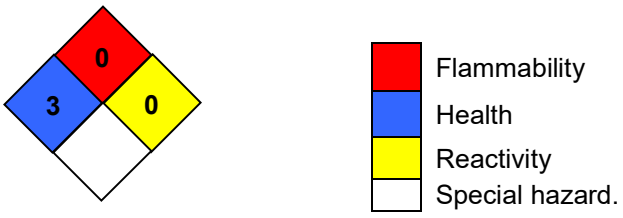
No ingredient regulated by RI Right-to-Know Law present.

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	Not in compliance with the inventory.
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16.Other information, including date of preparation or last revision

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Issue date: 05-16-2014

Revision date:	No data available.
Version #:	1.0
Further information:	No data available.
Disclaimer:	THE INFORMATION PRESENTED IN THIS MATERIAL SAFETY DATA SHEET (MSDS/SDS) WAS PREPARED BY TECHNICAL PERSONNEL BASED ON DATA THAT THEY BELIEVE IN THEIR GOOD FAITH JUDGMENT IS ACCURATE. HOWEVER, THE INFORMATION PROVIDED HEREIN IS PROVIDED "AS IS," AND AVANTOR PERFORMANCE MATERIALS MAKES AND GIVES NO REPRESENTATIONS OR WARRANTIES WHATSOEVER, AND EXPRESSLY DISCLAIMS ALL WARRANTIES REGARDING SUCH INFORMATION AND THE PRODUCT TO WHICH IT RELATES, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING WITHOUT LIMITATION, WARRANTIES OF ACCURACY, COMPLETENESS, MERCHANTABILITY, NON-INFRINGEMENT, PERFORMANCE, SAFETY, SUITABILITY, STABILITY, AND FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING, COURSE OF PERFORMANCE, OR USAGE OF TRADE. THIS MSDS/SDS IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PROPERLY TRAINED PERSON USING THIS PRODUCT, AND IS NOT INTENDED TO BE COMPREHENSIVE AS TO THE MANNER AND CONDITIONS OF USE, HANDLING, STORAGE, OR DISPOSAL OF THE PRODUCT. INDIVIDUALS RECEIVING THIS MSDS/SDS MUST ALWAYS EXERCISE THEIR OWN INDEPENDENT JUDGMENT IN DETERMINING THE APPROPRIATENESS OF SUCH ISSUES. ACCORDINGLY, AVANTOR PERFORMANCE MATERIALS ASSUMES NO LIABILITY WHATSOEVER FOR THE USE OF OR RELIANCE UPON THIS INFORMATION. NO SUGGESTIONS FOR USE ARE INTENDED AS, AND NOTHING HEREIN SHALL BE CONSTRUED AS, A RECOMMENDATION TO INFRINGE ANY EXISTING PATENTS OR TO VIOLATE ANY FEDERAL, STATE, LOCAL, OR FOREIGN LAWS. AVANTOR PERFORMANCE MATERIALS REMINDS YOU THAT IT IS YOUR LEGAL DUTY TO MAKE ALL INFORMATION IN THIS MSDS/SDS AVAILABLE TO YOUR EMPLOYEES.

REVISION HISTORY

REVISION AND APPROVAL LOG			
REVISION DATE	**REVISION CONTENT**	**REVISED BY**	**APPROVED BY**
1/18/2021	Initiation of document/Reviewed by Jackie Baxley	SF	TAG
6/6/2024	- Update formatting - Update order of headers - Implemented tables within HASP, not as Appendix - Combining NY and other states – generic HASP to make site-specific - Checkbox formatting - Updated Action Levels Table	JLE	TAG
6/17/2026	- Added SSE criteria Added line item criteria to Personnel Log	JLR	

APPENDIX C
Community Air Monitoring Plan (CAMP)

Community Air Monitoring Plan

This 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 during remedial activities at the site. The CAMP is not intended for use in establishing action levels for workers 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 CAMP was developed in accordance with Appendices 1A & 1B of DER-10, included at the end of this CAMP.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Depending on the nature of known or potential contaminants at the site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary.

Continuous monitoring will be required for all ground intrusive activities. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and groundwater samples. "Periodic" 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, continuing monitoring may be required during sampling activities.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will 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 will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than the background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work may continue with dust suppression techniques provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work will 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.

- All readings will be recorded and be available for State (DEC and DOH) personnel to review.

VOC Monitoring, Response Levels, and Actions

VOCs will 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 will be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work will be performed using a photo ionization detector (PID) equipped with a 10.2 eV bulb. The PID will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- 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.

- 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 will be halted, the source of the 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.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shutdown.

- All 15-minute readings will be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

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 ppm, 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 predetermined). 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 mcg/m3, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m3 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.

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.

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. “Periodic” 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.

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Appendix 1B
Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50^{o} C (14 to 122^{o} F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.